

Discounting of Self-Insured Liabilities

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Disclaimer

- This presentation reflects the views of the speaker, and not necessarily those of the CAS, AAA, SOA, or our spouses.

Discussion Topics

- Review of actuarial, accounting, SEC guidance
- New FASB (157 & 159)
- What is “fixed and reliably determinable”?
- What is a “risk free rate of return”
- What is a “risk margin”
- Methods for calculating discounted reserves

SSAP No. 65

- “With the exception of fixed and reliably determinable payments such as those emanating from workers’ compensation tabular indemnity reserves and long-term disability claims, property and casualty loss reserves shall not be discounted.”

SOP 97-3

- “Current practice in the insurance industry is to allow, but not require ... the discounting of liabilities to reflect the time value of money when the aggregate amount of the obligation and the amount and timing of the cash payments are fixed or reliably determinable for a particular liability.”

SAB No. 62

- SEC staff will raise no objection if a registrant discounts under GAAP reporting, if:
 - the GAAP discount rate matches the statutory discount rate *or*
 - there are settled claims with payment pattern and ultimate cost that are **fixed and determinable on an individual claim basis and the discount rate is reasonable.**

GASB 10

- “discounting is neither mandated nor prohibited” – paragraph 59
- “the entity should use a rate that is determined by ... the entity’s **settlement rate** for those liabilities and its **investment yield rate**” – paragraph 60
 - Why not the assumed payout pattern?
 - Why not the assumed earmarked portfolio’s investment yield rate?

New FASBs

- FASB 157 – Fair Value Measurements
- FASB 159 – Fair Value Option

New FASBs

- Request for Guidance from SEC.
- SEC response on SFAS 157:
 - Applies to financial assets and liabilities
 - Guidance on definition of fair value
 - Effective for financial periods commencing after November 15, 2007

New FASBs

- SFAS 159:
 - Election to use fair value on financial assets or liabilities
 - Election is irrevocable
 - Effective for financial periods commencing after November 15, 2007

New FASBs

- Fair Value:
 - (Theoretical) market price to sell an asset or transfer a liability under normal market conditions
 - Price is “exit price”
 - Transaction costs disallowed (e.g., no provision for LPT broker fees)
 - Risk provision for non-performance to be considered for liabilities

New FASBs

- Fair Value Valuation Techniques:
 - Market-based approach
 - Income approach (NPV of cash flows)
 - Cost approach (replacement cost)

New FASBs

- Hierarchy to Fair Value Valuation Techniques (1 = highest to 3 = lowest):
 1. Quoted prices (observable prices)
 2. Prices of similar or identical assets or liabilities (observable prices)
 3. Unobservable prices - the entity must create financial models using available information

New FASBs

- How does this affect a self-insured entity's discounted loss reserve provisions?
 - Unusual (impossible?) to find an active market for transferring liabilities. Thus, market-base approach is very challenging
 - Income approach (using NPV of expected future cash flows) appears to be the best available approach

Actuarial Standards of Practice #20

- Effective since August 1992
- Should discounting be addressed?
- What about risk margins?
- Should there be a specific portfolio of assets to determine the selected interest rate?

Actuarial Standards of Practice #20

- Should discounting be addressed?

Standard does “not address the appropriateness of discounting in any particular context”

Actuarial Standards of Practice #20

- What about risk margins?
 - "...risk margins are crucial when considering discounting ..."
 - Subcommittee acknowledges the accounting issues.
 - Separate standard for risk margins is being developed. (Uh oh, where is it?)

Actuarial Standards of Practice #20

- Should there be a specific portfolio of assets to determine the selected interest rate?
 - Subcommittee leans toward the time value of money ("TVM") approach → discounting is independent of assets and should use a "risk-free" rate.

Actuarial Standards of Practice #20

- What is the risk-free interest rate?
 - Subcommittee added reference to rates of return on “low-risk” investments as an acceptable approximation of the risk-free interest rate

Actuarial Standards of Practice #20

- 5.2.3 – Consistency of Assumptions
 - Is it appropriate to use one payout pattern for calculating the full-value reserve and another payout pattern for calculating the discount? (i.e., Paid Loss Development vs. different, assumed payout pattern?)
 - How about after inclusion of a risk margin via confidence levels? (i.e., does the higher confidence level effectively assume different payout patterns used in the PLDM or in discounting?)

Actuarial Standards of Practice #20

- 5.3 – A range of payment timing estimates may be reasonable
 - If one calculates a range of reasonable estimates based on different paid LDF, should the discounted range of reasonable estimates reflect the two sets of assumed payout patterns underlying the two sets of paid LDF? Should there be a higher risk margin applied to the longer payout pattern?

Actuarial Standards of Practice #20

- 5.3.3 – “When a full-value reserve has been estimated, the actuary should use assumptions ... in developing payment-timing estimates that are consistent with the assumptions ... used in developing the full-value reserve estimates.”

Actuarial Standards of Practice #20

- 5.4.1 – TVM implies using an interest rate that approximates the risk-free interest rate

Actuarial Standards of Practice #20

- 5.4.3 – Portfolio interest rate approach requires the actuary consider:
 - book & market value of assets
 - portfolio & market interest rates
 - maturities of assets & claims liabilitiesIF NECESSARY: Adjust portfolio rates to be consistent with assets having low investment risk

Actuarial Standards of Practice #20

- 5.4.5 – The “cop-out” clause

In certain [unspecified] contexts, the actuary need only disclose the source of interest rate(s) used and explicitly express no opinion on the reasonableness of the interest rate

Actuarial Standards of Practice #20

- 5.5 – “The actuary should be aware that a discounted reserve is an inadequate estimate of economic value unless appropriate risk margins are included”
 - What requirements does this place on an actuary, who has calculated the PV of the expected required reserve and whose client has booked to that amount?

Actuarial Standards of Practice #20

- 6.3 – “Whenever the full-value reserve has been calculated, the actuary should disclose the amount of the difference between the full-value reserve and the discounted reserve.”
- Didn't the actuarial exams prove that we can all at least perform basic arithmetic?

Methods for Discounting

- Average duration of reserve discounted at interest rate for similar maturity.
- For each accident year reserve, use paid loss development factors to determine a discount factor and apply to reserve for each individual year. Interest rate for average duration.
- Use distribution of interest rates by payment period.
- Adjust for range calculations?

Discounting Based On T-Bill Yield Curve								
Expected Loss Payment Pattern								
Month of <u>Development</u>	% Paid in <u>Period</u>	T-Bill		Factor		Estimated <u>Ultimate</u>	Undiscounted <u>Reserve</u>	Discounted <u>Reserve</u>
		Rates <u>Jul-05</u>	Discount <u>Factor</u>	at beginning <u>of period</u>				
(1)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
0	27.31%	3.10%	0.985	0.908	0	0.00	0.00	
12	30.75%	3.64%	0.953	0.911	1000	726.95	662.45	
24	14.39%	3.87%	0.918	0.889	1000	419.41	372.93	
36	8.31%	3.91%	0.884	0.871	1000	275.49	239.86	
48	4.74%	3.95%	0.850	0.853	1000	192.35	163.99	
60	2.85%	3.98%	0.818	0.840	1000	144.96	121.82	
228	0.38%	4.45%	0.458	0.985	1000	3.77	3.72	
240	0.00%	4.48%	0.438	1.000	1000	0.00	0.00	
Total					20,000	2414.93	2128.41	
Duration Yrs	2.41	3.89%	0.904					2183.51

Discounting Based on T-Bill Yield Curve								
Low End of Range Loss Payment Pattern								
Month of <u>Development</u>	% Paid in <u>Period</u>	T-Bill		Factor		Estimated <u>Ultimate</u>	Undiscounted <u>Reserve</u>	Discounted <u>Reserve</u>
		Rates <u>Jul-05</u>	Discount <u>Factor</u>	at beginning <u>of period</u>				
(1)	(4)	(5)	(6)	(7)	(8)	(9)		
0	29.45%	3.10%	0.985	0.913	0	0.00	0.00	
12	31.15%	3.64%	0.953	0.915	924.87	654.25	598.70	
24	13.90%	3.87%	0.918	0.892	956.65	377.47	336.64	
36	7.85%	3.91%	0.884	0.873	971.53	247.94	216.36	
48	4.41%	3.95%	0.850	0.854	980.12	173.11	147.83	
60	2.63%	3.98%	0.818	0.841	985.02	130.46	109.78	
228	0.34%	4.45%	0.458	0.985	999.61	3.40	3.34	
240	0.00%	4.48%	0.438	1.000	1000.00	0.00	0.00	
Total					19,750	2173.44	1920.17	
Duration Yrs	2.26	3.88%	0.910					1977.11

Discounting Impact on Ranges

	Undisc. <u>Reserve</u>	Duration Discounted Reserve		Distribution Discounted <u>Reserve</u>
		<u>Normal</u>	<u>Adjusted</u>	
Expected Payments	2,414.93	2,183.51	2,183.51	2,128.41
Low End Payments	2,173.44	1,965.16	1,977.11	1,920.17
Ratio	90.00%	90.00%	90.55%	90.22%

Questions or Comments?

P&C Loss Reserve Discounting - Captives

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P&C Loss Reserve Discounting – Captives

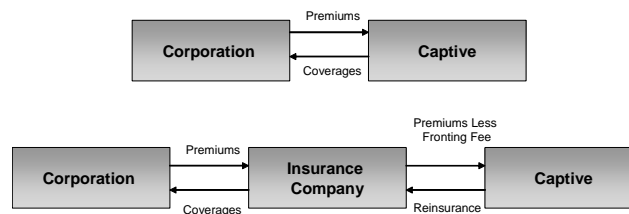
- Captive basics
- Current practices by domicile
- ASOP 20
- Discounting methodologies
- Implications for disclosures
- Employee benefits considerations

Captive Basics

- Types of Captives
- Domiciles
- Reasons to Form a Captive or Not

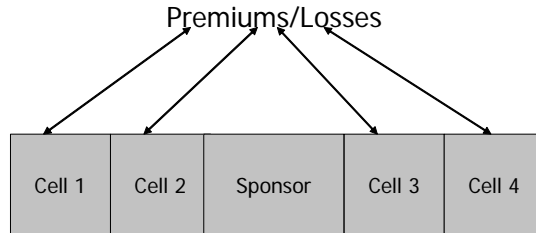
Captive Basics – Types of Captives

- According to Best's Captive Directory, a captive can be defined as a closely held insurance company, where much or all of the captive's business is typically supplied by and controlled by its owners.
- Single Parent
 - Direct
 - Fronted



Captive Basics – Types of Captives

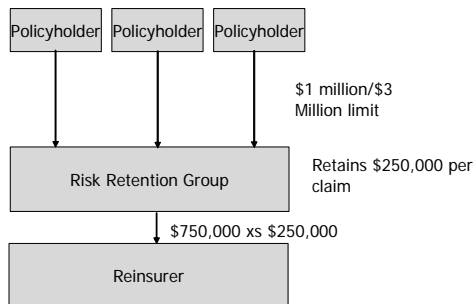
- Group Captive – can be either direct writing or fronted
- Sponsored Cell Captive (Rent a captive); two ways to share in results
 - Percentage participation
 - Protected cell



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Captive Basics – Types of Captives

- Risk Retention Group – variant of a captive with a few key differences
 - On-shore vehicle
 - Can write directly
 - Restricted to certain coverages



- Agency Owned Captive
- Branch Captive

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Captive Basics - Types of Captives

■ A comparison of Captive Structures

Captive Type	Who Supplies Capital	Use of Front?	Off Shore?	Typical Users
Single Parent	Owners	Maybe	Maybe	Larger corporations, health care systems
Group Captive	Owners	Maybe	Maybe	Smaller corporations, universities
Sponsored Cell	Sponsor	Maybe	Maybe	Small corporations
Risk Retention Group	Owners	No	No	Health care systems, Affinity groups

Captive Basics - Domiciles

- Can be either on-shore (Vermont, South Carolina) or offshore (Caymans, Bermuda)
- Over 30 US States have some form of captive legislation
- The most popular domiciles are Bermuda, Cayman and Vermont
- Domicile differences include
 - Capital requirements
 - Regulatory oversight
 - Cost
 - Infrastructure

Captive Basics – Reasons to Form a Captive or Not

- Cost reduction
 - Benefit from good loss experience
 - Reduce expense
 - Retain investment income
 - Improve cash flow
- Provision of capacity/coverage
 - New Risk
 - Build Limits
 - Manuscript Policy
- Greater Controls
- Centralize risk financing
- Management of retentions
- Direct access to reinsurance
- Supporting business partners

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Captive Basics – Reasons to Form A Captive or Not

- Organizational and Ongoing Costs
- Investment of Capital
- Long Term Vehicle
- Management Oversight
- Unfavorable Loss Experience

Current Discounting Practices by Domicile - Cayman

- Regulatory guidelines silent
- Funding approach needs to be formalized in business plan
- Common Approach – Discounted at 75% confidence level
- Rates vary from risk free to investment yield on assets
- Reflects market characteristics
 - Ownership
 - Mix of business
 - Retention levels

Current Discounting Practices by Domicile - Bermuda

- Guidance Note #4 – Role of Loss Reserve Specialist – provides guidance applicable for general insurance
 - Opinion is under the Insurance Act of 1978 as amended
 - Adequate – Held is greater than or equal to a “reasonable estimate of liabilities”
 - Opinion requirements vary by class of company (Class 1 through Class 4)
- Discounting is allowed if
 - Amount and dates of payment fixed; or
 - Amount and dates of payment are reasonably ascertainable; or
 - Subject to “Grandfather” provision
- Discounted reserves require establishment of “adequate” provision for variation in losses, payment dates or interest rates
- No requirement to comment on interest rates or variability but do disclose amount and rate
- Practices vary significantly, reflecting market composition

Current Discounting Practices by Domicile – Domestic Captive

- Most Domiciles allow
 - Vermont need to request permission
- Applicable to both pure captives and RRGs
 - RRGs typically complete NAIC blank but not subject to codification
 - Typically entities that discount do not include risk margins
- Consider ASOP 20 guidance

ASOP 20

- Payment pattern – Entity's own to extent credible; supplementary data should reflect payment-timing characteristics of coverage
 - Consider consistency of estimates, reconciliation
- Discount rate – may reflect time value of money or return from a particular portfolio
- Risk margins – “a discounted reserve is an inadequate estimate of economic value unless appropriate risk margins are included”

Discounting Methodologies

- Estimate cash flows
- Calculate weighted average discount factors
- Parameter assumptions
 - Payment pattern
 - Interest rate
- IRS discounting

Implications for Disclosures

- Risk of Material Adverse Deviation (RMAD) is NAIC requirement
 - Not required by captive regulators
 - Consistent with ASOP 43
- Need to Consider
 - Discount in reserve
 - Risk Margin
 - Surplus Position
 - Other Risk Factors
- Example – Bermuda Class 1 Captive, Line 17 = 10M, nominal liabilities 8M, surplus 2M, written premium 5M
 - Implied Margin – 2M
 - Adjusted surplus = 4M
 - Materiality standard calculated as 20% of adjusted surplus – 800K
 - Solvency margin – 1M

Employee Benefits Considerations

- Types of coverages
- Reasons to finance through a captive
- Risk profile
- Other issues