



SOCIETY OF ACTUARIES

U.S. GAAP & IFRS: Today and Tomorrow
Sept. 13-14, 2010

New York

Payout Annuities Under GAAP

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GAAP for Payout Annuities FASB 60 and FASB 97

Society of Actuaries - Basic GAAP 2010
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1



Agenda

- ◆ Product Classification
- ◆ Accounting Guidance
- ◆ Example
- ◆ Earnings Patterns
- ◆ Practical Issues

2



Product Classification

3



Product Classification Choices

- ◆ Investment Contract (FASB 97)
- ◆ Limited Payment Life Insurance Contract (FASB 60, modified by FASB 97)

4



Accounting Guidance

5



Accounting Guidance if Investment Contract

- ◆ FASB 97 type income statement presentation (e.g., premiums not separately identifiable)
- ◆ Practice Bulletin 8 states that constant yield method should be used with best estimate cash flow assumptions
- ◆ Loss recognition is limited on investment contracts

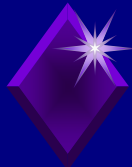
6



Constant Yield Method

- ◆ Reserve interest rate determined at issue so that PV of payments and maintenance expenses = Gross premium less deferrable expenses
- ◆ Reserve (net of DAC) = PV of future payments and expenses, using this interest rate

7



Accounting Guidance if Limited Pay Contract

- ◆ FASB 60 type income statement presentation (e.g., premiums are separately identifiable)
- ◆ Benefit reserve determined under FASB 60 (realistic assumptions for benefits and maintenance expenses at issue with PAD)
- ◆ No DAC for single premium contract

8



Accounting Guidance if Limited Pay Contract (cont'd)

- ◆ Set up Unearned Revenue Liability (gross premium - deferrable expense - initial reserve)
- ◆ Amortize URL in relation to reserves

9



Payout Annuity Example

10



Product Structure and Best Estimate Assumptions

- ◆ Earned Rate = 7.00%
- ◆ \$15,000 annual payment at end of each year for 15 years
- ◆ \$45 maintenance expense at end of each year for 15 years
- ◆ Deferrable Acquisition Expense = 5.5% of premium
- ◆ Non-deferrable Acquisition Expense = 0.75% of premium

11



Gross Premium Structure and Derivation

- ◆ Gross Premium Structure
 - “Credited Rate” = Earned Rate - 1.00% = 6%
 - 6% Premium Load
 - No maintenance expenses
- ◆ Gross Premium Derivation
 - PV of annual payments at 6% = \$145,684
 - Gross Premium = $\$145,684 / (1 - .06) = \$154,983$

12

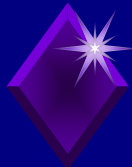


Constant Yield Method

Derivation of Valuation Interest Rate

- ◆ Initial reserve derivation
 - Gross Premium = \$154,983
 - Deferrable Expense = 5.5% (Gross Premium) = \$8,524
 - Net Premium = \$154,983 - \$8,524 = \$146,459
- ◆ Valuation interest rate derivation
 - PV of future benefits and expenses, discounted at 5.96%, = \$146,459 at issue
 - Therefore, valuation interest rate = 5.96%

13



Constant Yield Method

Reserves

	<u>Year 1</u>	<u>Year 5</u>
Reserve B.O.Y.	0	118,873
+ Gross Premium	154,983	0
- Deferrable Expense	(8,524)	0
+ Interest (5.96%)	8,735	7,090
- Benefits & Expenses	(15,045)	(15,045)
= Reserve E.O.Y.	140,149	110,918

14



Limited Pay Method

- ◆ For simplicity, assume no PADs; therefore, reserve assumptions equal pricing best estimates
- ◆ Reserve at issue = PV of future benefits and expenses, discounted at 7.00% = \$137,029 at issue

15



Limited Pay Method Reserves

	<u>Year 1</u>	<u>Year 5</u>
Reserve B.O.Y.	0	112,818
+ Net Premium	137,029	0
+ Interest (7.00%)	9,592	7,897
- Benefits & Expenses	(15,045)	(15,045)
= Reserve E.O.Y.	131,576	105,670

16



*Limited Pay Method
Unearned Revenue Liability(URL)*

- ◆ Initial URL = Gross Premium - Deferrable Expense - Initial Reserve = \$154,983 - \$8,524 - \$137,029 = \$9,430
- ◆ URL Amortization Ratio
 - PV of future beginning of year reserve balances = \$926,145
 - Amortization ratio = \$9,430 / \$926,145 = 1.018%

17



*Limited Pay Method
URL Calculation*

	<u>Year 1</u>	<u>Year 5</u>
URL B.O.Y.	0	6,123
+ Deferred Revenue	9,430	0
- Amortization (1.018%)	(1,395)	(1,148)
+ Interest (7.00%)	<u>562</u>	<u>348</u>
= URL E.O.Y.	8,597	5,323

18



Comparison of Reserves

Year	Constant Yield Method*	Limited Pay Method**
1	140,149	140,173
2	133,464	133,506
5	110,918	110,992
10	63,436	63,488

* reserve, net of DAC

** reserve + URL

19



Earnings Patterns

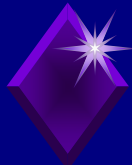
20



Earnings Patterns

- ◆ Pre-tax income emerges as:
 - Approximately a level % of reserves (in both accounting models)
 - + “Release from risk” (if classified as life insurance contract)
 - Non-deferrable acquisition and overhead expenses
 - + Investment income on assets backing GAAP equity

21



Earnings Patterns

Constant Yield Method

	<u>Year 1</u>	<u>Year 5</u>
GAAP Book Profit	273	1,231
+Non-deferrable expense	1,162	0
+ Inv inc on above item	<u>81</u>	<u>0</u>
= Adjusted Book Profit	1,516	1,231
BOY Reserve	146,459	118,873
Adj Bk Profit / BOY Reserve	1.04%	1.04%

22

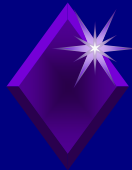


Earnings Patterns

Constant Yield Method (cont'd)

	<u>Rate</u>
Earned Rate	7.00%
- Constant Yield	<u>(5.96)</u>
= Profit Margin	<u>1.04%</u>

23



Practical Issues

24



Practical Issues

- ◆ Effect of realized capital gains
- ◆ Impact of mortality improvement
- ◆ Flat versus declining interest rate assumptions

25



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26