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Agenda

Accounting Bases and Accounting Guidance Hierarchy

Overview of Reserves

Claim Reserves and Liabilities

Contract Reserves

Deferred Acquisition Costs

Benefit Reserves and DAC – Profit Recognition Under GAAP

Premium Reserves

Reserve Adequacy

Accounting Bases and Accounting Guidance Hierarchy

	GAAP	Statutory	Тах	
Purpose	Match income and expenses	Solvency	Determine taxable income	
Focus	Best estimate	Conservatism	Tax revenue	
Applies To	All public companies	Insurance companies	Taxpaying companies	
Users of Financial Statements	SEC, Wall Street	State regulators, rating agencies	IRS	
Governing Bodies	SEC, FASB, GASB	States, NAIC	IRS	
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Why does GAAP and Statutory Accounting Matter Now?

- Principles-based accounting methods are likely coming in the future
 GAAP will be moving to the International Financial Reporting Standards (IFRS)
- Statutory will be moving to the Principles Based Approach (PBA)
- However, GAAP and statutory accounting in current forms will still be relevant in near term and probably for a long time into the future
- Public companies may still use GAAP for internal purposes after the adoption of IFRS
- Non-public companies may not adopt IFRS and stick with GAAP
- Current proposed changes to statutory regulations apply PBA to Long-Term Care (LTC) but not yet to health products such as Individual Disability Income (IDI) and Group Long Term Disability (LTD)
- Tax reserves are generally based off of statutory amounts and IRS may not want to move from the current rules-based statutory approach
- Adoption of IFRS is not a certainty

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GAAP Hierarchy

- The Financial Accounting Standards Board (FASB) defines GAAP standards for public companies (insurance and non-insurance)
- Recognized as authoritative by SEC and The American Institute of Certified Public Accountants (AICPA)
- Key pronouncements include FAS 60 (insurance companies, now ASC 944-20 through 944-60), FAS 106 (retirement benefits, now ASC 715-60), and FAS 112 (pre-retirement, post-employment benefits, now ASC 712-10)
- Guidance provided by FASB via Interpretations and Technical Practice Aids (TPAs)
- Other guidance is provided by sources such as AICPA (audit guides) and
- textbooks (e.g. U.S. GAAP for Life Insurers)
- The Governmental Accounting Standards Board (GASB) defines GAAP standards for state and local governments
- Key pronouncement is GASB 45 (other post-employment benefits or OPEB)

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Statutory Hierarchy

Regulations are proposed by the National Association of Insurance Commissioners (NAIC) and adopted by the states. State regulations take precedent, then the hierarchy is as follows:

Level 1: Statements of Statutory Accounting Principles (SSAPs) and certain GAAP reference materials adopted by NAIC

- Provided in NAIC Accounting Procedures and Practices Manual (APPM)
- > Key SSAPs include No. 54 (A&H reserves) and No. 55 (claim liabilities)
- > Appendix A-010 of APPM includes health valuation regulation
- Level 2: Interpretations (INTs) issued by the NAIC Emerging Accounting Issues Working Group (EAIWG)

Level 3: NAIC Annual Statement Instructions and NAIC Purposes and Procedures of the Securities Valuation Office manual

Level 4: Statutory Accounting Principles of Concepts

Level 5: Additional GAAP reference materials not included in Level 1

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Tax Hierarchy

Tax reserves are generally based on statutory reserves with modifications. The tax references are as follows:

IRS Tax Code

- Sections 803(a)(2) and 807(a) require a net decrease in reserves to be included as income
- Sections 804(1) and 805(a)(2), together with Section 807(b), allow a deduction to income for a net increase in reserves
- Tax reserve categories are defined in Sections 807(c)(1) through 807(c)(6)
- IRS Handbook provided to IRS agents
- Field Service Advice (FSA) provided to agents by IRS
- Technical Advice (TA) provided to agents by IRS
- Court rulings
- U.S. Tax Reserves for Life Insurers textbook

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Reserve Categories

Contract Reserves

- Unamortized Deferred Acquisition Costs (DAC)
- Held as an asset
- Claim Reserves
- Incurred But Not Reported (IBNR)
- Disabled Life Reserves (DLR)
- Due and Unpaid
- In Course of Settlement (ICOS)
- Resisted claims
- Premium Reserves
- Unearned Premium Reserves
- Advance Premium
- Due and Unpaid Premium (held as an asset)
- Deferred Premiums (held as an asset)

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Need for Reserves

- Reserves are needed to pay claims in the future when premiums are received prior to the insured event
- Required as part of GAAP and statutory accounting
- The development of reserves impacts the emergence of profit
- Under GAAP accounting, the objective is to realize profit as level percentage of gross premiums
- Claim reserves are used to recognize the loss in the period it was incurred

Claim Reserves and Liabilities

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Claim Reserves - Defined

- The term "claim reserves" generally refers to claim reserves and claim liabilities
- The statutory Annual Statement splits claim reserves and liabilities by exhibit:
- Exhibit 6 Claim Reserves
- Along with additional contract reserves, this exhibit includes Present Value
 of Amounts Not Yet Due reserves (AKA disabled life reserves or DLR)
- PVANYD includes the "unaccrued" expected benefit payments <u>due to the</u> policyholder after the valuation date
- Includes claim reserves for incurred claims that are reported and unreported as of the valuation date

- Exhibit 8 - Claim Liabilities

- Includes liabilities for "accrued" benefit payments that are <u>due to the</u> policyholder as of the valuation <u>date</u>
- Includes liabilities for incurred claims that are reported and unreported as of the valuation date

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Claim Reserves - Defined (continued)

- Disabled Life Reserves
- Reserves for expected future benefit payments on known open claims as of the valuation date

Incurred But Not Reported

- Accounts for claims incurred prior to the valuation date that are unknown to the insurer
- For products such as IDI, LTD, and LTC, an IBNR claim includes an accrued liability (Exhibit 8) for services prior to the valuation date and an unaccrued liability (Exhibit 6) for services after the valuation date
- Due and Unpaid

- Reported claims adjudicated but payment not made as of the valuation date

- In Course of Settlement (ICOS)
- Reported claims pending as of the valuation date
- Resisted Claims

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- Claims in dispute at the valuation date

Disabled Life Reserves – Calculation

- Generally calculated in a "tabular" fashion on a claim by claim basis where claim termination rate assumptions (i.e. probability of recovery) are looked up from stored tables
- Tables typically vary by length of time the policyholder is disabled (i.e. claim duration) and characteristics of the policyholder (i.e. age at disablement), the policy (i.e. benefit period), or the disability (i.e. ICD9 codes)
- Interest rates vary by incurral year for statutory and it is common for insurers to take the incurral year approach for GAAP

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Disabled Life Reserves – Calculation Example

Assume a new disability claim has a \$1,000 per year benefit

5 year benefit period

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- Interest is 5% per year
- Claim termination rates (CTR) vary by claim duration

Disabled Life Reserves – Calculation Example (cont'd)

	(1)	(2)	(3)	(4)	(5)
Year	CTR	Continuance Rate	Interest Discount	Total Discount	Discounted Benefit
1	20%	0.80	0.95	0.76	\$762
2	15%	0.68	0.91	0.62	\$617
3	10%	0.61	0.86	0.53	\$529
4	5%	0.58	0.82	0.48	\$478
5	5%	0.55	0.78	0.43	\$433

Column (2)_t = Column (2)_{t-1} * [1-Column (1)_t] Column (4) = Column (2) * Column (3) Column (5) = 1,000 * Column (4)

Disabled Life Reserve = Sum of Column (5) = \$2,819

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Disabled Life Reserves in Relation to Contract Reserves

- Contract reserves are calculated using incurred claim costs
 An incurred claim cost is the claim incidence rate times the DLR
 - Assuming a 1% incidence rate and the DLR amount from the previous example, the incurred claim cost would be \$2,819 * 0.01 = \$28
- For policies in open claim status, a contract reserve is generally required in addition to the disabled life reserve
- Most morbidity tables are developed such that the exposure basis used for incidence rates is the total population (actives plus disableds)
- Paragraph 34.c of appendix A-010 of the APPM states that "The contract reserve is in addition to claim reserves and premium reserves."
- If a company releases contract reserves for open claims, it should demonstrate that:
- Incidence rates were developed based on active lives only
- Reserves account for expected claim costs for disabled lives that eventually recover

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Disabled Life Reserves – GAAP Assumptions

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- Per paragraph 18 of FAS 60, claim reserves should be on a best estimate basis without margin
- Paragraph 18 notes that adjustments can be made for inflation and "other societal and economic factors"
- A strict interpretation of paragraph 18 would indicate that the best estimate interest rate should be used for all incurral years at the valuation date, but common industry practice is to vary interest rates by incurral year

Disabled Life Reserves – Statutory Assumptions

- Morbidity tables (i.e. claim termination rates) are prescribed and vary by product
- IDI uses 1985 CIDA or 1985 CIDC
- Per appendix A-010 of APPM, have option to use 1985 CIDA for all open claims or use 1985 CIDC for claims incurred 1/1/2002 and after and 1985 CIDA for the rest
- Can use company experience for yearly durations 1-2 if experience credible
 LTD uses 1987 CGDT
- Can use company experience in durations 1-2 if credible (also 3-5 with Department of Insurance approval)
- Specified tables are "valuation tables" with margins over "experience tables"
 No specified table for LTC
- Interest rates vary by incurral year
- Products with additional contract reserves (e.g. IDI, LTC) use whole life rate
- Products without additional contract reserves (e.g. LTD) use Single Premium Immediate Annuity (SPIA) rate less 100 basis points

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Incurred But Not Reported

- Generally calculated using loss development methods
- It is common to use paid claim data with incurred/paid dates instead of incurred/reported dates, so that the reserve is really an Incurred But Not Paid (IBNP) reserve and ICOS is not necessary
- Adjustments are typically made for recent incurral months without credibility
 Borhnheutter Ferguson method
 - Reserve for a given incurral year is equal to (1 completion factor) times the ultimate incurred claims as determined by an expected loss ratio
- Products that require disabled life reserves, especially IDI and LTC, may have IBNR calculated using a factor approach where a factor is multiplied by in force premium at the valuation date to estimate the IBNR amount
- The accrued portion of IBNR is generally not discounted
- For statutory, paragraph 8 of SSAP No. 55 indicates that no discounting is allowed

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Other Claim Reserves and Liabilities

Due and Unpaid

- Calculated based on an inventory of adjudicated but unpaid claims
- In Course of Settlement
- Calculated based on an inventory of reported but unapproved claims, with adjustments applied to account for probability of claims becoming approved
- Resisted Claims
- Calculated based on an inventory of disputed claims and the estimated probability that the claims will need to be paid by the insurer
- Reopen Reserve
- Accounts for the likelihood of a closed disability claim to reopen later due to the original cause of disability

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Claim Expenses

Claim Expenses

- Also known as Loss Adjustment Expenses (LAE)
- Need to account for the future cost of adjudicating and paying claims
- Usually calculated as percent of DLR or IBNR
- For GAAP, must account for claim expenses per paragraph 20 of FAS 60
- For statutory, must account for in accrued claim liabilities per paragraph 6.c.
- of SSAP No. 55

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 Does not seem that claim expenses are specifically required to be included with unaccrued claim reserves, but it is common in industry to do so Contract Reserves

Contract Reserves - Defined

- Also referred to as "policy reserves" or "active life reserves"
- For GAAP, referred to as "benefit reserves"
- For statutory, referred to as "additional contract reserves"
- Note that the statutory Annual Statement uses "active life reserves" to mean additional contract reserves plus unearned premium reserves
- Contract reserves are typically required for individual health insurance products with the following characteristics:
- Premiums are level based on issue age ("issue age rated"), and
- Claim costs are expected to increase over time (i.e. excess premiums in early policy durations are used to "pre-fund" expected high claims at later durations that will exceed annual premiums)
- Contract reserves are generally required for the following products:
- Individual Disability Income (IDI)
- Long-Term Care (LTC)
- Specified Disease (AKA Critical Illness or Cancer)

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Contract Reserves - Defined (continued)

- Individual health insurance products issued on an attained aged basis (versus issue age rated) typically do not require Contract reserves because premium rates increase in step with expected claim costs
- Medicare Supplement business is generally issued on an attained aged basis
 However, some states require that Medicare Supplement be sold on an issue age rated basis, in which case contract reserves are needed
- Group health insurance products typically do not require contract reserves because the business is usually renewed each year and premiums are adjusted to account for the level of expected claims in a given year
- Group LTC is an exception as it is issue age rated with level premiums
- For valuation purposes there is little difference between Individual and Group LTC and the same types of reserves are held for both products

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Contract Reserves – Calculation

- The method used for Contract reserves depends on the accounting basis
- GAAP uses the net level premium method
- Statutory generally uses the two-year full preliminary term (FPT) method, except for LTC which uses the one-year FPT method
- The mathematics between the GAAP method and the statutory methods are the same except that no reserve is held in the first or the first and second policy durations under one-year and two-year (FPT)
- Two approaches can be used to calculate contract reserves and they produce equivalent results
- Prospective
- Retrospective

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Contract Reserves – GAAP Assumptions

- For GAAP, the assumptions should be based on the company's best estimate during the year the policy was issued
- Assumptions are "locked-in" at issue and do not change unless a premium deficiency exists
- The benefit reserve should include Provisions for Adverse Deviations (PADs) as a level of margin
- Non-deferrable policy and claim expenses must be accounted for per paragraph 21 of FAS 60
- Only need to be included if expenses are not a level percent of gross premium, otherwise no reserves are generated
- Typically expected claim expenses are a function of claim costs, meaning that a reserve is generated if claim costs increase by duration
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Contract Reserves – Statutory Assumptions

- For statutory, the assumptions are generally prescribed
- The interest rate is the rate used for whole life insurance
 Mortality table is generally the table used for whole life insurance
- LTC has specified tables depending on year of issue
- Morbidity assumptions vary by product
- IDI generally uses the 1985 CIDA table but some companies in some states may also use the 1986 CDT table for some issue years
- LTC does not have a specified morbidity table
- Hospital Indemnity Plans (HIP) uses 1974 Medical Expense table; Cancer uses 1985 Cancer table, ADB uses 1959 ADB table
- Policy termination rates (mortality plus voluntary lapse) vary by product
 Restriction on policy termination rate for policies that are not noncancellable
- No voluntary lapses allowed for noncancellable insurance (typically IDI)
- LTC has restrictions on voluntary lapse rates that vary by issue year
- No specific requirement to include policy/claim expenses in conract reserve
- Specified tables are "valuation tables" with margin over "experience tables"

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DAC - Defined

- The term DAC in the context of GAAP accounting usually refers to the "intangible" DAC asset or Unamortized Deferred Acquisition Costs (UDAC)
- DAC, in conjunction with the benefit reserve, allows for the realization of profit as a level percentage of gross premium, and is in line with the overarching GAAP focus of matching income and expenses
- Without DAC, companies would generally show a loss when issuing new business due to the high costs of underwriting, first-year commissions, and marketing
- By setting up a DAC asset, upfront expenses are deferred until they can be recovered from future gross premiums
- DAC does not exist in statutory accounting
- The one-year FPT and two-year FPT contract reserve methods are used to provide some surplus relief from upfront expenses

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DAC – Calculation

 DAC is calculated in the same way that the benefit reserve is calculated, except the deferred expenses are substituted for the claim costs:

DAC = PV of Future Expense – PV of Future DAC Net Premiums

 $_{t}DAC_{x} = PVFE(x+t) - PVFDNP(x+t)$

The DAC Net Premium is calculated at time = 0 similar to how the benefit reserve net premium is calculated:

$$DNP_x = \frac{PVFE_x}{\ddot{a}_x}$$

• For a given policy, DAC is calculated using the same assumptions as to interest, mortality, and voluntary lapse used for the benefit reserve

 The DAC formula produces a negative amount meaning that there is a negative reserve which is equivalent to an asset

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Benefit Reserves and DAC – Profit Recognition Under GAAP





GAAP Example – Unamortized DAC by Policy Year

 • Calculate the DAC Net Premium:

$$DNP_x = \frac{PVFE_x}{\ddot{a}_x} = \frac{\$1,250}{5} = \$250$$

 • Calculate unamortized DAC at each year end

 - For example, prospectively at end of year 2:

 $DAC = PVFE - PVFDNP$
 $DAC = \$0 - (\$250 \cdot 3) = -\$750$
 $\boxed{\frac{Year 1}{DAC: \$1,000} \$750} \$500 \$250 \$0}$

	Year 1	Year 2	Year 3	Year 4	Year 5
Premium:	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Claims:	0	150	500	950	1,400
Initial Exp:	1,250	0	0	0	C
Admin Exp:	50	50	50	50	50
Cash Profit:	-300	800	450	0	-450
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GAAP Example – Income With Reserves and DAC

	Year 1	Year 2	Year 3	Year 4	Year 5
Premium:	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Claims:	0	150	500	950	1,400
Initial Exp:	1,250	0	0	0	0
Admin Exp:	50	50	50	50	50
Cash Profit:	-300	800	450	0	-450
Reserve:	600	1,050	1,150	800	0
DAC:	1,000	750	500	250	0
Change Res:	600	450	100	-350	-800
Change DAC:	1,000	-250	-250	-250	-250
GAAP Profit:	100	100	100	100	100

For example, GAAP profit in year 1 = -\$300 - \$600 + \$1,000 = \$100

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GAAP Lock-In Concept

- The assumptions used for GAAP benefit reserves and DAC are lockedin at policy issue per paragraph 21 of FAS 60
- Note that the assumptions for a given year's policy issues are not locked in until the end of the fiscal year
- The locked-in assumptions should be on a best estimate basis with PADs Minor differences in experience versus expected assumptions will be
- brought into income each year as they occur If significant permanent differences develop between experience and
- expected assumptions, a loss recognition event as defined in paragraph 35 of FAS 60 may occur and assumptions will be unlocked
- In the less extreme scenario DAC is no longer recoverable from future premiums and must be written off
- In the extreme scenario, benefit reserves and future gross premiums are not sufficient to pay expected future claims and a deficiency reserve must be held

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Premium Reserves

- Unearned Premium Reserves
- Portion of the modal premium that applies to the coverage period between the valuation date and the next premium payment due date
- For statutory, gross premium needs to be used unless contract reserves are held for the policy, in which case net premium is minimum
- Advance Premium
- Premium received by insurer prior to the premium payment due date
- Due and Unpaid Premium
- Held as an asset and accounts for premium payments that are past due
- Can only be held as an asset for up to 90 days under statutory
- Deferred Premiums
- Held as an asset and refers to modal premiums due after the valuation date but before the next policy anniversary - Not typically seen in practice
- Offsets the overstatement created by a mean contract reserve method

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Reserve Adequacy

Premium Deficiency

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- A premium deficiency exists (meaning reserves are inadequate) for in force business if current reserves and expected future premiums are not sufficient to cover expected future claims and expenses
- The ultimate test of reserve adequacy is a Gross Premium Valuation (GPV)
- The first step in performing a GPV is to project current in force business using current best estimate assumptions
- The present value of future premiums, claims, and expenses is compared to current reserves to determine whether a premium deficiency exists and additional reserves need to be established
- New business is excluded from a GPV

GAAP Reserve Adequacy

- Per paragraph 35 of FAS 60, reserve adequacy is determined by a GPV where present value of future premiums, claims, and expenses is compared to the net GAAP liability (benefit reserves less DAC)
- If the net liability is inadequate, a premium deficiency exists and assumptions are unlocked
- Typically DAC is written off first until the deficiency is eliminated
- In the extreme case, all DAC is written off and benefit reserves are increased to offset the future losses
- The GAAP GPV typically does not include claim reserves (and therefore excludes future benefit payments for claims incurred as of the valuation date)
- Theoretically, claim reserves should be on a best estimate basis so that the
 present value of future expected benefit payments/expenses on current
 incurred claims should equal the claim reserve amount
- Per paragraph 37 of FAS 60, a premium deficiency also exists if a GPV shows that there are gains followed by losses in a year by year projection

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Statutory Reserve Adequacy

- Per paragraph 24 of appendix A-010 of the APPM, a GPV must be performed whenever "significant doubt" exists regarding the reserve adequacy of any "major block" of contracts
- Unlike the GPV defined in FAS 60 for GAAP, the statutory GPV would take into account all reserves including claim reserves
- If reserves are shown to be inadequate, a premium deficiency reserve is needed, and the total booked reserve amount would equal the result of the GPV
- Per section VI.B. of the NAIC Health Reserves Guidance Manual (not currently authoritative), health business should be grouped into the below categories when determining the need for premium deficiency reserves

1) Comprehensive Medical

2) Long-Term Care

Disability

4) Limited Benefit Plans

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Statutory Asset Adequacy Testing

- The requirements of the Appointed Actuary are defined in the 2001 NAIC Actuarial Opinion Memorandum Regulation (AOMR)
- Appendix A-822 of the NAIC APPM includes some wording from the 2001 AOMR
- Both the AOMR and APPM say that reserves, when considered in light of the underlying assets, must be adequate to meet contractual obligations
- Cash flow testing is the method typically used to perform asset adequacy analysis, although it is not a required method and other methods, such as gross premium valuation, are sometimes used
- Asset adequacy testing is not a "solvency test"
- The purpose of a solvency test is to determine if the surplus of the company is sufficient to support current operations
- A solvency test is done on an overall company basis and includes new business

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Statutory Asset Adequacy Testing – Cash Flow Testing

- Cash flow testing is a projection of in force policies, excluding new business, of a line of business where the liabilities and assets are modeled under various scenarios
- If the cash flow testing shows that statutory reserves are inadequate, additional reserves must be established
- At a minimum, the "New York Seven" interest rates scenarios are typically modeled
- These scenarios were first specified in New York's Regulation 126
 Companies will usually also vary certain assumptions, such as morbidity or policy terminations, under other scenarios

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