

Principle-Based Approach Update 19

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Risk Management Committee
(AKA PBA Steering Committee)



Agenda for Webcast

- **Summer 2010 LHATF Update:** Larry Bruning, Chairperson of NAIC's Life and Health Actuarial Task Force
- **Mortality Update:** Mary Bahna-Nolan, Chairperson of the Academy's Life Experience Subcommittee
- **Life Risk-Based Capital Update:** Philip Barlow, Chairperson of NAIC's Life RBC Working Group
- Questions



Summer 2010 LHATF Update

Larry Bruning, FSA, MAAA

Chair, Life and Health Actuarial Task Force (LHATF)

Chief Actuary, Kansas Insurance Department



LHATF Update

- Society of Actuaries/American Academy of Actuaries Joint Project Oversight Group (SOA/AAA JPOG) Report on Mortality
- American Academy of Actuaries Non-forfeiture Improvement Work Group Report
- AAA Deposit Fund Subgroup (ARWG) Report on Deposit Fund Contracts
- Amendments to Actuarial Guideline XXXVIII
- 2011 GRET Factors Update
- Valuation Manual Update
- Oliver Wyman Presentation on C-3 Phase II RBC and Actuarial Guideline XLIII Principle-Based Reserves Update
- Report of the Accident and Health Working Group
- Report of the activities of the Interstate Insurance Product Regulation Commission (IIPRC) Product Standards Working Group
- 2011 Proposed Charges



LHATF Update

- SOA/AAA JPOG Report on Mortality
 - Received an update on the development of new valuation payout annuity mortality table and projection scale
 - ❖ Analysis of experience data uncovered anomalies at the young and old ages
 - ❖ Further analysis is being done
 - ❖ Goal to have proposed table and projection scale for October LHATF meeting
 - Received an update on the development of a new valuation mortality table for guaranteed issue/simplified issue and pre-need contracts
 - ❖ LHATF adopted a motion to request from JPOG the development of two valuation mortality tables, one for pre-need business and one for other guaranteed issue/simplified issue business



LHATF Update

- AAA Non-forfeiture Improvement Work Group Report
 - Work Group continues development of a Principle-Based approach to the determination of non-forfeiture values for life insurance and annuities
 - Non-forfeiture reform would increase the number of choices available to consumers
 - Reform would increase the potential for lower cost products and more transparent designs for consumers
 - Reform may enhance regulator oversight of non-forfeiture values
 - Minimum non-forfeiture values should be based upon the level of prefunding of benefits that result from premium payments and policy credits
 - Reform should include enhanced disclosure and reporting of assumptions and methods
 - Federal Tax issues remain to be worked out
 - Final Report to LHATF anticipated in March 2011



LHATF Update

- AAA Deposit Fund Subgroup Report on Deposit Fund Contracts
 - Initial focus is on Guaranteed Investment Contracts, Funding Agreements, Synthetic GICs and Separate Account Group Contracts
 - Products lead to wide range of risks retained by Insurers
 - Primarily an institutional marketplace with specialized contracts
 - Subgroup to consider guideline considerations to provide an outline for the actuary to consider to assist in understanding the products, risks and risk mitigation opportunities so that the most appropriate valuation methodology can be selected
 - Guidelines are to consider such things as floating rate guarantees and collateralization requirements



LHATF Update

- Amendments to Actuarial Guideline XXXVIII
 - Valuation methodology under Section 8C was due to expire on 12-31-2010 and revert back to the old methodology under Section 8B
 - LHATF amended AG XXXVIII as follows:
 - ❖ Date in Section 8C changed from 12-31-2010 to 12-31-2013
 - ❖ Date in Section 8B changed from 1-1-2011 to 1-1-2014



LHATF Update

■ 2011 GRET Factors

- LHATF adopted the 2011 GRET Factors developed by the SOA
- LHATF will be drafting a letter to the SOA requesting that the SOA work with the industry in developing the ability for companies that have multiple distribution channels to allocate and report expenses by distribution channel to improve future GRET studies



LHATF Update

■ Valuation Manual Update

■ LHATF adopted several amendments to VM-20 as follows:

- ❖ Definitions of reinsurance aggregate cash flows and reinsurance discrete cash flows
- ❖ LHATF rejected the proposal to calculate reserves separately for each reinsurance contract
- ❖ Reinsurance reserve credit will be equal to the difference between the gross reserve calculation and the net reserve calculation
- ❖ Issues of reinsurance collateral and allocating the reinsurance reserve credit among reinsurance treaties will be addressed in the Field Testing Project
- ❖ Wording and methodology on setting mortality assumptions and margins on the experience mortality
- ❖ Language on the use of the economic scenario generator to clarify that returns will come from a prescribed economic generator with prescribed parameters



LHATF Update

■ Valuation Manual Update

■ LHATF VM-20 amendments continued

- ❖ Wording to clarify that the reserve should reflect actual premium modes, policy issue dates and valuation dates either directly or through adjusting accounting entries
- ❖ Wording to modify the stochastic exclusion test when there is coinsurance involved (removes coinsurance expense allowance from denominator)
- ❖ Two discount rate options will be Field Tested

■ LHATF made minor wording changes to VM-00, VM-01, VM-A and VM-C

■ LHATF made minor wording changes to VM-51

■ LHATF voted to expose a final draft of the VM to be used as a baseline for the Field Testing Project



LHATF Update

- Valuation Manual Update – Field Testing History
 - April 14th, 2010 Call of Principle-Based Reserve Working Group
 - LHATF Provided Update on Completion of VM by August 2010
 - ACLI indicated non-support of VM-20 in Current Form
 - Request Limited Scope (Term & UL with Secondary Guarantees)
 - Require Industry Impact Study to be conducted
 - ACLI May 4th, 2010 Letter to Commissioners Hamm & Sullivan
 - ALIA May 5th, 2010 Letter to Commissioners Hamm & Sullivan
 - AAA May 12th, 2010 Letter to Commissioners Hamm & Sullivan
 - Restated Principles of PBA approach
 - Expressed some concern regarding level of prescription
 - Stressed need for a Feedback Loop
 - Supported certain “guardrails” such as minimum floors and prescribed ranges on margins if Feedback Loop present



LHATF Update

- Valuation Manual Update – Field Testing History
 - May 19th, 2010 Meeting in DC
 - VM-20 will not be limited scope
 - NAIC will commission Impact Study on Industry
 - NAIC will Drive the Testing Project with actuarial consulting assistance
 - Testing to be completed by March 31, 2011
 - VM project delayed up to 1 year
 - May 28th, 2010 Letter to LHATF and SMI Task Force from Commissioner Hamm
 - LHATF charged with developing recommendations on conducting an Impact Study including how study is to be conducted, products to be tested, companies involved in testing and qualifications of third party actuarial consulting firm to assist in the study



LHATF Update

- Valuation Manual Update – Field Testing Subgroup
- Regulator Testing Subgroup
 - Kansas – Chair
 - Alaska – Vice Chair
 - California
 - Florida
 - New York
 - Ohio
 - Texas



LHATF Update

- Valuation Manual Update – Field Testing RFP
 - RFP Drafted and Finalized
 - July 29, 2010 RFP Posted to NAIC Website and Sent to Actuarial Consulting Community
 - Questions on RFP submitted to NAIC by Consulting Community
 - RFP Conference Call August 5, 2010 to answer questions submitted
 - RFP Response Deadline August 10, 2010
 - NAIC to Select Consultant by September 15, 2010



LHATF Update

- Valuation Manual Update – Field Testing Objectives
 - Impact of PBA methodology on Life Insurance Industry
 - Effectiveness of Exclusion Tests as a measure of level of risk analysis
 - Effectiveness of Net Premium Reserve Component as a floor for reserves
 - Effectiveness of the Economic Scenario Generator in exposing cash flow risks embedded in life insurance company balance sheets
 - Appropriateness of Reinsurance Methodology for proportional and non-proportional agreements and pre and post reinsurance amounts and reinsurance reserve credits
 - Process of establishing anticipated experience assumptions and margins for adverse deviation and company variation using credibility theory and sensitivity testing
 - Process of determining level of granularity used in grouping assets and liabilities into model cells to insure major risk characteristics are captured



LHATF Update

- Valuation Manual Update – Field Testing Objectives
 - Processes used to determine the number of economic scenarios that need to be modeled such results have statistical confidence using any variance reduction or importance sampling techniques
 - Effective uses of sensitivity testing in identifying major risk components embedded in company balance sheets
 - Level of disclosure required to determine reserve results, modeling methodologies, experience assumptions, margins such that process is not a black box
 - Explore regulatory benchmarks and/or metrics that can be used to determine compliance with SVL and VM
 - Ease of implementation of proposed methodology taking into account human resources, computer modeling run times, required sensitivity analysis
 - Determine further refinements , if any, are needed to improve the risk measurement functionality of the methodology



LHATF Update

- Valuation Manual Update – Field Testing Companies/Products
 - Universe of 60 Companies with over 100 Million of new life premium
 - Added some Small Companies and Reinsurance Companies to Universe
 - Products to be Tested
 - Term Insurance (various types) With and Without Return of Premium
 - Universal Life (various types) With and Without Secondary Guarantees
 - Indexed Life (various types) With and Without Secondary Guarantees
 - Variable Universal Life (various types) With and Without Secondary Guarantees
 - Participating and Non-Participating Whole Life (various types)



LHATF Update

- Valuation Manual Update – Field Testing Roles
 - Consultant
 - Develop Project Plan & Time-line
 - Develop Metrics to meet objectives
 - Manage Project on day to day basis
 - Profession
 - Interpret and Clarify Methodology
 - Evaluate Alternatives
 - Industry
 - Select Scenarios
 - Build Models
 - Set Assumptions and margins
 - Run Models and Compile Results



LHATF Update

- Valuation Manual Update – Field Testing Next Steps
 - Select Consultant
 - Select companies and products from universe to meet testing objectives
 - Define metrics to be used in testing and evaluating objectives
 - Test New Business
 - Begin Model with last 12 months of new business
 - Add projected new business for each future model year
 - Final Report by March 31, 2011



LHATF Update

- Oliver Wyman Presentation on Observations of C-3 Phase II RBC and Actuarial Guideline XLIII Principle-Based Reserves
 - Represent 12 of the top 20 North American Variable Annuity writers
 - LHATF presented with 5 potential refinements to the methodology for further testing as follows:
 - Consider replacing the present value of greatest accumulated deficiency with a cash flow valuation methodology that still captures the “time to worst” concept
 - Expand options available for the Starting Asset Amount to include all assets supporting the variable annuity block
 - Modify the calibration criteria for stochastic economic scenarios to be more responsive to starting market environments
 - Alter the seriatim calculation of the AG 43 Standard Scenario Reserve such that results are better aligned with the actual aggregate risk exposure
 - Impose a cap upon the AG 43 Standard Scenario Reserve (e.g. CTE 90) to avoid over-dominance of TAR



LHATF Update

- Oliver Wyman Presentation on Observations of C-3 Phase II RBC and Actuarial Guideline XLIII Principle-Based Reserves
 - OW internal models will be used to determine the initial testing results of the 5 potential refinements
 - Each of the 12 participating companies will rerun 2009 C3 Phase II and AG 43 results with the 5 potential refinements
 - LHATF will be presented with detail results at the October LHATF meeting



LHATF Update

- **Report of the Accident and Health Working Group**
 - Working Group received a report from the Patient Protection and Affordable Care Act (PPACA) Actuarial subgroup concerning progress made toward the completion of the medical loss ratio (MLR) methodology
 - Working Group received a report from the PPACA Actuarial subgroup's involvement in Speed to Market (EX) Task Force's PPACA rate disclosure form project
 - Discussed a charge to replace the 1985 NAIC Cancer Claim Cost Table
 - Received reports from the LTC Valuation subgroup on the development of a principle-based reserve methodology



LHATF Update

- Report of the IIPRC Compact Standards Working Group
 - Standards adopted for Graded Death Benefit Whole Life and Longevity Annuities
 - Long Term Care Standards will be recommended to the Product Standards Committee
 - Individual Disability Income standards are being drafted



LHATF Update

- LHATF 2011 Charges Adopted
 - Combined Mortality Table charges into 1 charge
 - Added a charge to have SOA expand methodology to allow allocation of expenses across multiple distribution channels
 - Added a charge to review any recommended changes to the AG 43 methodology
 - A/H working group added a charge to support and respond to requirements legislated in the Federal Patient Protection and Affordable Care Act (PPACA)



Mortality Update

Mary J. Bahna-Nolan, FSA, CERA, MAAA
Chair, Life Experience Subcommittee



VM-20 Mortality



Mortality:

Two Separate Mortality Assumptions

- Net Level Premium reserve
- Deterministic/Stochastic reserve



Mortality: Net Level Premium Reserve Assumption

- Similar to what is done today under CRVM
- For contracts other than pre-need:
 - Choose 2001 Commissioner's Standard Ordinary (CSO) Table or
 - 2001 CSO Preferred Structure Tables
- For pre-need contracts:
 - Choose 1980 Commissioner's Standard Ordinary (CSO) Table
 - Ultimate form only
- Not based on individual company experience
- Intent is to update valuation manual with new CSO tables, when approved for use



Mortality:

Deterministic/Stochastic Mortality Assumption

7 step approach to determine prudent estimate mortality assumption

1. Determine credibility segment
2. Determine mortality segment
3. Determine company experience mortality rates and credibility procedure (if not using “simplified” method)
4. Determine applicable industry mortality table
5. Determine credibility adjusted mortality rates (if not using “simplified method)
6. Determine margin
7. Determine prudent estimate mortality rates



Mortality:

Step 1: Determine credibility segments

- Used to determine:
 - Qualification for simplified method
 - Credibility factor for use in determining overall margin for prudent estimate mortality assumptions
- Experience within credibility segment must be based on all in force claims data with study period within previous 3-years; study period can range from 3-10 years



Mortality:

Step 1: Determine credibility segments cont'd

- Each segment shall consist of policies with similar underwriting methods and mortality experience characteristics
- Acceptable to group of policies with different types of insurance into the same credibility segment if the underwriting methods and mortality experience characteristics are similar for all the policies
 - E.g., All fully underwritten flexible premium universal life policies
- May remove from the credibility segment(s):
 - any policies for which the experience is reflected through adjustments to the prudent estimate mortality rate assumptions. For example:
 - impaired lives
 - Policies in which there is a reasonable expectation that policyholder behavior will lead to mortality results that vary significantly from those that would otherwise be expected such as additional mortality due to anti-selective lapse at end of level premium term



Mortality:

Step 1: Determine Credibility segments cont'd

- Experience may be supplemented with experience from reinsurance pools or other experience, to the extent it is applicable, relevant and limited own experience exists otherwise



Mortality:

Step 2: Determine mortality segments

- Used to determine separate:
 - Credibility adjusted experience rates and
 - Prudent estimate mortality tables
- Within each credibility segment:
 - Group the policies company expects to have similar underwriting method and mortality experience
 - E.g., All preferred non-tobacco risks of the fully underwritten flexible premium universal life policies
- If actual experience data not available or has limited credibility:
 - May use actual experience of one or more mortality pools in which the policies participate
 - May include data from other sources if available and has the same underwriting and mortality experience characteristics to similar policies within the credibility segment



Mortality:

Step 3a: Determine if qualify for simplified method

- Method to determine anticipated experience assumption differs slightly depending on level of credibility
- Initial credibility for “simplified” method determined by # of claims for the particular Credibility Segment
 - <30 - use “simplified” method
 - ≥ 30 – use “credibility adjusted” method



Mortality:

Step 3b: Determine experience mortality rates

With ≥ 30 claims in credibility segment

- Choose credibility method/procedure
- Determine experience mortality
- Choose industry mortality table
- Credibility weight/blend with experience mortality

With < 30 claims in credibility segment

- Choose industry mortality table



Mortality:

Step 3b: Determine experience mortality rates cont'd

If the “credibility weighted” method is used:

- Determine Credibility procedure
 - Must be based on statistical method
 - Statistical method must be consistent with standard actuarial practice
 - Cannot use rule-of-thumb approach based on # of claims
 - For example, Limited Fluctuation Method
- Determine credibility for each mortality segment and mortality experience cell
- Determine Credibility Factor (CF) for credibility segment



Mortality:

Step 3b: Determine experience mortality rates cont'd

Experience mortality

- Must be reviewed at least once every three years and update as needed
- Includes the in force and claim data pertaining to the study period for all policies currently in the credibility segment
 - or that would have been in the credibility segment at any time during the period over which experience is being evaluated
- Study period must be between 3 and 10 years.
- Use actual mortality experience directly applicable to the credibility segment, when available.
- May use actual experience data of one or more mortality pools in which the policies participate under the terms of a reinsurance agreement
 - provided that the policies in the credibility segment have underwriting methods and mortality experience characteristics similar to those of the policies in the pool and
 - the aggregate pool data are available to the company



Mortality:

Step 4: Determine applicable industry table

- Determined for each mortality segment
- Applicable industry tables currently the 2008 VBT Tables
- If none of the 2008 VBT tables appropriately reflect the risk characteristics of the mortality segment, company may use any well-established industry table based on similar or appropriate risk characteristics of policies within the mortality segment
- May use underwriting criteria scoring procedure (UCS) and Underwriting Criteria Scoring Calculator
 - Found on the SOA website, www.soa.org/research/individual-life/2008-score-calc.aspx
- May use alternative method to determine applicable basic table
 - Must be based on sound method(s)
 - Must document reasons approach to selection more appropriate for mortality segment than that from applying UCS Calculator



Mortality:

Step 4: Determine applicable industry table cont'd

May make adjustments to account for:

- Factors not recognized or quantified in the UCS algorithm but which factor into expected mortality for particular mortality segment
 - Experience of underwriting staff
 - Number of underwriting exceptions
 - Simplified underwriting
- May adjust table resulting from calculator up or down 2 tables



Mortality:

Step 5: Determine credibility adjusted experience rates

If qualify for “simplified” method:

- Credibility adjusted experience rates equal applicable industry table
 - Credibility adjusted experience rates are not actually defined under the “simplified” method

If do not qualify for “simplified” method:

- Blending experience mortality with applicable industry table based on credibility of underlying experience data
- Where experience data is only partially credible or credible for only a period of time,
 - Grade into applicable industry mortality rates using reasonable method consistent with accepted actuarial practice



Mortality:

Step 6: Determine margin

- Mortality margin in the form of a percentage increase applied to the Anticipated Experience Assumption
- 2 components to margin
 - Random fluctuation risk
 - Company variation risk



Mortality:

Step 6: Determine Margin cont'd

Random fluctuation risk

- Covers deviations in the mortality experience resulting from periodic variations of the experience from the mean
 - random fluctuation from the expected results of credible component of a company's mortality
- Ranges from 1% to 10%



Mortality:

Step 6: Determine Margin cont'd

Company variation risk

- Covers deviations from a selected industry mortality due to differences in underwriting practices and the demographics of the underlying insured lives.
- Fixed amount which varies by issue age
- Ranges from 21% at younger ages to 9% at older ages
- For companies with full credibility = 0%



Mortality:

Step 6: Determine Margin cont'd

- Margin within each mortality segment =
CF x margin for random fluctuation risk
+
(1 - CF) x margin for company variation risk
where,
CF = Credibility Factor determined for the credibility segment
determined using the selected credibility procedure (If using
“simplified” method, CF = 0)
- Margin should be increased to reflect situations involving greater
uncertainty



Mortality:

Step 7: Set Prudent Estimate Mortality

- Take credibility adjusted mortality experience rates
- Increase by margin
- Make any adjustments for:
 - Anti-selective mortality
 - Substandard risk
 - Any other adjustments



Payout Annuity Mortality



Table Development

- Table based on 2000-2004 payout annuity mortality experience
- For core issue ages, table developed with confidence intervals at each age, through application of P-Splines
 - for ages 65-95
- Graduated qxs from the data for males and females with confidence intervals
 - Method used provided a 95% confidence interval of graduation
 - Result with qxs generally ranging between 99-101% of the best estimate for key ages
- For ages <65 and ages >95 , above approach did not result in a good fit



Table Development cont'd

- Analyzed mortality at younger and older ages
 - Mortality rates at these ages have little impact on the final reserve
 - There is much uncertainty in the older and younger age data
 - The number of deaths in experience mortality at ages 50 and below was pretty sparse
 - Compared results to several existing industry tables including:
 - 1994 GAM projected with Scale AA to 2000 and to 2002
 - 2008 VBT RR100
 - Annuity 2000
 - 2006 U.S. Life Tables



Table Development cont'd

Younger age mortality comparison (experience by amount)

- 1994 GAM and A2000 table reasonably close at ages 20 and 35, significant divergence at 50
- Using: 2008 VBT Primary at age 0, 1994 GAM projected with Scale AA to 2002 through age 50, grading to experience table projections between ages 50 and 65

Table	Age 20		Age 35		Age 50	
	Male	Female	Male	Female	Male	Female
2000-2004 study Q _x /1000	N/A	N/A	N/A	N/A	6.11	4.11
Annuity 2000 Basic	0.55	0.28	0.79	0.52	3.33	1.71
AAA Initial Table	0.55	0.28	1.34	0.80	5.52	3.92
2008 Primary, NS	0.88	0.31	1.02	0.50	2.48	1.77
2005 Life Table	1.31	0.45	1.64	0.90	5.69	3.28
2006 SSA Table	1.34	0.46	1.67	0.90	5.66	3.28
1994 GAM Basic (@ 2000)	0.48	0.28	0.89	0.48	2.47	1.38



Table Development cont'd

Higher age mortality comparison (experience by amount)

- 1994 GAM lower than population, Annuity 2000 rates significantly lower than population and more recent life experience table at highest ages for male risks
- Considering: experience table projections between ages 65 and 95, Kinnisto extension beyond, with a maximum q_x rate of 0.40
- Still under consideration is a cap of 2008 VBT (with some level of improvement)

Table	Age 90		Age 95		Age 99	
	Male	Female	Male	Female	Male	Female
2000-2004 study $Q_x/1000$	135.37	100.77	198.95	166.14	229.90	338.56
Annuity 2000 Basic	124.61	112.76	180.24	174.49	233.37	233.03
AAA Initial Table	135.89	107.00	216.65	171.92	304.13	296.03
2008 Primary, NS	139.33	104.24	227.67	159.48	306.99	240.15
2005 Life Table	174.40	139.06	260.68	219.82	346.93	305.42
2006 SSA Table	177.64	138.94	277.94	226.89	354.02	299.72
1994 GAM Basic (@ 2000)	160.49	122.77	248.18	197.83	322.04	274.38
Kinnisto	133.20	105.84	210.96	174.79	286.78	246.73



Table Development cont'd

Higher age mortality comparison – Ratio of Kinnisto to existing mortality tables shows higher age mortality rates greater than Annuity 2000 Basic Table

Table	Age 90		Age 95		Age 99	
	Male	Female	Male	Female	Male	Female
Annuity 2000 Basic	107%	94%	117%	100%	123%	106%
AAA Initial Table	98%	99%	97%	102%	94%	83%
2008 Primary, NS	96%	102%	93%	110%	93%	103%
2006 U.S. Life Table Total	79%	79%	83%	82%	85%	83%
2006 SSA Table	75%	76%	76%	77%	81%	82%
1994 GAM Basic (@ 2000)	83%	86%	85%	88%	89%	90%



Table Development Considerations

Analyzed male and female data split by pension amount.

- Clear difference in experience based on pension amount
- Considered basing final margin within table on lives with pension amounts of \$2,500 or \$5,000 and above
 - smaller amounts represent nearly 80% of deaths in study

Summary of 2000-04 Experience - Ratios to a2000 Basic						
	Total		Immediate		Imm. & No Refund	
	Ratio	Deaths	Ratio	Deaths	Ratio	Deaths
All Contract Years						
<2,500	114%	53,438	114%	11,707	129%	1,739
2,500-4,999	104%	13,870	106%	5,425	100%	788
5,000-7,499	98%	6,076	99%	2,396	85%	416
7,500-9,999	96%	3,133	102%	1,236	80%	215
10-14K	93%	3,161	97%	1,281	63%	213
15-24K	89%	2,000	92%	778	61%	153
25-49K	82%	838	84%	354	55%	80
50+K	72%	182	59%	101	42%	32
Total	95%	82,698	93%	23,278	64%	3,636
Total w/o <2.5K	92%	29,260	90%	11,571	60%	1,897
Contract Years 1-10						
Total	90%	28,348	89%	12,162	55%	1,904
Total w/o <2.5K	89%	15,158	87%	7,380	53%	1,106
Contract Years 11+						
Total	101%	54,350	102%	10,935	94%	1,732
Total w/o <2.5K	96%	14,103	97%	4,010	89%	791



Table Development Considerations cont'd

- There is much uncertainty in the older and younger age data
 - The number of deaths we had at age 50 was pretty sparse
- Considering ultimate level of mortality = 0.40
- Suggesting to use:
 - Actual data up to age 95
 - Existing tables/mortality at younger ages (up to 50)
 - Actual data/smoothed from 60/65 to 95
 - Kinnisto extrapolation for older ages
 - Need to use another extrapolation method at older ages to get a good fit beyond age 95



Next Steps

- Continue to analyze male and female data split by pension amount.
 - There is a clear difference in experience based on pension amount
- Analyze and determine mortality improvement/projection scale
 - Social Security Administration, Human Mortality Database
- Review preliminary results from more recent (2005-2008) data call
 - More contributors, especially large annuity writers
- Proposed table with projection scale for October LHATF meeting



Guaranteed Issue/Simplified Issue Mortality Update



Industry Study

- Conducted industry study for guaranteed issue and simplified issue products in order to determine:
 - types of products;
 - underwriting and selection methods;
 - Distribution
- 133 contributing companies with 77 having some form of guaranteed issue/simplified issue business
 - Pre-need 19 contributors
 - Final expense 34 contributors
 - Other markets 45 contributors
 - Guaranteed issue 42 contributors
 - Simplified issue 68 contributors



Industry Study

- Analyzed results from study to determine approach for conducting an industry mortality study/studies by Pre-need, final expense and all other
- Many factors impact mortality (& persistency) including:

Products	Marketing/Targeted solicitation
Application questions	Premium mode and method
Underwriting	Ancillary benefits
Market	Post-issue underwriting
Distribution	Death benefit pattern



Industry Studies to conduct

- Two separate mortality studies and data calls:
 - Pre-need
 - All other distribution
- Important to get as many companies to contribute data



Next Steps

- Develop data calls
 - Trying to make simple yet capture appropriate data to discern variations in programs
- SOA in process of determining a statistical agent



Life Risk Based Capital

Philip Barlow, FSA, MAAA

Chair, NAIC Life Risk-Based Capital Working Group

Associate Commissioner, Insurance Bureau
Dept of Insurance Securities & Banking of Washington, D.C.



Life RBC Issues

- C3 Phase III Update
- Solvency Modernization Initiative
- C3 Phase II Results Subgroup
- Commercial Mortgage RBC
- Derivatives Risk-Mitigation
- Non-US Life Affiliates
- C3 Phase I Interest Rate Generator



C3 Phase III Update

- There were no conference calls on C3 Phase III since the March NAIC meeting.
- There has been a lot of activity that has the potential to impact C3 Phase III including:
 - In May, the Academy sent a letter to chairs of the Life Insurance and Annuity “A” Committee and the PBR (EX) Working Group supporting the PBA approach and the C3 Phase III proposal as submitted.
 - Oliver Wyman has presented work on issues and potential changes to the way the principles based approach has been implemented for C3P2 and VACARVM.
 - A CADTF Subgroup was established to consider redesign and recalibration of the RBC formulas as part of the Solvency Modernization Initiative.
 - LHATF is conducting field testing of VM-20
 - The new NAIC Distinguished Scholar will focus on RBC



C3 Phase III Update

- C3 Phase III was also not discussed at the LRBCWG during the summer NAIC meeting, except to request guidance from the CADTF on the impact on C3 Phase III of:
 - The Capital Adequacy (E) Task Force and Solvency Modernization Initiative (EX) Risk-Based Capital Subgroup
 - The field testing project on VM-20 being undertaken by LHATF
- CADTF agreed to hold a joint conference call with LHATF to discuss this issue.
- CADTF will renew efforts to find a chair for the LHATF/CADTF Joint Subgroup.



C3 Phase III Update

- LRBCWG had two exposures for comment on C3 Phase III that have not yet been discussed by the WG:
 - Academy proposal for incorporating C3 Phase III requirements into RBC instructions;
 - ACLI proposal for materiality test and scope limitation.
- Comments received from the Academy, ACLI and the New York Insurance Department on the exposures.
- Absent any change as a result of the joint CADTF / LHATF conference call, the LRBCWG will hold a conference call to discuss the outstanding exposures working towards a YE 2011 effective date.
- The WG will then develop a complete list of outstanding issues for C3 Phase III and begin to address those issues.



Solvency Modernization Initiative

- The Capital Adequacy (E) Task Force and Solvency Modernization Initiative (EX) Risk-Based Capital Subgroup met in July with more than 50 Interested Parties to brainstorm about:
 - Calibration and covariance within RBC
 - Missing risks that should be quantified in the RBC
 - Identification of risk quantification that should be improved, using modeling where factor-based approaches are not sufficient to capture the identified risks
 - Prioritization of projects
- Some initial observations and areas for additional work were identified.
- The goal for all of the deliverables to be completed is 2012.



C3 Phase II Results Subgroup

- In March, the C3 Phase II Results Subgroup presented a report including observations and recommendations as a result of the Subgroup's review of Actuarial Memoranda from companies that agreed to provide the memoranda to the Subgroup.
- The Subgroup has not recently been active, but is now trying to figure out how best to coordinate its work with all of the other ongoing activities.



Commercial Mortgage RBC

The ACLI presented a newly updated version of the long-term proposal for the RBC treatment of mortgage loans.

- The ACLI proposes to engage a consultant to develop factors based on a statistical analysis of mortgage experience.
- The factors would be based on:
 - Loan to Value Ratio (LTV) values using an index to adjust from the date of the appraisal to current.
 - Debt Service Coverage Ratio (DSC)
 - Property Type
 - Amortization Period
 - Remaining Maturity



Commercial Mortgage RBC

- The LRBCWG, along with other NAIC and regulatory resources is working with the ACLI to develop the actual work to be performed by the consultants.
- The WG will schedule a conference call to get input on the project prior to any work beginning.
- The WG will monitor the work of the consultants and provide feedback during the development of the factors.
- Unlike the short-term solutions that have been used to adjust the MEAF calculations over the past few years, the goal of this work is to determine the appropriate level of capital, rather than simply maintaining the same level of capital as the MEAF.



Commercial Mortgage RBC

- The factors will be calculated based on the average of starting periods throughout a business cycle and therefore should not require regular updates.
- Questions still remain about if property location should be considered in the development of the factors and how to handle property types that are not included in the analysis.
- The goal is to have the long term solution far enough along that changes to the RBC formula can be adopted by year end 2010 for implementation for the 2011 formula.
- For 2010 (and 2011 if the long term solution is not finalized), commercial mortgage RBC is calculated using the MEAF methodology and minimum and maximum factors of 80% and 175% as opposed to the 75% and 125% used in 2009.



Derivatives Risk-Mitigation

The LRBCWG exposed for comment a proposal from the ACLI for RBC credit for both the “Basic” and “Intermediate” hedges, including draft instruction changes.

- The proposal provides for the following RBC credits:
 - RBC Credit as a percent of C-1 Asset Charge = $((\text{Time to maturity of CDS} / \text{Time to maturity of Bond}) \times (94\% - 10\%)) + 10\%$
 - For complete hedges on specific common stocks, RBC credit of 94% of the C-1 asset charge.
 - The minimum RBC credit would be 10% of the C-1 asset charge.
 - Intermediate hedges are treated as a group of basic hedges.
- The exposure, including instructions, has been drafted such that the intermediate hedges can be removed if necessary for adoption by year end 2010 with implementation for YE 2011.



Derivatives Risk-Mitigation

- The ACLI and the NYID are discussing an accounting issue related to this project which may result in a recommendation to SAPWG.
- After reviewing comments, the WG will try to have an exposure for adoption no later than the Fall NAIC meeting.
- The WG would then strive for an adoption by conference call prior to year end 2010.
- Once adopted by the WG, the proposal would also have to be adopted by CADTF by conference call prior to year end to be on track for a YE 2011 effective date.
- The ACLI still intends to pursue a proposal for credit for “Advanced” hedges, but there is currently no time line.



Non-US Life Affiliates

The LRBCWG exposed for comment a proposal from New York Life for the RBC treatment of non-US Life affiliates.

- The proposal would remove such affiliates from both the Total Adjusted Capital and the Authorized Control Level RBC (the numerator and denominator of the RBC calculation).
- The proposal is primarily expected to impact mutual insurers, as stock companies have the option to move non-US life affiliates outside of the RBC calculation.
- The proposal is for 2011 implementation, but the WG asked for specific comments during the exposure about consideration for 2010 implementation.



C3 Phase I Interest Rate Generator

The LRBCWG adopted a change to the C3 Phase I Interest Rate Generator. It had come to the attention of the Academy that the generator was calculating negative interest rates as a result of the yield curve interpolation process in the current low interest rate environment. The negative interest rates were causing problems with the generator and the fix proposed by the Academy uses zero as a floor for the rates. The revised generator has been posted on the NAIC web site at

http://www.naic.org/committees_e_capad_lrbc.htm.



Questions?

