
Capital Adequacy

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Capital Adequacy

- Fixed Minimum Capital & Surplus
- Risk-Based Capital (RBC)
- Surveillance - Financial Analysis
 - Future: Solvency Modernization Initiative (SMI) includes the Own Risk & Solvency Assessment (ORSA)

Overview of RBC Formulas

What is RBC?

- RBC is a method of measuring the minimum amount of capital appropriate for a reporting entity to support its overall business operations in consideration of its size and risk profile
 - If an insurer holds capital and surplus below this minimum, then a regulatory response is required

Overview of RBC

- Account for a company's risk exposure
- Adjusts minimum capital & surplus requirements accordingly
- Reflects unique risks inherent in operating an insurance company
 - The formula considers the entity's size, structure and risk profile.

NAIC RBC System

- Four formulas: Life, Fraternal, P & C, and Health
- *Risk-Based Capital for Insurers Model Act* serves as a guide
- RBC law in each state makes system operational
- NAIC produces formula but regulatory power resides with the state

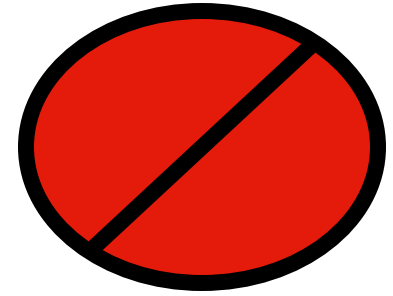
Overview of RBC

- RBC provides capital adequacy standards that:
 - Relate to risk
 - Raise a safety net for insurers
 - Are uniform among states
 - Provide regulatory authority for timely action

RBC Formula

- Not all risks accounted for
- Each component of formula not material to all companies
- Not totally accurate for all companies but reasonably accurate for most companies
- To be effective, must be applied uniformly across all states

RBC is NOT:



- An Early Warning Device
- Designed to Prevent Insolvency
- Designed to Detect Fraud
- A Stand-Alone Tool for Solvency Monitoring
- Designed to Fit Every Scenario and Capture Every Possible Risk

Misconceptions About RBC

It is a misconception that RBC.....

- will help predict insolvency
- is an indicator of financial strength

Keep in mind that RBC calculations are kept confidential, though the results are public

Capital Standards

- Important Component of Solvency Regulation
- Capital = Assets (What an Insurer Owns) minus Liabilities (What an Insurer Owes)
- Insurers with higher risks carry higher capital
- If insurer's capital falls below minimum, considered legally impaired
- Tradeoff Between Insolvency Costs and Prevention Costs

Risk-Based Capital for Insurers Model Act

■ Structure of RBC Model Acts

Section 1 – Definitions

Section 2 – RBC
Reports

Section 3 – Company
Action Level Event

Section 4 – Regulatory
Action Level Event

Section 5 – Authorized
Control Level Event

Section 6 – Mandatory
Control Level Event

Section 7 – Hearings

Section 8 –
Confidentiality; Prohibition
on Announcements;
Prohibition on use in Rate
Making

Section 9 – Supplemental
Provisions, Rules,
Exemptions

Section 10 – Foreign
Organizations

Section 11 –
Immunity

Section 12 –
Severability Clause

Section 13 – Notices

Section 14 – Phase
in Provision

Section 15 –
Effective Date

Overview of RBC Model Laws (Structure, Cont.)

- Section 3 - Company Action Level Event
 - Total Adjusted Capital (TAC) > Regulatory Action Level RBC
- and
- TAC ≤ Company Action Level RBC

OR

- Company Action Level RBC is triggered because of the Trend Test

If a Company Action Level event occurs:

- Insurer Submits RBC Plan to Commissioner

Overview of RBC Model Laws (Structure, Cont.)

- Section 4 - Regulatory Action Level Event
 - TAC > Authorized Control Level RBC but
 - TAC ≤ Regulatory Action Level RBC
 - =
 - RBC Plan (within 45 days) to Commissioner AND
 - Commissioner Examination or Analysis AND
 - Commissioner's Order for Corrective Actions
 - Experts to Review RBC Plan at Insurer's Expense

Overview of RBC Model Laws (Structure, Cont.)

- Section 5 - Authorized Control Level Event
 - TAC \geq Mandatory Control Level RBC but
 - TAC \leq Authorized Control Level RBC
 - =
 - RBC Plan (within 45 days) to Commissioner AND
 - Commissioner Examination or Analysis AND
 - Commissioner's Order for Corrective Actions
 - Experts to Review RBC Plan at Insurer's Expense
- OR
 - Place Company under "Regulatory Control"

Overview of RBC Model Laws (Structure, Cont.)

- Section 6 - Mandatory Control Level Event
 - TAC < Mandatory Control Level RBC
 - =
 - Place Company under “Regulatory Control”

Overview of RBC Model Laws (Structure, Cont.)

- Section 7 – Hearings (Insurer’s Right to)
 - Adjusted RBC Report
 - Unsatisfactory RBC Plan or Revised RBC Plan that Resulted in a Regulatory Action Level Event
 - Notice of Failure to Adhere to RBC (or Revised) Plan with Substantial Effect on Company Action Level Event
 - Corrective Order from Commissioner

How does the Formula Work?

- The RBC formula calculates a minimum capital level (Authorized Control Level) that is compared to the company's actual capital held (Total Adjusted Capital):
 - Company Action Level 200% of ACL
 - Regulatory Action Level 150% of ACL
 - Authorized Control Level (ACL) 100%
 - Mandatory Control Level 70% of ACL

Level of Action (P&C PR031 & Life LR032)

RISK-BASED CAPITAL LEVEL OF ACTION (Including Tax Sensitivity Test)

| | Source | 1 RBC Amount |
|--|--|-----------------|
| (1) Total Adjusted Capital - REPORT AMOUNT IN FIVE-YEAR HISTORICAL DATA PAGE 22 COLUMN 1 LINE 30..... | LR031 Calculation of Total Adjusted Capital Column (2) Line (10)..... | 2,060,152,570 |
| Trigger Points for Level of Regulatory Action: | | |
| (2) Company Action Level=200% of Authorized Control Level Risk-Based Capital..... | 2.0 times LR029 Calculation of Total Authorized Control Level Risk-Based Capital Column (1) Line (68)..... | 357,147,356 |
| (3) Regulatory Action Level=150% of Authorized Control Level Risk-Based Capital..... | 1.5 times LR029 Calculation of Total Authorized Control Level Risk-Based Capital Column (1) Line (68)..... | 267,860,517 |
| (4) Authorized Control Level Risk-Based Capital - REPORT AMOUNT IN FIVE-YEAR HISTORICAL DATA PAGE 22 COLUMN 1 LINE 31..... | 1.0 times LR029 Calculation of Total Authorized Control Level Risk-Based Capital Column (1) Line (68)..... | 178,573,678 |
| (5) Mandatory Control Level=70% of Authorized Control Level Risk-Based Capital..... | 0.7 times LR029 Calculation of Total Authorized Control Level Risk-Based Capital Column (1) Line (68)..... | 125,001,575 |
| (6) Level of Action †..... | | None |
| Tax Sensitivity Test | | |

LR032

Total Adjusted Capital - PR026 or LR031

- Capital and Surplus of the company (Page 3 Line 35 - P&C, Page 3 Line 38 - Life) adjusted for:

Life

- Asset Valuation Reserve
- 50% of Dividend Liabilities
- Affiliated amounts (Life affiliates AVR etc., P&C affiliates non-tabular discount)

P/C

- Non-Tabular Discount
- Affiliated amounts (Life affiliates AVR etc., P&C affiliates non-tabular discount)
- Sensitivity test for deferred taxes does not affect the RBC calculated

Total Adjusted Capital - PR026 & LR031

Example Page

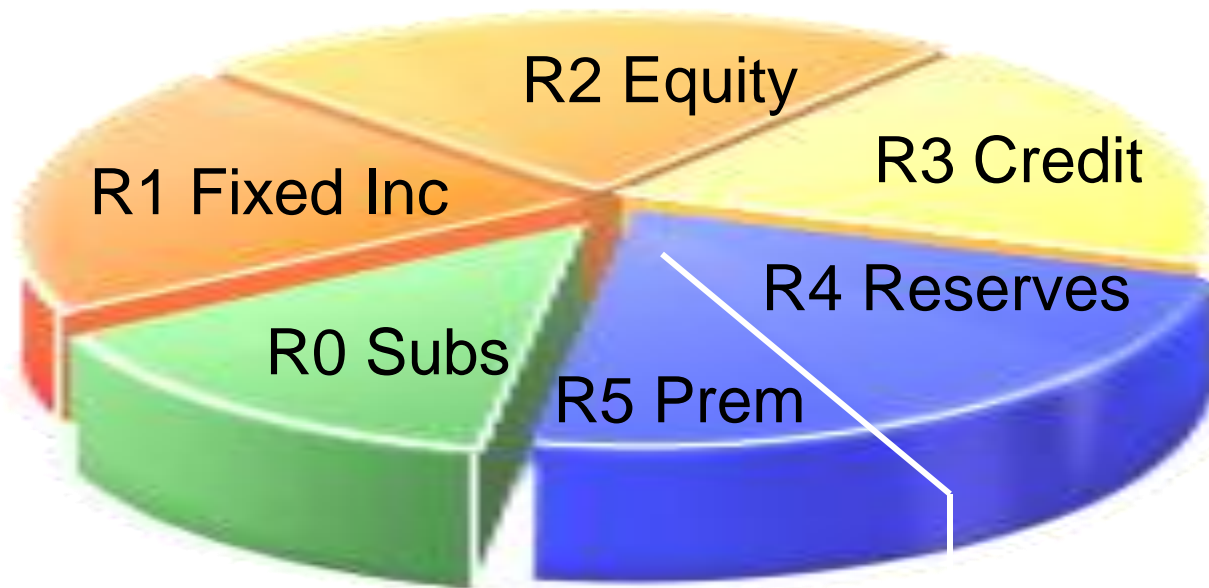
CALCULATION OF TOTAL ADJUSTED CAPITAL (Including Total Adjusted Capital Tax Sensitivity Test)

| | Annual Statement Source | 1 Statement Value | Factor | 2 Adjusted Capital | |
|--|--|--|---------------|-----------------------|---------------|
| Company Amounts | | | | | |
| (1) | Capital and Surplus..... | Page 3 Column 1 Line 38..... | 1,930,919,976 | 1.000 | 1,930,919,976 |
| (2) | Asset Valuation Reserve..... | Page 3 Column 1 Line 24.1..... | 127,028,081 | 1.000 | 127,028,081 |
| (3) | Dividends Apportioned for Payment..... | Page 3 Column 1 Line 6.1, in part..... | | 0.500 | 0 |
| (4) | Dividends Not Yet Apportioned..... | Page 3 Column 1 Line 6.2, in part..... | | 0.500 | 0 |
| Life Subsidiary Company Amounts † | | | | | |
| (5) | Asset Valuation Reserve..... | Subsidiaries' Annual Statement Page 3 Column 1 Line 24.1 †..... | 2,204,513 | 1.000 | 2,204,513 |
| (6) | Dividend Liability..... | Subsidiaries' Annual Statement Page 3 Column 1 Line 6.1 + Line 6.2 †..... | | 0.500 | 0 |
| Property and Casualty Amounts | | | | | |
| (7) | Non-Tabular Discount..... | Included in Subsidiaries' Annual Statement Page 3 Column 1 Line 1 + 3 †..... | | 1.000 | 0 |
| (8) | Total Adjusted Capital Before Capital Notes..... | Sum of Lines (1) through (6) less Line (7)..... | 2,060,152,570 | | 2,060,152,570 |
| Credit for Capital Notes | | | | | |
| (9.1) | Surplus Notes..... | Page 3 Column 1 Line 32..... | | | |
| (9.2) | Limitation on Capital Notes..... | 0.5 x [Line (8) - Line (9.1)] - Line (9.1), but not less than zero..... | 1,030,076,285 | | |
| (9.3) | Capital Notes Before Limitation..... | LR030 Capital Notes before Limitation Column (4) Line (18)..... | 0 | | |
| (9.4) | Credit for Capital Notes..... | Lesser of Column (1) Line (9.2) or Line (9.3)..... | | | 0 |
| (10) | Total Adjusted Capital..... | Line (8) + Line (9.4)..... | | | 2,060,152,570 |
| Tax Sensitivity Test | | | | | |

LR031

P/C Covariance Formula PR027-29

- The P/C formula includes five major categories of risks:



P/C Distribution of 2008 Industry Aggregate RBC Components

- R0 – Asset Risk Affiliated 14%
- R1 – Asset Risk Fixed Income 2%
- R2 – Asset Risk Equity 21%
- R3 – Asset Risk Credit 7%
- R4 – U/W Risk Reserve 36%
- R5 – U/W Net Premiums Written 20%

Life Covariance Formula LR029

- The Life formula includes 8 categories of risk:
 - C-0 Asset Risk - Affiliates 15.7%
 - C-1cs Asset Risk - Common Stock 13.4%
 - C-1o Asset Risk - All Other 33.9%
 - C-2 Insurance Risk 20.0%
 - C-3a Interest Rate Risk 9.9%
 - C-3b Health Credit Risk 0.0%
 - C-3c Market Risk 1.0%
 - C-4a Business Risk 5.5%
 - C-4b Business Risk Admin. Expenses 0.6%

Covariance Adjustment

- What is the covariance adjustment?
- Reduces aggregate amount of RBC recognizing that the risk is remote that the surplus will be simultaneously impaired by reductions in all risks



$$\text{Life} = C-0 + C-4a + \text{Square Root of} \\ [(C-1o + C-3a)^2 + (C-1cs + C-3c)^2 + (C-2)^2 + (C-3b)^2 + (C-4b)^2]$$

$$\text{P\&C} = R0 + \text{Square root of } (R1^2 + R2^2 + R3^2 + R4^2 + R5^2)$$

P&C Covariance Formula PR029 Example

Calculation of Total Risk-Based Capital After Covariance - PR029 R4-R5

| | PRBC O&I Reference | 1 RBC Amount |
|---|--|-------------------|
| R4 - Underwriting Risk - Reserves | | |
| (59) One half of Reinsurance RBC..... | If R4 L(60)>(R3 L(54) + R3 L(55)), R3 L(55), otherwise, 0..... | 1,432,467 |
| (60) Total Adjusted Unpaid Loss/Expense Reserve RBC..... | PR016 L(15)C(20)..... | 44,950,290 |
| (61) Excessive Premium Growth - Loss/Expense Reserve..... | PR015 L(13)C(8)..... | 0 |
| (62) A&H Claims Reserves Adjusted for LCF..... | PR023 L(5)C(2)..... | 0 |
| (63) TOTAL R4 | L(59)+L(60)+L(61)+L(62)..... | 46,382,757 |
| R5 - Underwriting Risk - Net Written Premium | | |
| (64) Total Adjusted NWP RBC..... | PR017 L(15)C(20)..... | 28,099,689 |
| (65) Excessive Premium Growth - Written Premiums Charge..... | PR015 L(14)C(8)..... | 0 |
| (66) Total Net Health Premium RBC..... | PR021 L(21) C(2)..... | 0 |
| (67) Health Stabilization Reserves..... | PR024 L(8) C(2)..... | 0 |
| (68) TOTAL R5 | L(64)+L(65)+L(66)+L(67)..... | 28,099,689 |
| (69) Total RBC After Covariance= $R0 + \text{SQRT}(R1^2 + R2^2 + R3^2 + R4^2 + R5^2)$ | | 56,762,270 |
| (70) Authorized Control Level RBC = .5 x Total RBC After Covariance..... | | 28,381,135 |

PR029

RBC Source

R5

Asset Risk

- Risk that asset values turn out to be lower than expected, such as a bond default or by decreases in the market value of common stock.
- An insurer that has a portfolio containing high-quality bonds has more stability in its investment earnings than an insurer who holds risky bonds or structured securities.
- Insurers that have higher quality bonds have lower RBC requirements than those companies who hold risky bonds or structured securities.

R0 (P/C), C-0 (Life) Affiliated Asset Risk

- Affiliated asset risk (PR002 & LR039)
 - Insurance affiliates charge based on insurer's RBC
- Off-balance sheet items (PR013 & LR015)
 - Charge for “Non-Controlled” Assets
 - Not under the “exclusive control” of the company to dispose of the asset at will
 - Securities lending agreements
 - Guarantees for Affiliates
 - Contingent Liabilities

R-1 (P/C), C-1o (Life) Fixed Income

Asset Risk

- Bonds (PR005 & LR002)
 - RBC based on the rating class of the security adjusted by the number of issuers
- Securities lending off-balance sheet collateral (PR014 & LR016)
- Cash, short-term, cash equivalents, money market funds (PR008 & LR012)
- Mortgage Loans (PR007 & LR004)
 - Life currently mortgage experience adjustment calculation (LR003) for certain mortgages

R-1 (P/C), C-1o (Life) Fixed Income Asset Risk (Continued)

- Replications & mandatorily convertible securities (PR009 & LR013)
 - Additional charge for securities reported elsewhere
- Asset Concentration (PR010 & LR010)
 - Additional risk of a high concentration in a single exposure
 - Double the RBC Charges for the 10 largest asset issuers
- Separate Accounts (Life only - LR006)
 - For securities where company has investment risk

R2 (P/C) and C-1cs (Life) Equity Asset Risk

- Unaffiliated Preferred Stock and Hybrid Securities (PR006 & LR005)
 - Asset classes and factors the same as for bonds
- Common Stock (PR006 & LR005)
 - Unaffiliated common stock
 - Life companies have a beta calculation
 - Non-insurance affiliates
 - Common stock concentration page for life (LR011) – included in the regular asset concentration page for P/C

R2 (P/C) and C-1o (Life) Other Long-Term Assets

- Real Estate & encumbrances (PR007&LR007)
 - Life RBC charge for real estate and encumbrance combined is limited to the book/adj. carrying value
- Schedule BA Assets (PR007 & LR008)
 - P/C one fixed factor
 - Life different categories based on the “underlying characteristics”
 - Life fixed income BA assets must be rated

P/C R3 Asset Risk - Credit

- Reinsurance recoverables (PR011)
 - Schedule F Part 3 recoverables for certain lines less the reinsurance penalty
 - Miscellaneous recoverables from the assets page:
 - FIT, Guaranty funds, Investment income due & accrued, Recoverables from parent, subs and affiliates, uninsured A&H receivables, aggregate write-ins
- Health credit risk (PR012)
 - Capitulations to intermediaries
 - ASO/ASC business

Life C-2 Insurance Risk

- Life Insurance (LR023):
 - In force amount from Exhibit of Life Insurance less:
 - Reserves from Exhibit 5
- Health Insurance (LR017 through 22&LR024)
 - Underwriting risk calculation or premium risk
 - Health claim reserves
 - Premium stabilization reserves credit

Life C-3 Interest Rate Risk & Market Risk (LR025)

- Life Insurance charge currently based on Exhibit 5 reserves
 - If C-3 Phase III is adopted interest rate risk or market risk for life insurance could be calculated by stochastic modeling if there is sufficient risk
- Annuities
 - Factor-based calculation categorizes by low, medium and high risk
 - C-3 Phase I RBC testing for products that are cash flow tested
 - C-3 Phase II stochastic modeling for variable annuities with guaranteed benefits

P/C Underwriting Risk R4 & R5

- Do insurers charge an inadequate price for the business that is already written or that will be written in the coming year?
 - Reserves may be understated
 - Current prices may be inadequate

P/C Underwriting Risk (R4, R5)

PR016, PR017

- Largest risk for P&C companies
- Two categories:
 - Loss Reserve Risk (PR016)
 - Premium Risk (PR017)
- Calculated by lines of business shown in Schedule P

P/C Underwriting Risk – Reserve PR016

| | | (1) | (2) | (3) | (4) | (5) | (20) |
|------|--|--------------|--------------|--------------|--------------|--------------|-------|
| | SCH P LINE OF BUSINESS | H/F | PPA | CA | WC | CMP | TOTAL |
| (1) | INDUSTRY AVERAGE DEVELOPMENT | 0.983 | 1.003 | 1.045 | 1.033 | 1.034 | XXX |
| (2) | COMPANY DEVELOPMENT | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | XXX |
| (3) | (2)/(1) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | XXX |
| (4) | INDUSTRY LOSS & EXPENSE RBC % | 0.230 | 0.221 | 0.254 | 0.310 | 0.403 | XXX |
| (5) | COMPANY RBC % (4)*(3)*.5+(4)*.5 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | XXX |
| (6) | LOSS +EXPENSE UNPAID SCH. P PART 1 (in 000s) | 0 | 0 | 0 | 0 | 0 | 0 |
| (7) | OTHER DISCOUNT AMOUNT NOT INCLUDED IN LOSS+EXPENSE UNPAID IN SCH. P PART 1 (in 000s) | 0 | 0 | 0 | 0 | 0 | 0 |
| (8) | ADJUSTMENT FOR INVESTMENT INCOME | 0.939 | 0.927 | 0.909 | 0.835 | 0.884 | XXX |
| (9) | CASE LOSS+EXPENSE RESERVE RISK- BASED CAPITAL (000's) MAX {0,[(5)+1]*(8)-1}*[(6)+(7)]} zero if Line [(6)+(7)] is negative | 0 | 0 | 0 | 0 | 0 | 0 |
| (10) | % DIRECT LOSS SENS | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | XXX |
| (11) | % ASSUMED LOSS SENS | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | XXX |
| (12) | LOSS SENSITIVE DISCOUNT (in 000s) | 0 | 0 | 0 | 0 | 0 | 0 |
| (13) | LOSS+EXPENSE RBC AFTER DSCT (in 000s) L(09) - L(12) | 0 | 0 | 0 | 0 | 0 | 0 |
| (14) | LOSS CONCEN FACTOR | | | | | | 1.000 |
| (15) | NET LOSS+EXPENSE RBC x1000 (converted to whole dollars) | | | | | | 0 |

P/C Underwriting Risk – Net Written Premiums PR017

| | | (1) | (2) | (3) | (4) | (5) | (20) |
|------|---|--------------|--------------|--------------|--------------|--------------|------------|
| | SCH P LINE OF BUSINESS | H/F | PPA | CA | WC | CMP | TOTAL |
| (1) | INDUSTRY AVERAGE LOSS & EXPENSE RATIO | 0.742 | 0.831 | 0.763 | 0.830 | 0.710 | XXX |
| (2) | COMPANY AVERAGE LOSS & EXPENSE RATIO | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | XXX |
| (3) | (2)/(1) | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | XXX |
| (4) | INDUSTRY LOSS & EXPENSE RATIO | 0.927 | 1.014 | 1.005 | 1.031 | 0.924 | XXX |
| (5) | COMPANY RBC LOSS & EXPENSE RATIO (3)*(4)*0.5+(4)*0.5 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | XXX |
| (6) | COMPANY UNDERWRITING EXPENSE RATIO | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | XXX |
| (7) | ADJUSTMENT FOR INVESTMENT INCOME | 0.951 | 0.921 | 0.883 | 0.832 | 0.888 | XXX |
| (8) | C/Y NET WRITTEN PREMIUM (in 000s) | 0 | 0 | 0 | 0 | 0 | 0 |
| (9) | BASE WRITTEN PREMIUM RISK-BASED CAPITAL (in 000s) MAX {0,(8)*[(5)*(7)+(6)-1]} zero if Line (8) is negative | 0 | 0 | 0 | 0 | 0 | 0 |
| (10) | % DIRECT LOSS SENS WP | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | XXX |
| (11) | % ASSUMED LOSS SENS WP | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | XXX |
| (12) | LOSS SENSITIVE DSCT - WP (in 000s) | 0 | 0 | 0 | 0 | 0 | 0 |
| (13) | NWP RBC AFTER DSCT (in 000s) | 0 | 0 | 0 | 0 | 0 | 0 |
| (14) | PREMIUM CONCENTRATION FACTOR | | | | | | 1.000 |
| (15) | NET WRITTEN PREMIUM RBC x 1000 (converted to whole dollars) | | | | | | 0 |

Life C-4 Business Risk (LR027)

- C-4a :
 - Schedule T Premiums
 - Life, A&H, Annuities
 - Separate account liabilities
- C-4b:
 - Health administrative expenses

Trend Test (PR030 & LR033)

- A Company Action Level RBC can be triggered because of the trend test
- P/C triggered if:
 - RBC% between 200% and 300% and
 - Combined ratio greater than 120%
- Life triggered if:
 - RBC% between 200% and 250% and
 - Negative RBC trend for 3 years

Questions

