

UNDERSTANDING LIFE INSURANCE



Presented by
The Kansas Insurance Department
Sandy Praeger, Commissioner

WHAT IS LIFE INSURANCE ?

- a. Insurance Contract issued by an Insurance Company.
- b. Premiums paid under the contract provide for a tax free death benefit.
- c. The death benefit may be a fixed amount, an increasing amount or a decreasing amount.



LIFE INSURANCE BENEFITS

- a. Death Benefit
- b. Surrender Benefit
- c. Policy Loan Benefit
- d. Non-forfeiture Benefit

LIFE INSURANCE DESCRIPTIONS

Life Insurance Can Be Defined By:

- 1) Length of coverage period
- 2) Length of premium paying period
- 3) Pattern of the Death Benefit
- 4) Traditional or Non-Traditional
- 5) General or Separate Account Funding
- 6) Participating or Non-Participating
- 7) Single Life or Multi-Life
- 8) Individual or Group

LIFE INSURANCE DESCRIPTIONS

Length of Coverage Period

- a. **Whole Life** contracts cover the insured individual for his/her entire life.
- b. **Term Life** contracts cover the insured individual for a period less than his/her entire life.

LIFE INSURANCE DESCRIPTIONS

Length of Premium Paying Period

- a. **Whole Life** premium paying contracts require premiums to be paid for as long as the insured lives.
- b. **Limited Pay** contracts require premiums to be paid for a period less than the entire lifetime of the insured.

LIFE INSURANCE DESCRIPTIONS

Pattern of the Death Benefit

- a. Level
- b. Increasing
- c. Decreasing



LIFE INSURANCE DESCRIPTIONS

Traditional Or Non-Traditional

a. Traditional Life Insurance

1. Fixed Schedule of Death Benefits
2. Fixed Schedule of Premiums
3. Fixed Schedule of Cash Surrender Values

b. Non-Traditional

1. Flexible Death Benefits
2. Flexible Premiums
3. Performance Based Account and Surrender Values

LIFE INSURANCE DESCRIPTIONS

General or Separate Account Funding

a. General Account Life Insurance

1. Insurance Company makes investment decisions and takes the investment risk.
2. All general account assets back the General Account Life Insurance liabilities.

b. Separate Account Life Insurance

1. Policy Owner makes investment decisions and takes the investment risk.
2. Only separate account assets back the Separate Account Life Insurance liabilities.

LIFE INSURANCE DESCRIPTIONS

Participating or Non-Participating

- a. Participating contracts share in the divisible surplus of the insurance company through payment of dividends (Mutual Organization).
- b. Non-Participating contracts do not share in the insurance company's surplus (Stock Organization).

LIFE INSURANCE DESCRIPTIONS

Single Life or Multi-Life

- a. **Single Life** contracts insure only one individual.
- b. **Multi-Life** contracts insure more than one individual. (Joint Life, Last Survivor Life)

LIFE INSURANCE DESCRIPTIONS

Individual or Group

- a. **Individual** contracts are sold to individual people.
- b. **Group** contracts are sold to employers or associations and members of the group are covered through issuance of individual certificates of coverage.

EXAMPLES OF LIFE INSURANCE DESCRIPTIONS

- a. Traditional Whole Life
- b. Life Paid Up at 85
- c. Flexible Premium Adjustable Life
- d. 20 Year Decreasing Term
- e. Variable Flexible Premium Adjustable Life

WHERE DO I PURCHASE LIFE INSURANCE ?

Life Insurance may be purchased from an Insurance company through:

Licensed Insurance Agent



Internet



Direct Mail



Bank



REGULATORY ENVIRONMENT

Federal Regulation -

- 1. Defines Life Insurance For Individual Income Tax Purposes
- 2. Defines Life Insurance Company Taxation

State Regulation -

- 1. Contract Filing Standards
- 2. Policy Provisions
- 3. Non-forfeiture Requirements
- 4. Valuation and Solvency Standards

REGULATORY ENVIRONMENT

Federal Regulation

Life Insurance Contracts must:

1. meet the Cash Value Accumulation test or
2. meet the guideline premium requirements, and
3. fall within the cash value corridor requirements.

REGULATORY ENVIRONMENT

Cash Value Accumulation Test:

1. Cash Surrender Value at any time must be less than Net Single Premium (NSP) at such time which would fund future benefits under contract.
2. NSP calculated using an interest rate which is the greater of 4% or rates guaranteed in the contract on the issue date.
3. Using mortality and other charges defined in the Guideline Single Premium calculation.

REGULATORY ENVIRONMENT

Guideline Premium Requirements:

1. Sum of the premiums paid under the contract does not at any time exceed the greater of:
 - i. the Guideline Single Premium (GSP) at issue of contract, or
 - ii. the sum of the Guideline Level Premiums (GLP) to such date.
2. GSP calculated using an interest rate which is the greater of 6% or rates guaranteed in the contract on the issue date.

REGULATORY ENVIRONMENT

Guideline Premium Requirements:

3. GLP calculated using an interest rate which is the greater of 4% or rates guaranteed in the contract payable over a period not ending before the insured attains age 95.
4. Using reasonable mortality charges which do not exceed the prevailing commissioners' standard tables and any reasonable charges specified in the contract expected to be paid.

REGULATORY ENVIRONMENT

Cash Value Corridor Requirements:

Death Benefit at any time not less than applicable percentage of the cash surrender value.

REGULATORY ENVIRONMENT

More Than	Not More Than	From	To
0	40	250%	250%
40	45	250%	215%
45	50	215%	185%
50	55	185%	150%
55	60	150%	130%
60	65	130%	120%
65	70	120%	115%
70	75	115%	105%
75	90	105%	105%
90	95	105%	100%

REGULATORY ENVIRONMENT
State Regulation

Legislature

Insurance Commissioner

NAIC

(National Association of Insurance
Commissioners)

REGULATORY ENVIRONMENT
Kansas Statutes

K.S.A. 40-428 Standard Non-Forfeiture
Law

K.S.A. 40-409 Standard Valuation Law

REGULATORY ENVIRONMENT
Kansas Regulations

Kansas Insurance Commissioners
have promulgated various NAIC
model regulations that deal with
filing requirements and policy
provisions.

**PARTIES TO THE
LIFE INSURANCE CONTRACT**

- 1. Insurance Company
- 2. Owner of Contract
- 3. Insured
- 4. Beneficiary

**PARTIES TO THE
LIFE INSURANCE CONTRACT**

Insurance Company

- a. Issues the Contract.
- b. Invests the Premiums.
- c. Credits Interest Earnings.
- d. Deducts Mortality and Expenses
- d. Pays the Benefits/Surrenders.
- e. Keeps Account of Contract Values.

**PARTIES TO THE
LIFE INSURANCE CONTRACT**

Owner

- a. Controls all rights under the Contract.
- b. Pays Premiums.
- c. Names the Beneficiary.
- d. Owner and Insured can be same.
- e. Joint Owners and Insureds.

**PARTIES TO THE
LIFE INSURANCE CONTRACT**

Insured

- a. Person insured under the Contract.
- b. Age and sex determines the Premium.
- c. Underwriting Requirements

**PARTIES TO THE
LIFE INSURANCE CONTRACT**

Beneficiary(s)

- a. Receives death benefit on death of Insured.
- b. There may be multiple beneficiaries, (spouse, children, etc.).

**WHAT ARE THE COSTS OF
PURCHASING LIFE INSURANCE ?**

Insurance Company Expenses Include:

- a. Marketing Expense
- b. Issue Expense
- c. Administration Expense
- d. Investment Expense
- e. Mortality Expense
- f. Risk Based Capital Expense
- g. Taxes (State & Federal)
- h. Profit (After Tax)

Marketing Expenses

- a. Agent Commissions
- b. Marketing Overrides
- c. Bonuses
- d. Contests
- e. Conventions

Agent Commissions (% of Premium)

- a. First Year
- b. Renewal
- c. Bonuses

HOW ARE THE COSTS OF LIFE INSURANCE PAID FOR ?

For Fixed Premium Life Insurance Contracts, the Insurance Company recovers expenses by charging a Gross Premium.



HOW ARE THE COSTS OF LIFE INSURANCE PAID FOR ?

Gross Premium = Net Premium + Expenses

Net Premium covers the cost of mortality and is calculated assuming an interest rate.

Present Value of Future Net Premiums = Present Value of Future Benefits

Expenses may be in form of a Policy Fee or % Increase in Net Premium.

HOW ARE THE COSTS OF AN LIFE INSURANCE PAID FOR ?

For Flexible Premium Insurance Contracts, the Insurance Company recovers expenses by Charging any or all of the following:

- a. Interest Rate Spread
- b. Mortality Rate Spread
- c. Specific Policy Charges
- d. Surrender Charges



Interest Rate Spread

Difference between the rate of interest the company earns on investments and the interest rate credited on the life insurance contract.

Example:

*Company earns 8.50% on the investments.

*Credits 5.75% on the life insurance premiums.

Spread = 2.75% (8.50% - 5.75%)

Mortality Rate Spread

Difference between the cost of insurance (COI) rate the company charges and the actual mortality rate of the insured.

Example:

*COI Charge Age 45 = .1288 per \$ 1,000

*Mortality Rate Age 45 = .1226 per \$ 1,000

Mortality Rate Spread = .0062 per \$ 1,000

Specific Policy Charges

One time or periodic flat dollar or per \$ 1,000 charges.

Example:

\$ 50 issue fee

\$ 12 monthly administrative fee

\$.45 / \$ 1,000 Years 1 - 10

Surrender Charges

- Amounts applied on surrender of the life insurance contract.
- Amounts per \$ 1,000 Specified Amount.
- Amounts apply for a fixed number of contract years and decrease over time.
- Amounts limited by Kansas Law.

HOW ARE THE SPREADS DETERMINED ?

Pricing models are run under various economic scenarios and spreads are set at levels such that the Company profit objectives are met under an acceptable range of scenarios. Sensitivity testing is also conducted.

HOW ARE THE SPREADS DETERMINED ?

Pricing models are financial projections of premium and investment income, expenses, death benefits, surrenders, change in reserves, cost of capital and taxes. Assumptions must be made with regard to premium payments, investment returns, mortality, expense levels, lapses, reserve assumptions, risk based capital levels and taxes.

LIFE INSURANCE CONTRACT TERMS

Issue Date

The date life insurance contract becomes effective.

Maturity Date

The date life insurance coverage ends or the policy ends.

LIFE INSURANCE CONTRACT TERMS

Death Benefit

Face Amount of policy less policy loan value.

Traditional – Face Amount is amount printed on Policy Schedule Page.

LIFE INSURANCE CONTRACT TERMS

Death Benefit

Non-traditional – Face Amount is either:

Option 1- Greater of Specified Amount or Accumulated Value times death benefit ratio.

Option 2 - Greater of Specified Amount plus Accumulated Value or Accumulated Value times death benefit ratio.

LIFE INSURANCE CONTRACT TERMS

Free Look Period (Right to Cancel)

- a. The period of time you have to examine and review the Contract and, if necessary, return it to the Company requesting that it be canceled and that your premium be returned.
- b. For Variable contracts you will get any Premium allocated to a fixed account returned plus the value of the Separate Accounts.

LIFE INSURANCE CONTRACT TERMS

Grace Period

- a. Period of time after the premium due date that the Policy remains in force.
- b. For Traditional Contracts 31 days is common.
- c. For Non-Traditional 61 days common.
- d. Kansas Statute 40-420 Not less than 30 days.

LIFE INSURANCE CONTRACT TERMS

Reinstatement

- a. If Policy Lapses and has not been surrendered, may be reinstated subject to evidence of insurability and payment of premiums.
- b. May be reinstated for up to 6 years.
- c. Interest on Premiums may be required.
- d. Loans may have to be paid or reinstated.

LIFE INSURANCE CONTRACT TERMS

Account Value (Non-Traditional)

- a. The amount of money in your Life Insurance Contract.
- b. The sum of your Premiums less expense charges less cost of insurance charges plus Interest earnings.
- c. Also referred to as Accumulated Value, Cash Value, or Accumulation Value.

LIFE INSURANCE CONTRACT TERMS

Cash Surrender Value

- a. The value you will receive if you surrender or terminate your contract prior to the Maturity Date.
- b. Equal to the Account Value less any Surrender Charge applied at the time of surrender. For Traditional Life contracts, it is the schedule of values shown in the contract. Any Policy Loans will be deducted from the values shown.

LIFE INSURANCE CONTRACT TERMS

Cash Surrender Value

- c. K.S.A. 40-428 Standard Non-forfeiture Law specifies Minimum Cash Surrender Values.
- d. Equal to the Account Value after the end of the Surrender Charge Period.

LIFE INSURANCE CONTRACT TERMS

Surrender Charges

- a. Amounts applied on surrender of the life insurance contract.
- b. Amounts per \$ 1,000 Specified Amount.
- c. Amounts apply for a fixed number of contract years and decrease over time.
- d. Amounts limited by Kansas Law.

LIFE INSURANCE CONTRACT TERMS

Net Amount At Risk (Non-Traditional)

- a. Face Amount less Accumulated Value.
- b. NAR represents the financial risk of the Company due to mortality.

LIFE INSURANCE CONTRACT TERMS

Cost of Insurance Rates (Non-Traditional)

- a. Guaranteed Rates must be stated in the Contract.
- b. These rates are the maximum rates the company can charge.
- c. Rates are assessed monthly.
- d. Company typically charges current COI that are less than the maximum rates.

LIFE INSURANCE CONTRACT TERMS

Cost of Insurance (Non-Traditional)

The monthly cost of insurance is equal to the net amount at risk times the monthly cost of insurance rate.

LIFE INSURANCE CONTRACT TERMS

Policy Loan

- a. Owner may take out a loan on Policy.
- b. Loan amount up to CSV or % CSV.
- c. Loan Interest Rate Stated in Policy.
- d. Loan Interest Rates subject to Kansas Law. Max Fixed 8% or Variable Rate.
40-420, 40-420c

LIFE INSURANCE CONTRACT TERMS

Non-Forfeiture Benefit (Traditional)

- a. Cash Surrender.
- b. Extended Term Insurance (ETI).
- c. Reduced Paid Up Insurance (RPU).
- d. Basis of Values Set by Kansas Law.
- e. Benefit Available Upon Non-payment of Premium.
- f. Option Selected by Owner or Default

LIFE INSURANCE CONTRACT TERMS

Divisible Surplus Dividends (Traditional)

- a. Apply to Mutual Companies and Participating Policies of Stock Companies. Single Premium and Term may be excluded.
- b. Paid by end of 1st or 2nd Year and annually thereafter.
- c. Paid in Cash. Other options may be made available.

LIFE INSURANCE CONTRACT TERMS

Common Dividend Options

- a. Cash.
- b. Left on Deposit to Accumulate Interest.
- c. Purchase Paid-Up Additional Insurance.
- d. Reduce Premiums.
- e. Apply to Repayment of Loan.

LIFE INSURANCE CONTRACT TERMS

Annual Statements

- a. Owner receives statement at least once per year for policies that are illustrated.
- b. Shows values of the contract for beginning and end of report period.



LIFE INSURANCE CONTRACT TERMS

Pay-Out Options (Settlement Options)

- a. A method of distribution of Death Benefit or Cash Surrender Value.
- b. Option selected will determine the amount of the income benefit and length of time benefit will be paid.
- c. Life Insurance Contract becomes an immediate annuity under a Pay-Out option.

LIFE INSURANCE CONTRACT TERMS

Pay-Out Options

- d. Beneficiary may elect a pay-out option after the insured's death.
- e. Beneficiary may designate a payee.
- f. Options are described in the Life Insurance Contract.

LIFE INSURANCE CONTRACT TERMS

Pay-Out Options

- g. Once income benefits start under a pay-out option, the pay-out option cannot be changed.
- h. The Life Insurance Contract guarantees minimum pay-out factors.
- i. Payment Mode may be selected (monthly, quarterly, semi-annually, annually).

LIFE INSURANCE CONTRACT TERMS

Pay-Out Options

- j. Company calculates benefit payments. Factors used cannot be less than guaranteed minimum pay-out factors stated in the Contract.
- k. Benefit payment is guaranteed and cannot change (unless variable pay-out).

LIFE INSURANCE CONTRACT TERMS

Common Pay-Out Options

- a. Life Income
- b. Life Income with Period Certain
- c. Joint and Last Survivor
- d. Joint and Last Survivor with Period Certain
- e. Fixed Period Certain



LIFE INSURANCE CONTRACT TERMS

Life Income

- a. Payee will receive income payments for as long as the Beneficiary is alive.
- b. Payments stop when the Beneficiary dies.

LIFE INSURANCE CONTRACT TERMS

Life Income With Period Certain

Payee will receive income payments for the longer of (a) and (b) where:

- ❖ (a) Beneficiary's lifetime
- ❖ (b) Period Certain (5, 10, 15, 20 years)

LIFE INSURANCE CONTRACT TERMS

Joint and Last Survivor

- a. Payee receives income payments until the death of the last survivor of the lives insured.

- b. Two payment variations
 - ❖ Joint and 2/3 Survivor
 - ❖ Joint and 1/2 Survivor

LIFE INSURANCE CONTRACT TERMS

Joint and Last Survivor With Period Certain

Payee will receive income payments for the longer of (a) and (b) where:

- ❖ (a) Last Survivor's lifetime
- ❖ (b) Period Certain (5, 10, 15, 20 years)

LIFE INSURANCE CONTRACT TERMS

Fixed Period Certain

- a. Payee receives payments for the fixed period (5, 10, 15, 20 years).

- b. Payments will be made for the fixed period whether the beneficiary lives or dies during the fixed period.

LIFE INSURANCE CONTRACT TERMS

Pay-Out Options Require Careful Planning

- a. Select payee(s) carefully.
- b. Payee does not have to be the beneficiary.
- c. Designate beneficiary should payee die.

THE LIFE INSURANCE CONTRACT

Page 1 of the Contract (Face Page)

- a. Company Name & Address.
- b. Description of Life Insurance Contract.
- c. Policy Form Number Lower Left Corner.
- d. Benefits Provided for Premiums paid.
- e. Notice of 10 Day Right To Cancel.
- f. Legal Contract – **READ CAREFULLY!!!**



THE LIFE INSURANCE CONTRACT

Page 2 of the Contract

Contains an index of all of the Contract provisions for easy page reference.

THE LIFE INSURANCE CONTRACT

Page 3 of the Contract

- a. Called Schedule Page or Data Page.
- b. Contract (Policy) Number.
- c. Issue and Maturity Date.
- d. Owner & Insured Information.
- e. Specified Amount DB Option
- f. Premium Information.
- g. Contains interest rates, guarantees, surrender charges, contract charges.

THE LIFE INSURANCE CONTRACT

Page 4 of the Contract (Traditional)

- a. Table of Guaranteed Minimum Values.
- b. Shown for minimum of 20 years.
- c. You will never receive less than the amounts shown.
- d. Minimum values Kansas Law.
- e. Not Required for Variable Contracts.

INTEREST CREDITING and COST OF INSURANCE METHODOLOGY

Traditional General Account Products

1. Schedule of Cash Surrender Values are determined at issue.
2. Values are based on Guaranteed Interest and Mortality Rates.
3. Guaranteed Interest and Mortality Rates must be stated in the Policy.
4. Non-forfeiture Law Specifies Minimum Values.

INTEREST CREDITING AND COST OF INSURANCE METHODOLOGY

Traditional Separate Account Products

1. Allow owner to allocate premium into various sub-accounts.
2. Sub-account is an ownership interest in an underlying fund (i.e. it is an investment).
3. Sub-accounts are valued every day the stock market is open for trading.

INTEREST CREDITING AND COST OF INSURANCE METHODOLOGY

Traditional Separate Account Products

4. The market value of a Sub-Account is called the Net Asset Value.
 - ❖ Net Asset Value divided by the total number of shares is called the Net Asset Value per share.
5. When premium is allocated to a Sub-Account, a certain number of units are purchased based on the Net Asset Value per share at the time of purchase.

INTEREST CREDITING AND COST OF INSURANCE METHODOLOGY

Traditional Separate Account Products

6. The market value of the Sub-Account can increase or decrease. Therefore there is no guarantee of Premium or Principle.
7. Each day the Sub-Account Value is the number of units times the value per unit.

INTEREST CREDITING AND COST OF INSURANCE METHODOLOGY

Traditional Separate Account Products

- 8. The value per unit may be adjusted by a daily Mortality and Expense (M&E) fee, also called an Actuarial Risk Fee.
 - ❖ covers the company's exposure to adverse mortality and expense experience.
- 9. Investment Expenses are deducted prior to determining the value per unit.

INTEREST CREDITING AND COST OF INSURANCE METHODOLOGY

Traditional Separate Account Products

- 10. The Account Value of a Separate Account Contract is the sum of the values of all of the Sub-Accounts.
- 11. Separate Account Contracts may contain a General Account investment option to be used to hold Policy Loan Accounts and any deferred charges.

INTEREST CREDITING AND COST OF INSURANCE METHODOLOGY

Traditional Separate Account Products

- 12. Because the value of the Sub-Account is determined at market each day, there is no interest rate or interest earnings to be calculated or credited. COI and expense charges are deducted by redeeming such amounts from the Sub-accounts.
- 13. Variable Life Insurance is a security and is regulated by the Securities and Exchange Commission (SEC) and the State Insurance Department.

INTEREST CREDITING AND COST OF INSURANCE METHODOLOGY

Traditional Separate Account Products

14. SEC regulates investment components, agent license and sales requirements, and mortality and expense fees.

15. A prospectus is required to be delivered to the prospective buyer of a Variable Life Insurance Contract.

Mortality Impact on Premiums

Whole Life Premiums Per \$ 1,000 Male Non-Smoker

Age	2001 CSO	1980 CSO	1958 CSO
0	2.56	3.46	3.96
25	6.61	7.88	8.44
35	10.00	11.92	12.76
45	15.81	18.91	20.46
55	26.01	31.51	34.79
65	45.24	55.87	62.49
75	85.32	106.37	115.20

Mortality Impact on Premiums

Male Non-Smoker % Change in Whole Life Premiums

Age	2001 CSO	1980 CSO	1958 CSO
0	100.0%	74.0%	64.6%
25	100.0%	83.9%	78.3%
35	100.0%	83.9%	78.4%
45	100.0%	83.6%	77.3%
55	100.0%	82.5%	74.8%
65	100.0%	81.0%	72.4%
75	100.0%	80.2%	74.1%

Mortality Impact on Premiums

Whole Life Premiums Per \$ 1,000 Female Non-Smoker

Age	2001 CSO	1980 CSO	1958 CSO
0	2.15	2.93	3.59
25	5.66	6.85	7.54
35	8.62	10.28	11.20
45	13.46	15.94	17.66
55	21.61	25.60	29.46
65	35.57	44.06	52.20
75	62.25	84.58	95.65

Mortality Impact on Premiums

Female Non-Smoker % Change in Whole Life Premiums

Age	2001 CSO	1980 CSO	1958 CSO
0	100.0%	73.4%	59.9%
25	100.0%	82.6%	75.1%
35	100.0%	83.9%	77.0%
45	100.0%	84.4%	76.2%
55	100.0%	84.4%	73.4%
65	100.0%	80.7%	68.1%
75	100.0%	73.6%	65.1%

Mortality Impact on Life Expectancy

Male Non-Smoker

Age	2001 CSO	1980 CSO	1958 CSO
0	77.5	72.7	70.6
25	53.4	49.7	48.1
35	43.9	40.3	38.9
45	34.4	31.2	29.7
55	25.4	22.4	21.0
65	17.2	14.7	13.5
75	10.4	8.6	8.0

Mortality Impact on Life Expectancy

Female Non-Smoker

Age	2001 CSO	1980 CSO	1958 CSO
0	81.6	76.5	73.4
25	57.2	53.1	50.9
35	47.6	43.7	41.7
45	38.1	34.4	32.4
55	29.0	25.7	23.5
65	20.7	17.5	15.6
75	13.5	10.4	9.5

DIVIDEND CALCULATIONS

Dividends are composed of 3 components:

1. Contribution From Interest.
2. Contribution From Mortality.
3. Contribution From Expense.

DIVIDEND CALCULATIONS

Contribution From Interest (CFI) –

CFI is the difference between what the company earns on the assets and what the company assumed in pricing it would earn on the assets multiplied by the amount of the assets.

DIVIDEND CALCULATIONS

Contribution From Mortality (CFM) –

CFM is the difference between the mortality rates the company assumed in pricing it would experience and the mortality rates the company actually experiences multiplied by the Net Amount At Risk.

DIVIDEND CALCULATIONS

Contribution From Expense (CFE) –

CFE is the difference between the expense rates the company assumed in pricing it would experience and the expense rates the company actually experiences multiplied by the units of Death Benefit (1 unit = \$ 1,000).

DIVIDEND CALCULATIONS

$$\text{DIVIDEND} = \text{CFI} + \text{CFM} + \text{CFE}$$

DIVIDEND CALCULATIONS

Example:

Issue Age 45 Death Benefit = 1,000.00
Duration 10 Cash Value = 193.63
Attained Age 55 NAR = 806.37
Pricing Interest Rate = 4%
Actual Interest Rate = 6%
Pricing Mortality Age 55 = .00872
Actual Mortality Age 55 = .00539
Pricing Expense 2.15 / 1,000
Actual Expense 3.00 / 1,000

DIVIDEND CALCULATIONS

Contribution From Interest (CFI) –

CFI is the difference between what the company earns on the assets and what the company assumed in pricing it would earn on the assets multiplied by the amount of the assets.

$$\text{CFI} = (.06 - .04) \times 193.63$$
$$\text{CFI} = .02 \times 193.63$$
$$\text{CFI} = 3.87$$

DIVIDEND CALCULATIONS

Contribution From Mortality (CFM) –

CFM is the difference between the mortality rates the company assumed in pricing it would experience and the mortality rates the company actually experiences multiplied by the Net Amount At Risk.

$$\text{CFM} = (.00872 - .00539) \times 806.37$$
$$\text{CFM} = .00333 \times 806.37$$
$$\text{CFM} = 2.69$$

DIVIDEND CALCULATIONS

Contribution From Expense (CFE) –

CFE is the difference between the expense rates the company assumed in pricing it would experience and the expense rates the company actually experiences multiplied by the units of Death Benefit (1 unit = \$ 1,000).

$$\text{CFE} = (2.15 - 3.00) \times 1$$

$$\text{CFE} = - .85 \times 1$$

$$\text{CFE} = - .85$$

DIVIDEND CALCULATIONS

$$\text{DIVIDEND} = \text{CFI} + \text{CFM} + \text{CFE}$$

$$\text{DIVIDEND} = 3.87 + 2.69 - .85$$

$$\text{DIVIDEND} = 5.71$$

$$\text{CASH VALUE} = 193.63 + 5.71$$

$$\text{CASH VALUE} = 199.34$$

Example :Universal Life Monthly Projection

Monthly Mortality Rate = 0.000448061 Actual Mortality at Age 55 .00539
 Monthly Interest Factor = 0.004867551 Actual Interest Rate at 6%

Month	CV	NAR	COI	MEF	INTEREST	INT – COI - MEF
0	195.18	804.8200	0.3606	0.25	0.9471	0.3365
1	195.52	804.4835	0.3605	0.25	0.9487	0.3383
2	195.85	804.1453	0.3603	0.25	0.9504	0.3401
3	196.19	803.8052	0.3602	0.25	0.9520	0.3419
4	196.54	803.4634	0.3600	0.25	0.9537	0.3437
5	196.88	803.1197	0.3598	0.25	0.9554	0.3455
6	197.23	802.7742	0.3597	0.25	0.9570	0.3473
7	197.57	802.4268	0.3595	0.25	0.9587	0.3492
8	197.92	802.0776	0.3594	0.25	0.9604	0.3511
9	198.27	801.7266	0.3592	0.25	0.9621	0.3529
10	198.63	801.3737	0.3591	0.25	0.9639	0.3548
11	198.98	801.0189	0.3589	0.25	0.9656	0.3567
12	199.34		4.32	3.00	11.47	4.16

**The Kansas Insurance Department
Sandy Praeger, Commissioner**

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Your Questions?


