

Sample ACE Memorization Cards

ILA LP Exam

Instructions for Cards

- **Extra blank cards are provided, so you can add or delete cards.**

- **Card Layout**
 - **Acronym in top left corner (bold font)**
 - **Bottom left -- Resource (Text, SN, PR)**
 - **Bottom right -- ACE study guide section / page**
- **Make notes or add to cards in white space**
- **Some cards that have multiples resources**
(syllabus has different texts with the same list)

- **Consider purchasing the ACE memorization CDs to help you memorize.**

- **Also, please consider attending the ACE seminar!**

Pricing Considerations for Term Insurance

1. Mortality
2. Lapse Rates
3. Underwriting
4. Commission
5. Expenses and inflation
6. Pricing options
7. Profit objectives
8. Legal and regulatory issues

Ways to Cover Substandard Mortality

FLAT RETURN

1. Flat extra premiums
2. Lien method
3. Advance in age
4. Table ratings
5. Return of premiums

Credibility of Mortality Assumption

1. Credibility is measured through a confidence interval (CI)
2. 95% CI = $\mu \pm 1.96 \sigma$
 - a. $\mu = nq$
 - b. $\sigma^2 = npq$
3. Enhancing credibility
 - a. Use multiple years of exposures
 - b. Group ages into 5 or 10 year age groups
 - c. Could do an actual to expected analysis using an industry study
4. Expected value and variance for a group of policies -- by counts

$$E(\text{Claims}) = \sum_{i=1}^n q_i \quad \text{Var}(\text{Claims}) = \sum_{i=1}^n [(1 - q_i) \times q_i]$$

5. Expected value and variance for a group of policies -- by amounts of insurance

$$E(\text{Claims}) = \sum_{i=1}^n \text{Face} \times q_i \quad \text{Var}(\text{Claims}) = \sum_{i=1}^n [\text{Face}^2 \times (1 - q_i) \times q_i]$$

Analyzing Mortality Experience

CRAM

1. Credibility
2. Risks covered
3. Adjusting mortality for special situations
 - a. Multiple life policies
 - b. Substandard mortality
 - c. Term conversions
 - d. Anti-selection
 - e. Blending mortality tables
 - f. Adjusting similar experience
4. Mortality studies

Stochastic Modeling

Advantages and Disadvantages

Advantages

1. See distribution of results
2. Pinpoint scenarios to investigate
3. Understand risk mitigation and diversification strategies
4. Calculate risk metrics like VaR and CTE
5. Used in new/emerging accounting regimes

Disadvantages

1. Complicated -- need to invest in stochastic functionality
2. Need technology
3. Assumption setting is complicated
4. Large amounts of data to summarize
5. Senior management buy-in (they may not be familiar with methods)
6. Block box phenomenon

Modeling Policyholder Behavior

Annuitization and Withdrawal

1. Annuitization (formula for "in-the-moneyness")

$$ITM = \frac{GMIB \times a_x^c}{AV \times a_x^G}$$

2. Withdrawal -- factors which will impact withdrawal rates:

- a. In-the-moneyness
- b. Age
- c. Tax considerations
- d. Distribution channel
- e. Product design

Cash Value Accumulation Test (CVAT)

1. Test: $CV < NSP$ (this a pass)
2. Net Single Premium (NSP) - calculation rules:
 - a. Max(4% interest rate, interest rates guaranteed at issue)
 - b. Pre-10/21/88, use contract's mortality charges, if none specified, valuation mortality
 - c. Post-88, use "reasonable" mortality charges $<$ standard tables
3. Cash Surrender Value (CV) -- doesn't consider surrender charges
4. CVAT is a prospective test that must be met at all times