RIMS CANADA™

Proudly Presents…

What is the role of an actuary in pricing commercial insurance products?

Discussion Outline

1. How does an actuary price insurance products?
   – Claims development
   – Trend
   – Expenses
   – Profit
   – Contingencies
2. What role does an actuary serve with respect to pricing decisions and the communication of such decisions?

What is an actuary?

- In Canada, most actuaries begin as students within university actuarial programs
- Many Canadian universities are set up as co-op programs
- Must pass a series of nine professional examinations
- Focus of actuarial curriculum includes:
  - Statistics
  - Economics
  - Finance
  - Law
  - Reserving
  - Reinsurance
  - Financial reporting
  - Enterprise risk management
  - Pricing

Actuaries serve in many roles

- Work for insurance companies, brokerage firms, consulting firms, and government
- Calculate rates for insurance products
- Evaluate the liabilities associated with insurance products
- Serve as Chief Risk Officers
- Advise insureds and self-insureds

Ottawa 2011
Capital ConneXions

Today's focus: the pricing work of an actuary

- "Ideal" situation – large volume of historical claims experience to estimate future claims
- The actuary requires data:
  - From coverages that are just the same as the policy terms to be offered
  - That is at the same cost level (economic & social)
  - That reflects the systems, policies & philosophies of current management
  - That has sufficiently large volume to be credible

What is meant by “credible” data?

- Credibility is concerned with the combination of two estimates
- Basic formula for calculating a credibility weighted estimates is:

Estimate = (Z) x (observation) + (1 – Z) x (other information)

where,

$0 \leq Z \leq 1$

Z is the credibility assigned to the “observation”

1 – Z is the complement of credibility assigned to the “other information”

Actuarial projection factors

- Used to develop estimate of expected value of claims for future policy period
- Three types of actuarial projection factors:
  - Loss development
  - Trend
  - Tort reform
- Each one of these three projection factors has a very specific purpose
- Pricing analysis is incomplete if these issues are not considered
- Actuary uses historical claims experience, modified by projection factors, to determine value of claims expected during upcoming policy period

Actuarial adjustments to expected value of claims

- Expenses
  - Commissions
  - Operating expenses
  - Premium taxes
- Present value adjustment for future investment income
- Profit
  - Demands of stakeholders (shareholders, regulators, rating agencies, etc.)
  - Capital available in the industry globally
  - Insurance underwriting cycle
  - Risk appetite
- Contingencies (also known as risk load or risk margin)

Role of an actuary in pricing commercial insurance products

- <u>Traditional</u>
  - Employee of insurance company
  - Behind the scenes
  - Focus on calculating the “correct” rate
  - Not ultimate decision-maker
  - Not involved in communication process

Ottawa 2011 Capital ConneXions

Role of an actuary in pricing commercial insurance products

- <u>Best practices</u>
  - Front and centre role with underwriting team, brokers, and insured
  - Concern with development of technically correct analysis <u>and</u> communication
  - Involved from the beginning with development of new programs or offerings
  - Involved in ongoing management and evaluation
  - Relationship between actuaries and underwriters are top priority

Actuaries now engaged by purchasers of insurance

- Assist those purchasing insurance
- Help insureds better understand their historical claims experience
- Help insureds determine if they receive value for their insurance dollars
- Work with insurance purchasers to evaluate alternative methods for controlling costs

Contact Information

Jacqueline Friedland, CAS, CIA, MAAA

Actuarial Practice Leader

KPMG LLP

Email: jfriedland@kpmg.ca

Phone: 416-777-8320

RIMSCANADA™

Thank you for attending the Ottawa Capital Connexions Conference

Ottawa 2011
Capital ConneXions