



Society of Actuaries in Ireland

Life & Non-Life Pricing

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What is Non-Life business?

Mobile Phone
Car
Home
Travel

Employer's Liability
Public Liability
Commercial Property
Creditor insurance
Financial Loss
Marine
Aviation
Cyber Insurance

Medical expenses
Income protection
Legal expenses



Typical Perils Covered

- Fire
- Theft
- Injury
- Terrorism
- Weather
- Accidental Damage/Loss
- Subsidence
- ...



Typical Characteristics & Features

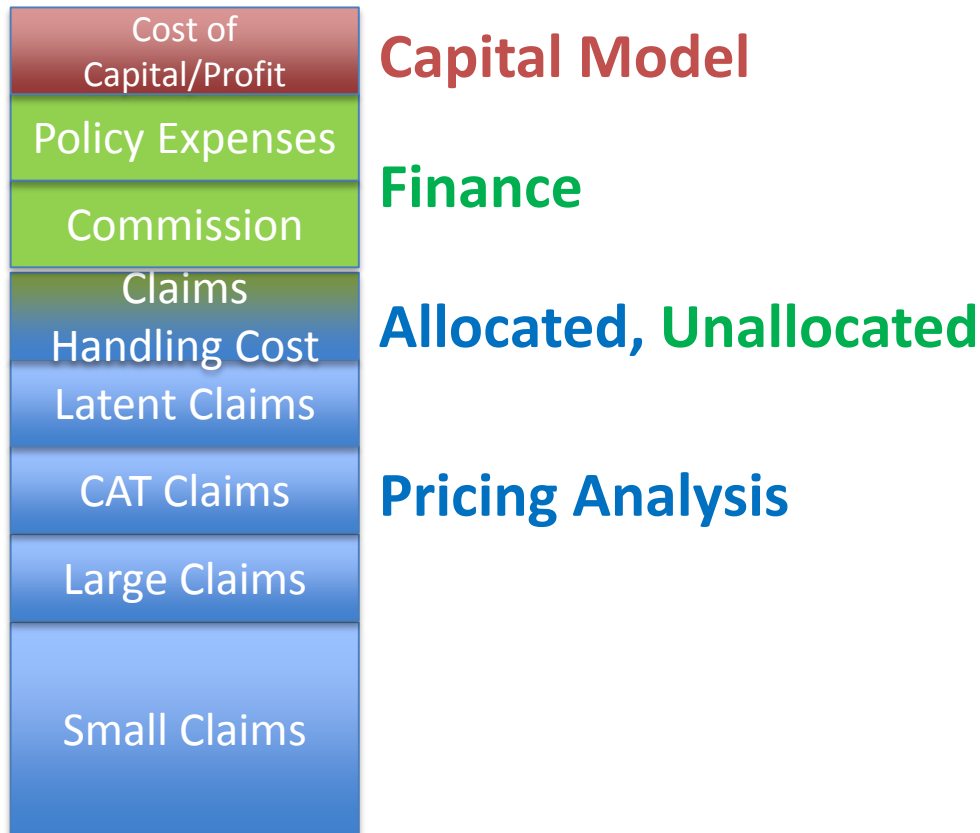
Usually 1 year contracts (but can vary)

Depending on class:

- Potential for large claim – low likelihood, high severity
- Potential for catastrophe event
- Short vs. long tail
- Data vs. Judgement
- Price vs. Security



Components of Price





Claim Types





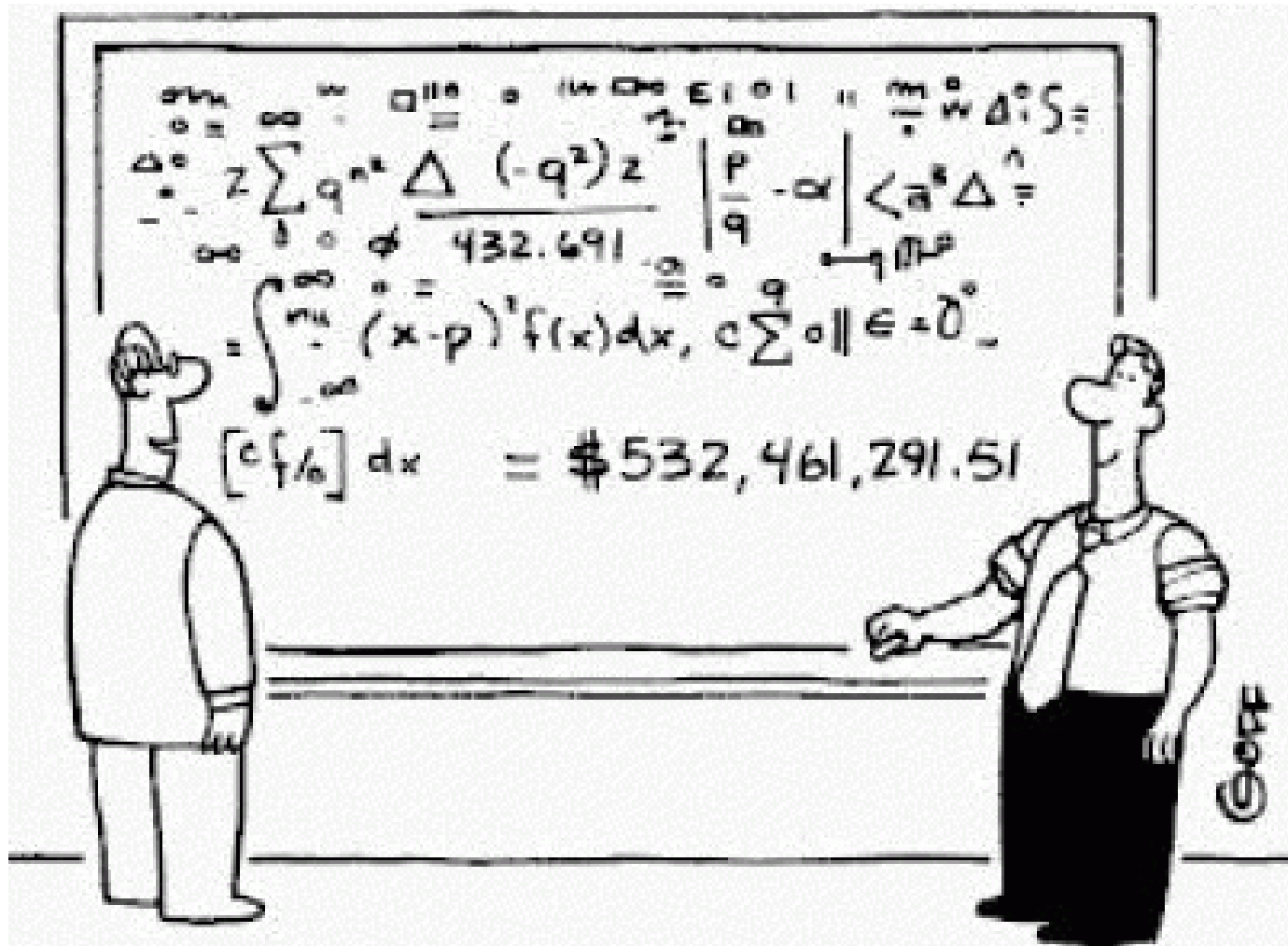
Risk Drivers

- Depends on class & cover
- Rating factors everyone else uses
- Anything obvious missing?
- Non rating factors captured on system
- External Data



Pricing Methods

- Opinion
- Loss Ratios
- Frequency & Average Cost
- GLM
- Machine Learning



"Now that's what I call a breakthrough!"



Stakeholders

- Underwriters
- Reserving Actuaries
- Claim Handlers
- IT
- Marketing
- Call centre



"Before we move on, are we sure that one isn't just sideways?"



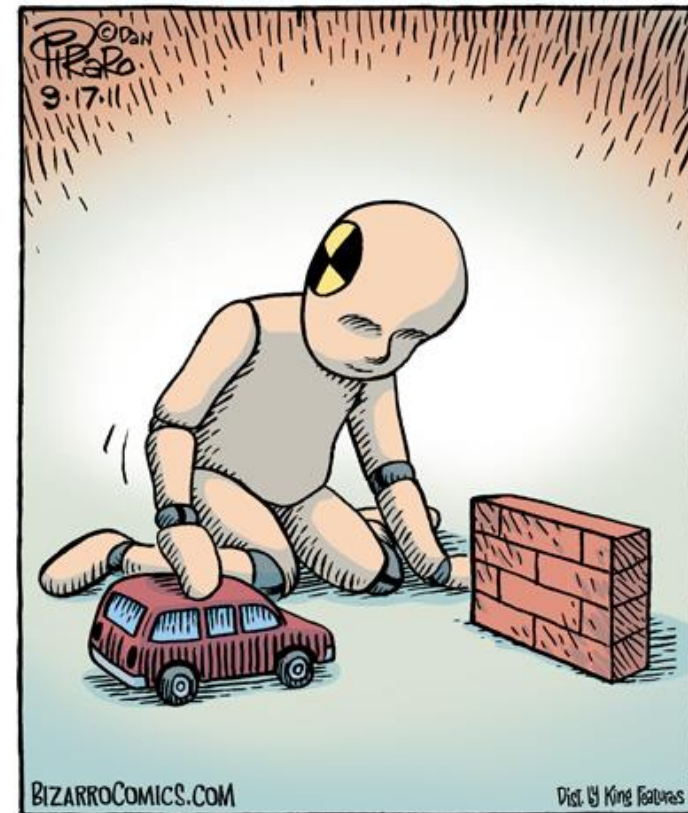
Not just about risk modelling...

- Conversion
- Retention
- Cross sell
- Website analytics
- Fraud



Validating Models

- Models are only models
- Things change
- Data gets bigger
- Methods change
- Competitors continually improving



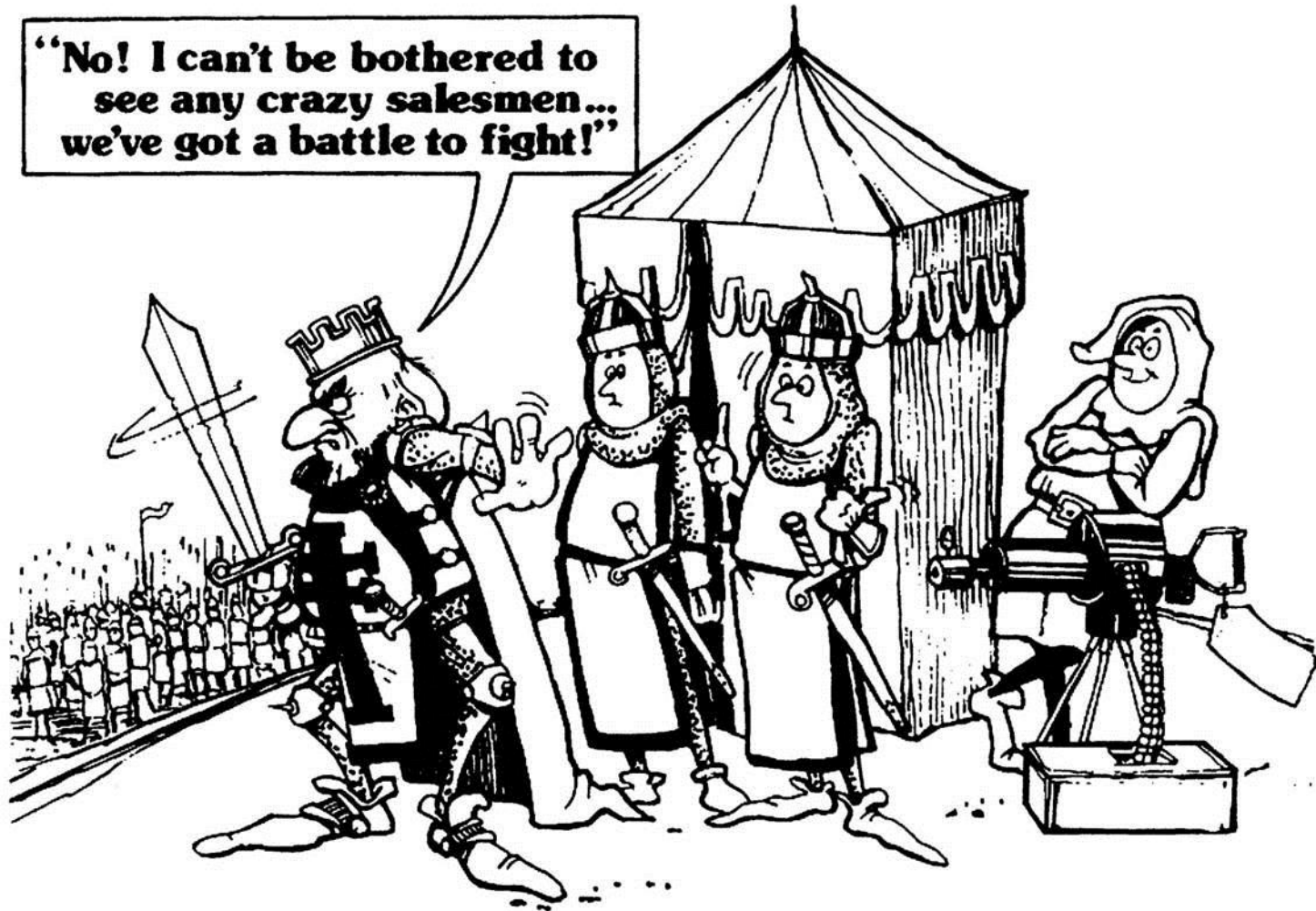


Current Developments

- More external data
- Multi Year View
- Telematics
- Machine learning



“No! I can’t be bothered to see any crazy salesmen... we’ve got a battle to fight!”



Agenda

- Life Insurance Products
- Purpose of Pricing
- Pricing Influences
- Protection Pricing
- Investment/Pension Pricing
- Outside Influences

Life Insurance Products

- Protection
 - Life Cover, Critical Illness, Income Protection
- Investment/Pensions
- Other
 - Trackers
 - Annuities
 - Group Risk

Purpose of Pricing



Vs.



Sales & Profit Influences

- Price & Commission
- Channel
 - Broker vs. Direct
- Reinsurance
- Underwriting
- Medium-Long Term Influences
 - Expenses, lapses, investment return, mortality, morbidity...

Product Features/Differentiators

- Number of Critical Illnesses
- Fund Selection
- Capital Security
- Product Flexibility
- Medical Support Lines
- Ease of doing business

Protection Pricing

Premium

=

Policy Fee

+

Sum Assured * Rate

+

Loadings

-

Discounts

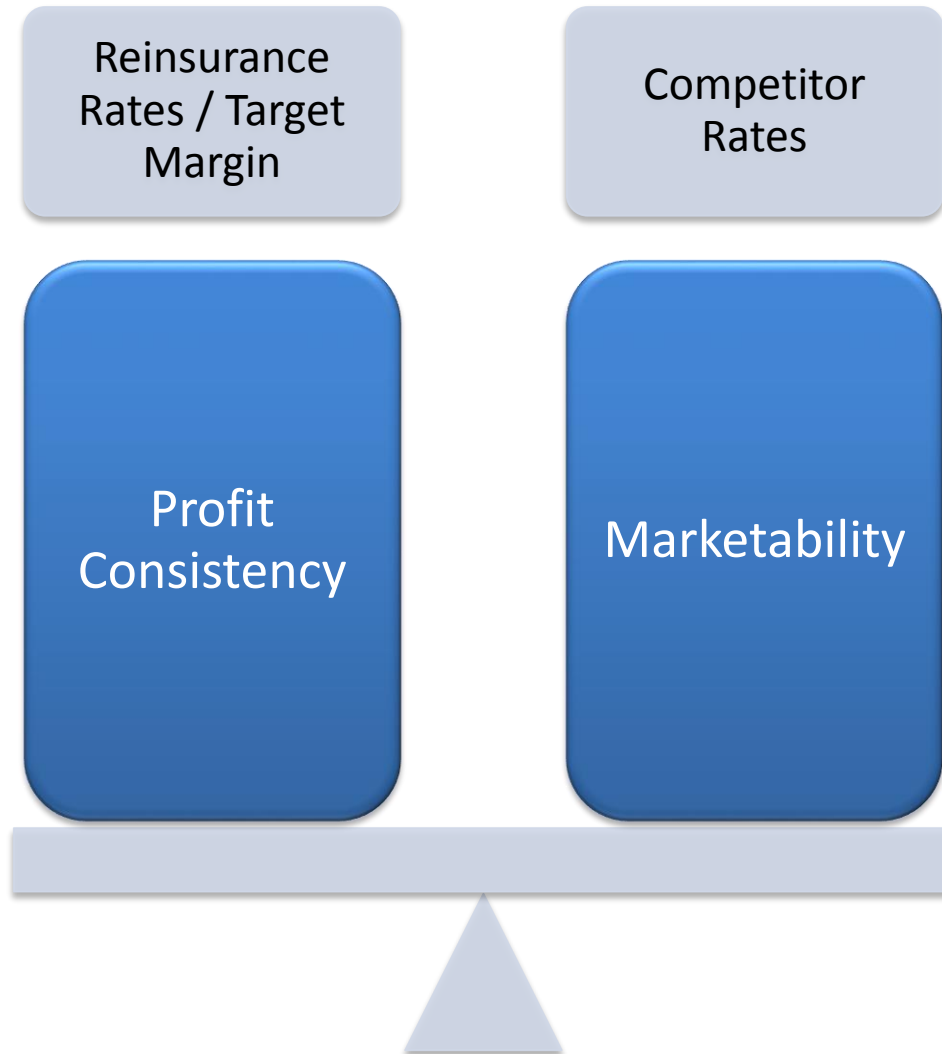
Renewal Expenses

Age
Smoker Status
Gender (if allowed)
Term
Indexation
Medical Free Conversion
Deferred Period

Health Loading
Occupational Loading

Joint Discount
Frequency Discount
Staff Discount
Sales Agent Discount

Rates Setting



Profit Triangle

Age/Term	5	10	15	20	25	30	35	40
20	-€150	-€149	-€113	-€110	-€100	-€79	-€9	€78
25	-€125	-€115	-€80	-€62	-€13	€16	€73	€136
30	-€100	-€85	-€58	-€9	€26	€91	€120	€196
35	-€78	-€60	-€49	-€21	-€1	€57	€105	€141
40	-€25	-€13	€13	€41	€41	€94	€167	€224
45	-€35	€153	€186	€216	€257	€273	€292	€371
50	€250	€271	€293	€341	€354	€403	€469	
55	€375	€387	€406	€434	€488	€539		
60	€450	€458	€474	€493	€525			
65	€600	€613	€648	€685				
70	€625	€648	€664					
75	€600	€624						

Investment/Pension Pricing

80s/90s

- Capital Units
- Nil/Reduced Allocation Periods
- Bid/Offer Spreads
- Initial expenses covered

2000s

- Higher allocations
- Early encashment charges
- Agent claw-back
- Tighter margins

Investment/Pension Pricing

- Pricing Flexibility
 - Higher Allocation for Larger Sums
 - Allocation give-up for reduced AMC (1:8 Ratio)
- Advisor Preference
 - Initial vs. Trail Commission
- Fund Margin Generally Constant
- Net Present Value vs. Payback Method

Outside Influences

- Gender Directive
- The Recession
 - Focus on Protection
 - Sovereign Annuities
 - Interest Rates
 - Levies & Deemed Distribution
- Solvency II