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Underwriting and Actuarial Consulting, Training and Research

Pricing Actuaries – Adding Value in a Softening Market

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Background

- **Focus**
 - Commercial P&C insurance
 - London Market business
- **Pre-2001 – Who needs actuaries?**
 - Few P&C pricing actuaries
 - Mostly reinsurance
 - Main role individual risk pricing
- **2002 & Post – Actuaries as safeguard**
 - High demand for pricing actuaries
 - Today only 6-7 LM companies no actuaries

The Role of Pricing Actuaries

Reinsurance

- Account pricing
- Underwriting
- Management reporting
- Benchmarking

Insurance

- Account pricing
- Rating models
- Management reporting
- Outwards reinsurance
- Reserving
- Capital modelling
- Planning and Forecasting

Would Actuaries Influence Results In This Soft Market?

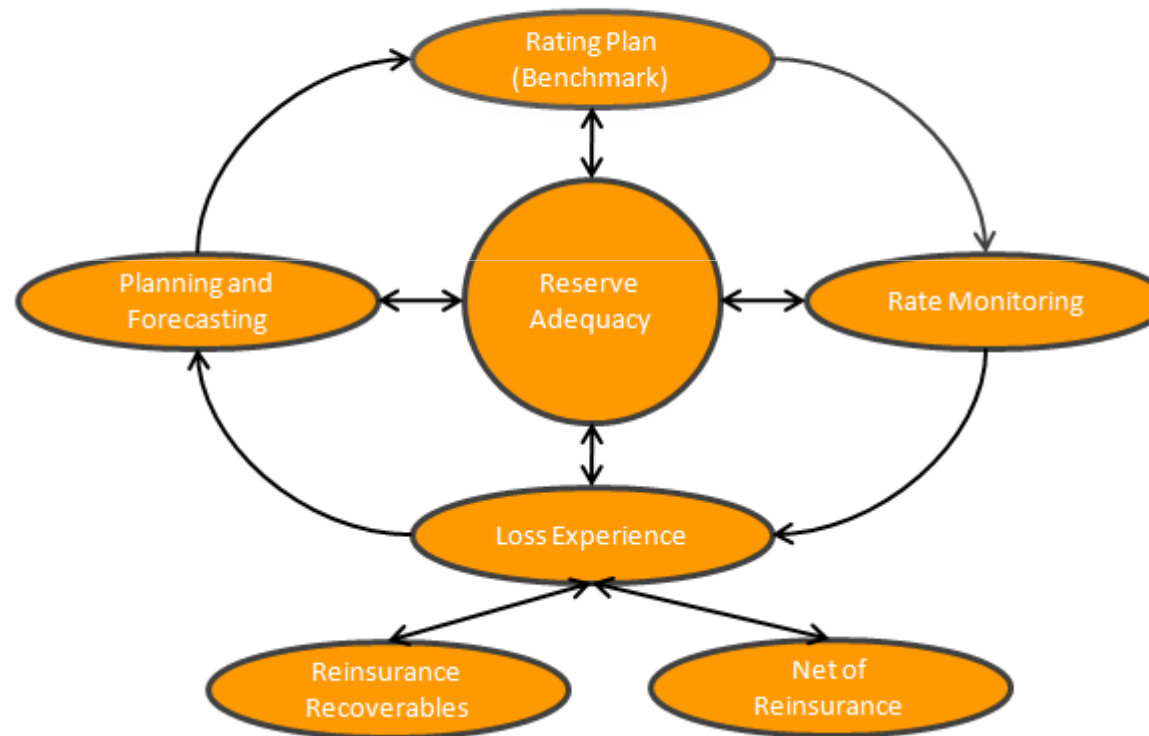
Key Question:

Would companies with pricing actuaries do better than those without pricing actuaries?

- History yet to prove
- Last soft market
 - CO's without actuaries failed
 - CO's with large pricing teams failed
- What could we do different this time?

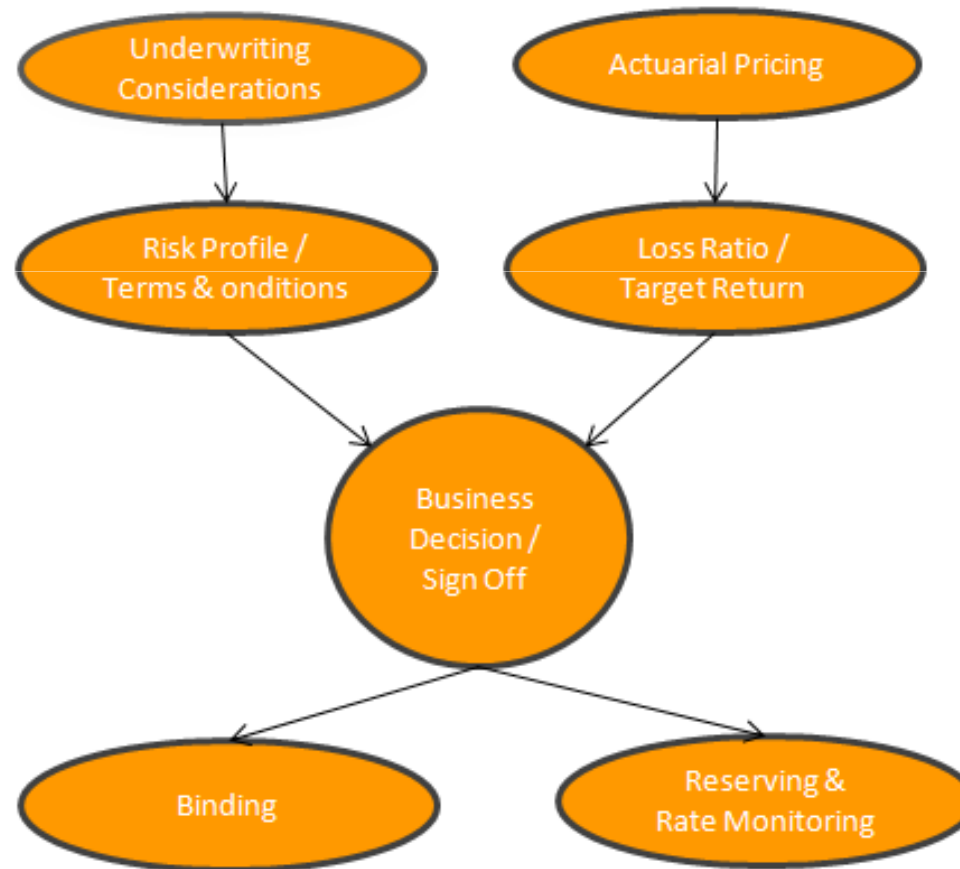
It All Comes Down to Reserves

Insurance Context



It All Comes Down to Reserves

Reinsurance Context



Who's Decision Is It Anyway?

- Binding individual risks
- Benchmarks
- Rating plans
- Rate monitoring
- Held reserves
- Plan loss ratios

Individual Risk Pricing

- Common actuarial sign off protocols
 - No sign off
 - Premium threshold
 - Risk type
- Who has final say?
- Who should have final say?
- Proportion of premium priced
- Where are results reflected?

Rating Models or Rating Tools?

- Increased need for rating tools
 - Ease of workflow
 - Automated calculations
 - Documentation
 - Lloyd's reporting requirements
- Rating model – actuarial value
- Rating tool – IT value

Rating Models or Rating Tools?

- Goal – consistent benchmark
 - Objective rate monitoring
 - Market price vs. benchmark
- Rating database
- Link rating plan to loss ratio
- Develop technical rates

Renewal Rate Monitoring

- Process in place 2002 and post
- Distinct difference
 - Good process – run by actuaries
 - Accuracy – calculated by underwriters
- What is included?
 - Change exposure
 - Change limit / attachment
 - Other rating factors
 - “Soft issues”

Renewal Rate Monitoring: The Need for Actuarial Accuracy

Rate Monitoring Using Exposure Changes

Benchmark premium assumes 20% commission

Min in Range	Max in Range	Max Premium in Range	Implied Load Per Million
0	1,000,000	46,750	46,750.00
1,000,001	5,000,000	60,775	3,506.25
5,000,001	25,000,000	100,775	2,000.00
25,000,001	50,000,000	138,275	1,500.00
50,000,001	100,000,000	183,275	900.00
100,000,001	200,000,000	233,275	500.00
200,000,001	500,000,000	308,275	250.00
500,000,001	1,000,000,000	358,275	100.00
1,000,000,001	2,000,000,000	408,275	50.00
2,000,000,001	5,000,000,000	498,275	30.00
5,000,000,001	10,000,000,000	548,275	10.00
10,000,000,001	15,000,000,000	585,775	7.50
15,000,000,000	Unlimited		5.00

Rate change = -13.06%

Answers = -13% to -27%

	Expiring (2007)	Renewal (2008)	Change
Turnover	150,000,000	250,000,000	18.01%
Deductible	50,000	50,000	0.00%
Deductible Factor	0.8	0.8	0.00%
Limit	10,000,000	15,000,000	
Attachment	10,000,000	15,000,000	
Excess Factor	1.50	2.00	33.33%
Commission	20%	20%	
Benchmark Gross Premium	249,930	393,240	57.34%
Benchmark Net Premium	199,944	314,592	57.34%
Bound Gross Premium	275,000	395,000	43.64%
Bound Net Premium	220,000	316,000	43.64%
Change in T&C			5%

Renewal Rate Monitoring

- Soft issues
 - Risk management
 - Claims experience
 - Size discounts – if appropriate include in benchmark
 - Terms and conditions
- Trends
 - Understated in hard market
 - Overstated in soft market

Renewal Rate Monitoring

- Rate monitoring
 - Highly linked to reserve (in)adequacy
 - Main input for plan loss ratio
- Include only objective measures
- Soft issues
 - Market dependent factors
 - Treat as rate change

New Business Monitoring: The Myth

Why is new business rarely monitored?

Going Soft by Stewart Mitchell, The Actuary
Magazine, 1/3/2008

“[...] In practice it is easier to ignore new business because details of the previous year’s risk may be incomplete. However, new business is typically written on worse terms than renewal business since the business needs to be attracted from the previous insurer, usually by offering a lower price or better terms.”

New Business Monitoring The Reality

- Expiring price is irrelevant
- Monitor
 - Renewal business to benchmark
 - New business to benchmark
- New business rate index

$$\text{New Bus. RI} = (1 - \text{Ren. Rate Change}) * \frac{\text{New To Benchmark}}{\text{Renewal To Benchmark}}$$

- Use new and renewal premium as weights

New Business Monitoring Considerations

- New business premium volume
- Rate change applied to all premium
- Extreme case – no renewals all new business
 - Rate monitoring 0%
- Result
 - Significant under-reserving

Rate Monitoring Considerations

- Rate change “seen” as target
- Target often “achieved”
- Underwriters’ perceptions
 - Rate increase = good
 - Rate decrease = bad
- Not linked to rate adequacy
- Not linked to loss experience

Rate Monitoring Considerations

Assesing rate adequacy for various business segments

Target rate change = -10%

Achieved results at 1/7/2008

Industry Trade	2007 Written Premium	2008 Renewal Premium	2008 Renewal To Benchmark	2008New Premium	New To Benchmark	Renewal Rate Change	Projected Loss Ratio
1	1,625,000	1,523,000	1.050	254,800	0.990	-5.00%	89%
2	2,365,000	2,548,900	0.956	1,058,000	0.925	0.00%	100%
3	116,000	115,240	0.975	523,000	0.900	-1.00%	75%
4	3,856,000	3,658,900	1.030	1,254,666	1.000	-5.00%	55%
5	5,648,000	3,589,250	0.900	958,700	0.950	-10.00%	35%
6	8,650,000	5,894,500	0.850	854,000	0.900	-15.00%	45%
7	1,548,000	1,452,000	1.050	752,000	0.950	-5.00%	76%
8	7,152,000	6,987,500	0.950	3,598,000	1.000	-7.50%	95%
Total	30,960,000	25,769,290		9,253,166		-8.38%	69%

Rate Monitoring Actuarial Value

- Take “fear” out of rate monitoring
- Think rate adequacy
- Regular rate reviews
 - By industry/class
 - By territory
 - By size
- Business strategy
 - Profitable growth

Planning and Forecasting

- Plan 4-6 months before year end
- Difficult to plan next month!
- Optimistic assumptions
- Recent 3-4 years booked at plan
- Compound effect
 - Optimistic rate monitoring
 - Low pegs
 - No new business rate index

Impact of Plan on Reserves

Year	Plan RC	Plan LR	Actual RC	Revised LR
2009	5%	81.5%	-7.5%	92.5%
2010	5%	84.8%	-5%	93.7%
2011	5%	95.2%	-5%	105%

- Further impact
 - Actual RC accuracy
 - New business monitoring

Would Actuaries Influence Results?

- Time will tell
- Reputational risk
- Pricing role evolving
- Come out of the bench
 - Ask questions (lots and lots of questions!)
 - Get involved
- Value added
 - Impact on company's reserves
 - Management reports
 - Company business strategy