Monitoring Price - Umbrella and Excess Business

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Key Considerations

- **How is Price Monitoring Data used?**
- **Problems with Price Monitoring calculations**
- **Monitoring on an aggregate level rather than the individual policy level – problems with this approach**

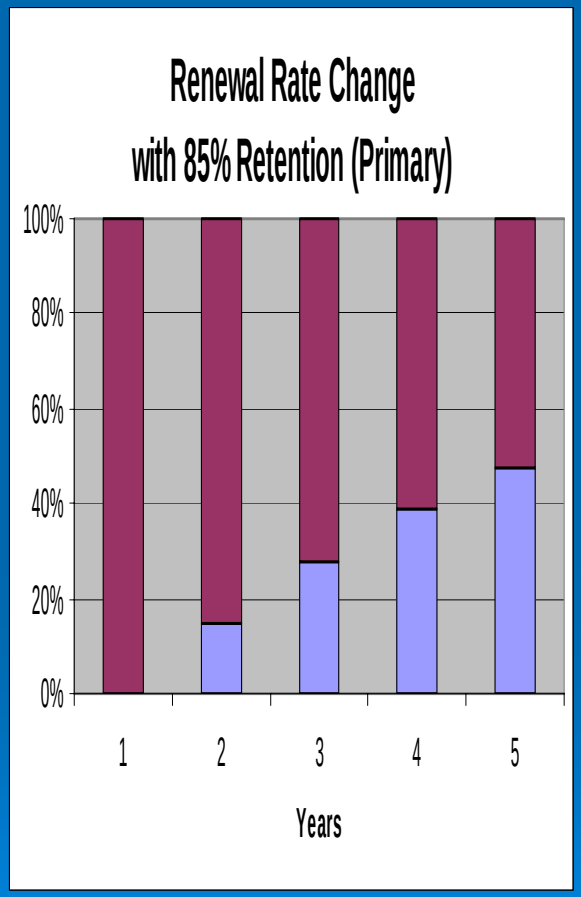
Key Considerations

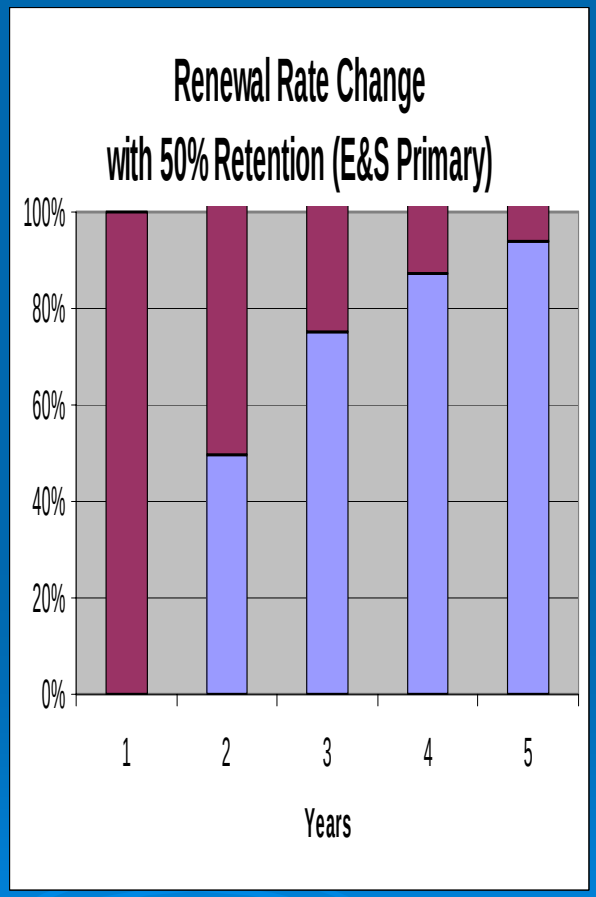
- **How is Price Monitoring Data used?**
  - On-level historical premiums
  - Gauge of underwriting discipline
  - Project current year loss ratios
- **Common Deficiencies**
  - Policy level rate change applies to renewal business only
    - Low renewal retention reduces relevance (e.g. E&S)
    - Ideal is extension of historical exposures
  - Changes in policy class mix
    - May not adjust for changes in class at the risk level
  - Changing benchmark

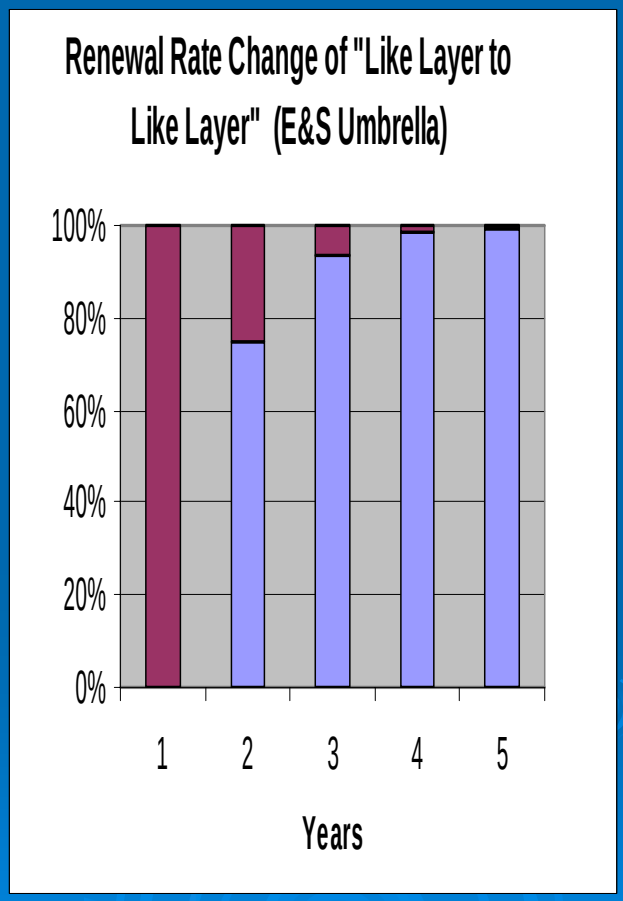
Use of Price Monitoring Data

- Use dictates how the data is collected and summarized
  - **On-level premium**: want the exposures to reflect the historical year to match the historical losses that come from the same profile
  - **Gauge of underwriting discipline**: want the exposures to reflect the current year
  - **Rolling forward loss ratios**: want the monitoring data to cover the whole book (renewal and new business)

Using Rate Changes to On-level Historical Book







Use: On-Leveling Premium

Roll-up Based on Historical Exposure

Expiring

	Layer	ILF	Sales	Rate	Prem
Risk 1	4M x 1M	1.000	1,000,000	18.0%	180,000
Risk 2	25M x 1M	1.300	10,000,000	20.0%	2,000,000
Combined			11,000,000	19.8%	2,180,000

Renewal

	Layer	ILF	Sales	Rate	Prem
Risk 1	5M x 5M	0.150	20,000,000	5.0%	1,000,000
Risk 2	25M x 1M	1.300	10,000,000	15.0%	1,500,000
Combined			30,000,000	8.3%	2,500,000

Rate Change

	Layer	Sales	Expiring	Restated	Rate Chg
Risk 1	4M x 1M	1,000,000	18.0%	33.3%	85.2%
Risk 2	25M x 1M	10,000,000	20.0%	15.0%	-25.0%
Combined		11,000,000			**-15.9%**

Use: Gauge Underwriting Disciple

Roll-up Based on Current Exposures

Expiring

	Layer	ILF	Sales	Rate	Prem
Risk 1	4M x 1M	1.000	1,000,000	18.0%	180,000
Risk 2	25M x 1M	1.300	10,000,000	20.0%	2,000,000
Combined			11,000,000	19.8%	2,180,000

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Rate Change

	Layer	Sales	Expiring	Restated	Rate Chg
Risk 1	4M x 1M	20,000,000	18.0%	33.3%	85.2%
Risk 2	25M x 1M	10,000,000	20.0%	15.0%	-25.0%
Combined		30,000,000			**19.1%**

New Business

- Rate Change cannot be computed for new business without expiring information on exposures, rates and layer
- Even if expiring information was available, rate change would be meaningless since the expiring policy is not part of the reference portfolio and the adequacy of the new rate is not measured by rate change
- Need a reference point to measure the adequacy of new business

Benchmark Monitoring

- Advantage is that it applies to both new and renewal business – covers the whole book
- Benchmarks often based on manual loss cost loaded for company expenses and profit (e.g. ISO w/LCM)
  - Can use experience rating as benchmark for large risks
- Measures “current sold to manual” not “rate change on expiring sold premium”
- Appropriate for rolling forward historical loss ratios
  - “manual” updated for exposure trend, loss trend and rate change – if manual rates are adjusted annually

Benchmark Monitoring - Shortcomings

- **Manual rate is often based on governing class only** – may be misleading for larger risks with multiple classes
- **Often measured at one fixed limit**, typically ground-up $1 million. Perception of adequacy can be misleading for higher layers depending on the strength of the company ILF factors
- **Combining risks based on premium at benchmark limit**, **not sold layer**. Large premium benchmark risks may be small premium sold risks if the sold layer is high
- **Benchmark may be based on a single target loss ratio** without regard to line (AL vs. GL) or layer differences (higher layers should have higher risk loads).
- **The benchmark is not fixed from year to year**. It will change as underlying manual rates change, thus changes in benchmark pricing cannot be used as a surrogate for rate change or used to on-level historical premiums

Benchmark Shortcomings

Benchmark Based on Rate for 1M Ground-Up

Ratio to Benchmark

	Layer	Sales	First 1M Manual Rate	Manual Prem	Sold Prem	Ratio
Ratio Shown	4M x 1M	10,000,000	10.0%	1,000,000	1,100,000	1.10
Class A		8,000,000	10.0%	800,000	800,000	1.00
Class B		2,000,000	20.0%	400,000	300,000	0.75
Ratio Correct		10,000,000	12.0%	1,200,000	1,100,000	0.92

Ratio on Layer

	Layer	Premium	Layer ILF	Layer Prem	Ratio
Benchmark	4M x 1M	1,000,000	0.400	400,000	0.83
Actual	4M x 1M	1,100,000	0.300	330,000	

Benchmark Shortcomings

Sold Layer vs. Benchmark Layer	Benchmark Premium First 1M	Sold Prem First 1M	Ratio	Layer Premium	Real Ratio
Risk 1 - 4M x 1M	1,000,000	1,100,000	1.10	330,000	0.83
Risk 2 - 25M x 75M	1,000,000	800,000	0.80	50,000	0.70
Combined	2,000,000	1,900,000	0.95	380,000	0.81

Layer Adequate Loss Ratios differ from Benchmark Loss Ratios

Sold Layer vs. Benchmark Layer	Benchmark LR	Ratio to Benchmark	Adequate Layer LR	Layer Premium	Real Ratio
Risk 1 - 4M x 1M	65.0%	1.10	55.0%	330,000	0.70
Risk 2 - 25M x 75M	65.0%	0.80	40.0%	50,000	0.43
Combined	65.0%	0.95	53.0%	380,000	0.67

Use: Rolling Forward Loss Ratios

	Benchmark	Sold	Sold/Bench	Bench LR	Projected LR
2007	10,000	8,000	80.0%	60.0%	75.0%
2008	10,000	7,500	75.0%	60.0%	80.0%
2009	10,000	6,500	65.0%	60.0%	92.3%

	Actual LR	Rolled to 09
2007	80.0%	98.5%
2008	75.0%	86.5%
Average		**92.5%**

Aggregate Level Monitoring

- Property: rate per $000 of TIV
  - Larger risks, all else being equal, have a lower chance of a total limit loss and a lower adequate loss cost per TIV
  - Makes sense for book of similar property risks
- Umbrella: rate per $000,000 of Limit
  - The same risk buying 10M of limit would have a lower rate per million than when buying 5M of limit
  - Makes sense in “capacity” layers where minimum premiums kick in
- Auto: rate per vehicle
  - Different vehicle types have very different rates
  - Exception: contingent liability on leased vehicles
- Average Premium Level