
Commercial Line Price Monitoring

CAS Annual Meeting
November 16th 2009

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The Hanover Insurance Company



Commercial Lines Price Monitoring

Anti-Trust Policy

- The Casualty Actuarial Society is committed to adhering strictly to the letter and spirit of the antitrust laws. Seminars conducted under the auspices of the CAS are designed solely to provide a forum for the expression of various points of view on topics described in the programs or agendas for such meetings.
- Under no circumstances shall CAS seminars be used as a means for competing companies or firms to reach any understanding – expressed or implied – that restricts competition or in any way impairs the ability of members to exercise independent business judgment regarding matters affecting competition.
- It is the responsibility of all seminar participants to be aware of antitrust regulations, to prevent any written or verbal discussions that appear to violate these laws, and to adhere in every respect to the CAS antitrust compliance

Agenda

- Pricing Levers
- Monitoring
 - Must Haves
 - Challenges
 - Resolution
- Ongoing Challenges
- Conclusions

Typical Pricing Levers

- Company / Underwriting Tier
 - Multiple Underwriting Companies
 - Multiple Underwriting Tiers within a Company
 - May have both
 - Proprietary Rate Structure
 - Base Rate varies by Company based upon a uniform Company Deviation Factor
 - Underwriting Tier Factor within Company
 - ISO Loss Costs
 - LCM by Company
 - Tier Factor within Company
- Discretionary Credit/Debit
 - Individual Risk Premium Modification
 - Schedule Credit

Commercial Lines Price Monitoring

Price Monitoring: Company Utilization

Microsoft Excel - Book1

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Type a question for help

A3 evaluated as of August, 2009

COMPANY UTILIZATION - NEW BUSINESS WRITTEN PREMIUM1													
Line Of Business													
evaluated as of August, 2009													
New Business Written Premium1													
	2008 through August New Business					2009 through August New Business					2008 YTD New Bus Company Index ³	2009 YTD New Bus Company Index	Change
	Superior	Super-Preferred	Preferred	Standard	Debit	Superior	Super-Preferred	Preferred	Standard	Debit			
Branch 1		69.9%	21.7%	8.4%			64.8%	21.8%	13.4%		0.957	0.969	1.3%
Branch 2		65.7%	15.2%	19.1%			47.1%	31.4%	21.6%		0.854	0.874	2.3%
Branch 3		6.2%	74.7%	19.1%			48.4%	40.2%	11.4%	0.1%	0.927	0.891	-3.9%
Branch 4		23.8%	64.9%	11.2%			54.2%	41.7%	4.1%		0.927	0.886	-4.4%
Region A		33.9%	52.6%	13.5%			55.8%	33.6%	10.6%	0.0%	0.916	0.914	-0.2%
Branch 5	0.1%		4.8%	95.1%	0.1%			2.6%	97.0%	0.4%	1.002	1.008	0.6%
Branch 6		12.1%	59.9%	28.0%			74.9%	19.0%	5.8%	0.3%	1.002	0.935	-6.7%
Branch 7		4.6%	44.5%	41.5%	9.5%		53.0%	10.0%	36.9%		1.035	0.966	-6.7%
Region B	0.0%	2.7%	23.8%	70.0%	3.4%		32.4%	8.1%	59.2%	0.3%	1.014	0.979	-3.4%
Branch 8	34.4%	15.9%	25.1%	9.3%	15.3%	36.4%	29.8%	28.4%	5.3%		0.869	0.818	-5.9%
Branch 9	44.0%	9.5%	30.6%	13.8%	2.1%	18.3%	18.4%	36.0%	27.2%	0.1%	0.834	0.889	6.6%
Branch 10	35.0%	21.1%	29.8%	13.2%	0.8%	39.6%	35.8%	13.5%	7.8%	3.3%	0.835	0.828	-0.8%
Branch 11	16.8%	27.3%	37.1%	6.9%	11.9%	47.3%	11.0%	2.6%	38.2%	1.0%	0.900	0.829	-7.8%
Region C	34.0%	17.8%	28.9%	10.9%	8.3%	33.9%	26.8%	23.5%	14.8%	1.1%	0.856	0.838	-2.1%
COUNTRY	6.4%	25.2%	35.3%	30.2%	2.9%	6.1%	33.8%	29.3%	29.4%	1.4%	0.921	0.916	-0.5%

1 Premiums are Voluntary only
 2 Countrywide premium includes premiums from regions designated as "All Other": Specialty business and All Other branches
 3 Premium used in 2008 YTD Tot Bus Company Index for Kansas City and Tulsa branches is combined premium for the two branches.

Sheet1 / Sheet2 / Sheet3

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Commercial Lines Price Monitoring

Price Monitoring: IRPM / Schedule Credit

Microsoft Excel - Book1

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B2

IRPM REPORT - RENEWAL WRITTEN PREMIUM ¹									
Line Of Business									
evaluated as of August, 2009									
	August 2009 only				Year To Date				
	August, 2009 Written Premium	August, 2008 Total Business	August, 2009 Renewal Business	% change	YTD 2009 Written Premium	YTD 2008 Total Business	YTD 2009 Renewal Bus.	% change	
9	Branch 1	\$100,000	-18.6%	-0.2%	22.6	\$800,000	-22.7%	-19.7%	3.9
10	Branch 2	\$100,000	0.0%	1.4%	1.4	\$800,000	-6.4%	-6.8%	-0.4
11	Branch 3	\$100,000	0.0%	0.0%	0.0	\$800,000	-8.3%	-13.1%	-5.2
12	Branch 4	\$100,000	-3.7%	-7.6%	-4.1	\$800,000	-11.3%	-13.9%	-2.9
13	Region A	\$400,000	-6.3%	-1.7%	4.8	\$3,200,000	-12.7%	-13.6%	-1.1
14									
15	Branch 5	\$100,000	2.0%	1.7%	-0.3	\$800,000	-1.4%	-1.2%	0.2
16	Branch 6	\$100,000	0.0%	0.0%	0.0	\$800,000	-0.9%	-0.9%	0.0
17	Branch 7	\$100,000	0.0%	0.0%	0.0	\$800,000	-0.5%	-0.8%	-0.3
18	Region B	\$300,000	0.7%	0.6%	-0.1	\$2,400,000	-0.9%	-1.0%	0.0
19									
20	Branch 8	\$100,000	-1.0%	-4.6%	-3.6	\$800,000	-9.0%	-9.4%	-0.4
21	Branch 9	\$100,000	-10.0%	-2.7%	8.1	\$800,000	-11.5%	-10.8%	0.8
22	Branch 10	\$100,000	-8.2%	-7.8%	0.5	\$800,000	-11.8%	-11.7%	0.1
23	Branch 11	\$100,000	-8.8%	-10.2%	-1.6	\$800,000	-10.1%	-10.7%	-0.6
25	Region C	\$400,000	-7.1%	-6.4%	0.8	\$3,200,000	-10.6%	-10.6%	0.0
26									
50	COUNTRYW	\$1,100,000	-4.8%	-2.9%	2.0	\$8,800,000	-9.0%	-9.4%	-0.4
51									
53	¹ Premiums are Voluntary only								
55	² Countrywide premium includes premiums from regions designated as "All Other": Specialty business and All Other branches								
56									
57	Source: MIS Department Monthly Reports								
58									

Sheet1 Sheet2 Sheet3

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Commercial Lines Price Monitoring

Average IRPM / Schedule Credit Calculation

	Collected				Premium excluding IRPM		
	August, 2009 Written Premium	August, 2008 Total Business	August, 2009 Renewal Business	% change	August, 2008 Total Business	August, 2009 Renewal Business	% Change
Branch 1	\$100,000	-18.6%	-0.2%	22.6	\$122,850	\$100,200	22.6
Branch 2	\$100,000	0.0%	1.4%	1.4	\$100,000	\$98,619	1.4
Branch 3	\$100,000	0.0%	0.0%	0.0	\$100,000	\$100,000	0.0
Branch 4	\$100,000	-3.7%	-7.6%	-4.1	\$103,842	\$108,256	-4.1
Region A	\$400,000	-6.3%	-1.7%	0.0	\$426,692	\$407,076	4.8

- Re-state the premium to a “manual” level by dividing out the average IRPM or company deviation
 - Premium excluding IRPM for Branch 1: $\$122,850 = \$100,000 / (1 + (-0.186))$
 - % Change = $\$122,850 / \$100,200 - 1 = 0.226$
 - Change in IRPM is old / new because IRPM is in the denominator.
- Do this policy by policy, sum of collected premium / sum of manual premium = average for branch
- Use premium specific to the prior to the time period

Commercial Lines Price Monitoring

Price Monitoring: New Versus Renewal

Microsoft Excel - Sample Pricing Exhibits.xls

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Type a question for help

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A4

	A	B	C	D	E	F	G	H	I	J	
1				NEW vs RENEWAL PRICING REPORT							
2				Line of Business							
3				evaluated as of August, 2009							
4											
8		YTD New Business Written Premium1	YTD Renewal Written Premium1	YTD New Business Average IRPM	YTD Renewal Average IRPM	YTD New Business Company Index	YTD Renewal Company Index	YTD New Business Index	YTD Renewal Index	difference	
9	Branch 1	\$706,656	\$1,674,100	-27.2%	-19.7%	0.969	0.990	0.706	0.795	-11.2%	
10	Branch 2	\$142,709	\$272,554	-11.1%	-6.8%	0.874	0.975	0.776	0.909	-14.6%	
11	Branch 3	\$552,850	\$1,136,598	-5.8%	-13.1%	0.891	0.868	0.839	0.755	11.2%	
12	Branch 4	\$626,389	\$1,969,512	-15.5%	-13.9%	0.886	0.993	0.749	0.855	-12.4%	
13	Region A	\$2,028,604	\$5,052,763	-16.4%	-15.3%	0.914	0.960	0.764	0.813	-6.0%	
14											
15											
16	Branch 5	\$716,701	\$4,582,299	-2.1%	-1.2%	1.008	1.007	0.988	0.994	-0.7%	
17	Branch 6	\$268,514	\$2,443,392	-0.1%	-0.9%	0.935	0.991	0.934	0.982	-4.9%	
18	Branch 7	\$565,214	\$2,178,508	0.0%	-0.8%	0.966	1.011	0.966	1.004	-3.8%	
19	Region B	\$1,550,429	\$9,204,198	-0.9%	-1.0%	0.979	1.004	0.970	0.993	-2.3%	
20											
21											
22	Branch 8	\$864,649	\$6,876,340	-10.4%	-9.4%	0.818	0.925	0.733	0.838	-12.6%	
23	Branch 9	\$581,097	\$3,877,459	-14.3%	-10.8%	0.889	0.924	0.761	0.824	-7.6%	
24	Branch 10	\$658,531	\$3,178,124	-20.5%	-11.7%	0.828	0.920	0.658	0.812	-19.0%	
25	Branch 11	\$236,146	\$1,313,220	-10.6%	-10.7%	0.829	0.933	0.741	0.834	-11.1%	
26	Region C	\$2,340,423	\$15,245,142	-14.5%	-10.3%	0.838	0.924	0.717	0.829	-13.5%	
27											
52	COUNTRYWIDE	\$17,721,381	\$60,354,612	-16.0%	-11.1%	0.916	0.949	0.770	0.844	-8.8%	
53											
55	<i>1 Premiums are Voluntary only</i>										
58	<i>2 Countrywide premium includes premiums from regions designated as "All Other": Specialty business and All Other branches</i>										
59											
60											

CO UTL | IRPM | NB vs RB | Sample Calc

Draw AutoShapes

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Commercial Lines Price Monitoring

Price Monitoring: Rate Changes

Microsoft Excel - Sample Pricing Exhibits.xls

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Verdana 9

C4

2008-2009 RATE CHANGE REPORT
Line of Business
evaluated as of August, 2009

Branch	2008 Direct Written Premium 1	First Rate Change				Second Rate Change				Third Rate Change				Cumulative Effective Rate Change at Year-End :
		Effective Date	Filed Change	Approved Change	Status	Effective Date	Filed Change	Approved Change	Status	Effective Date	Filed Change	Approved Change	Status	
Branch 1	\$ 1,200,000	01/01/2008	-10.2%	-10.2%	A	05/01/2009	-11.2%	-11.2%	A					-6.5%
Branch 2	\$ 1,200,000	07/01/2008	-23.4%	-23.4%	A	07/01/2009	-15.7%	-15.7%	A					-18.8%
Branch 3	\$ 1,200,000	03/01/2008	-14.0%	-14.0%	A	03/01/2009	-10.0%	-10.0%	F					-4.2%
Branch 4	\$ 1,200,000	01/01/2008	2.4%	2.4%	A	07/01/2008	-14.2%	-14.2%	A	07/01/2009	-5.5%	-5.5%	A	-10.4%
Branch 5	\$ 1,200,000	01/01/2008	3.1%	3.1%	A	01/01/2009	-0.5%	-0.5%	A					-0.5%
Branch 6	\$ 1,200,000	10/01/2008	-6.2%	-6.2%	A									-4.5%
Branch 7	\$ 1,200,000	10/01/2008	-6.2%	-6.2%	A									-4.4%
Branch 8	\$ 1,200,000	07/01/2008	-6.3%	-6.3%	A									-3.0%
Branch 9	\$ 1,200,000	07/01/2008	-6.3%	-6.3%	A									-3.1%
Branch 10	\$ 1,200,000	07/01/2008	-6.3%	-6.3%	A									-2.8%
Branch 11	\$ 1,200,000	07/01/2008	-6.3%	-6.3%	A									-3.3%

43 Status: A = Approved, D = Decision, F = Filed
44 1 Premiums are Voluntary only
45 2 Approved rate changes only.

48 NOTE: Cumulative Effective Rate Change at Year-End : Earned Impact ... Using On-Level Calculation

CO UTL IRPM NB vs RB Rate Sample Calc

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Leaves Gaps

- Bare Minimum not Enough
 - Monitor average *company deviation*
 - Monitor average *discretionary price change*
 - Monitor expected average *base rate change*
 - Estimate expected average *inflationary exposure change*
- Total did not explain overall movement in average premium
- Identify Gaps
 - Error in the base rate change estimate
 - Actual versus expected exposure change
 - Hidden pricing levers

Hidden Pricing Levers

- ITV procedures: Building values
- Audit procedures: GL Exposures; WC Exposures
- Rate Modification Factor:
 - Expense Credit
 - Experience Modification
 - “Other” Credit
 - Size of Premium Credit
- Lack of system edits (Can processor over-ride rating factors in the processing system?)
- Manually Rated Coverage
 - Non-Filed Inland Marine Classes
 - A-Rated Classes
 - Broadening Endorsements
 - COP (Commercial Output Policy)
 - Subcontracting Loss Cost

Solution: “New Money”

- Compares renewing written premium to expiring written premium
- Looks only at those policies that have renewed
- Expressed as a percentage and as a dollar amount
 - Formula:
 - New Money Amount = Renewing Premium – Expiring Premium
 - New Money Percent = New Money Amount / Expiring Premium
 - (or, Renewing Premium / Expiring Premium – 1)
 - Example;
 - A policy expires at \$1,000 and renews for \$1,100
 - New Money amount = **\$100**
 - New Money percent = \$100 / \$1,000 = **+10%**

Components of New Money

- Price Change
 - Filed base rates, increased limits, deductibles, class plan, etc....
 - Movement between companies or tiers
 - Experience Rating and Schedule Rating/IRPM
 - Changing policy limits

- Exposure Change - Changes in vulnerability to loss
 - Adding or deleting a vehicle/building from a policy
 - Change in building/contents value (amount of insurance, TIV)
 - Increasing or decreasing payroll
 - Adding or deleting specific coverage

Split New Money into Rate and Exposure Price Change Analysis

- **Start with expiring and renewing written premium & written exposure**
 - Sort by Coverage; by Exposure Base
 - Commercial Auto and Workers Compensation
 - Straight forward exposure bases
 - Car years and payroll, respectively, with a few exceptions
 - CPP and BOP much more complex
 - Property Exposure is Total Insured Value
 - General Liability Exposure varies by Class Code
 - 50 Different Exposure Bases ... # of Farm Animals
 - Sales, Payroll, Square Footage are most common
- **Determine the % change in exposure at each level of detail**
- **Use exposure % change to calculate an implied rate change; “new rate”**

Commercial Lines Price Monitoring

Price Change Analysis Example Rate Change Only

Microsoft Excel - Sample Pricing Exhibits.xls [Group]

File Edit View Insert Format Tools Data Window Help

Type a question for help

	A	B	C	D	E	F	G	H	I	J	K	L	M
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		
1	1) Your company writes commercial auto policy #1234567 effective 01/01/2008:												
2	Coverage		Liability		Comprehensive		Collision				Total		
3	Vehicle	Premium	Exposure		Premium	Exposure		Premium	Exposure		Premium		
4	Toyota Camry	\$1,000	12		\$100	12		\$200	12				
5	Ford F-150	\$1,000	12		\$100	12		\$300	12				
6	Audi A4	\$1,000	12		\$200	12		\$400	12				
7	Total	\$3,000	36		\$400	36		\$900	36		\$4,300		
8	2) Your company files a rate change effective 07/01/2008:												
9	Coverage		Liability		Comprehensive		Collision						
10	Rate Change					5%			5%				
11	3) Policy 1234567 renews on 01/01/2009 with the same coverages on the same vehicles												
12	Coverage		Liability		Comprehensive		Collision				Total		
13	Vehicle	Premium	Exposure		Premium	Exposure		Premium	Exposure		Premium		
14	Toyota Camry	\$900	12		\$105	12		\$210	12				
15	Ford F-150	\$900	12		\$105	12		\$315	12				
16	Audi A4	\$900	12		\$210	12		\$420	12				
17	Total	\$2,700	36		\$420	36		\$945	36		\$4,065		
18	4) You are asked to calculate New Money, Price Change and Exposure Change for this renewal:												
19	Coverage		Liability		Comprehensive		Collision				Total		
20	Amount	Premium Change	Exposure Change	Implied Rate Change (a)	Premium Change	Exposure Change	Implied Rate Change (a)	Premium Change	Exposure Change	Implied Rate Change (a)			
21	%	(\$300)	0%	-10%	\$20	0%	5%	\$45	0%	5%			(\$235)
22		-10%	0%		5%	0%		5%	0%				-5%
23	Price Change Analysis												
24		\$\$	%		\$\$	%		\$\$	%		\$\$	%	
25	New Money (b)	(\$300)	-10%		\$20	5%		\$45	5%		(\$235)		-5%
26	New Rate (c)	(\$300)	-10%		\$20	5%		\$45	5%		(\$235)		-5%
27	New Exposure (d)	\$0	0%		\$0	0%		\$0	0%		\$0		0%
28	NOTES												
29	(a)	Implied Rate Change = (1 + New Money %) / (1 + Exposure %) - 1											
30	(b)	New Money = Renewal Written Premium - Expiring Written Premium											
31	(c)	Implied New Rate \$\$ = Implied Rate Change * Expiring Written Premium											
32	(d)	Implied New Exposure \$\$ = New Money \$\$ - Implied Rate Change \$\$											

Ready NUM

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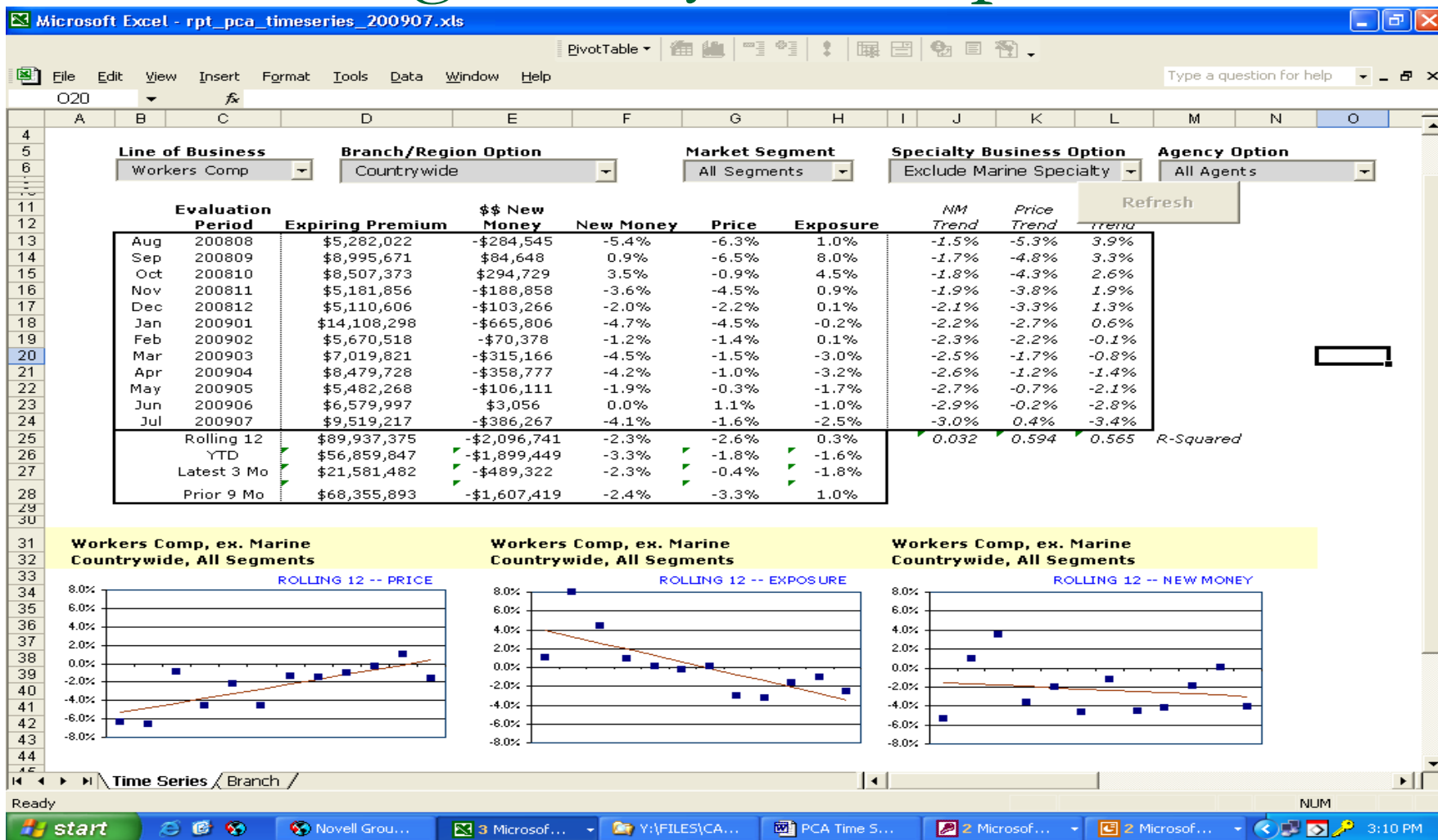
Commercial Lines Price Monitoring

Price Change Analysis Example Rate Change with Exposure Change

Microsoft Excel - Sample Pricing Exhibits.xls												
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Type a question for help												
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	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
1	1) Your company writes commercial auto policy #1234567 effective 01/01/2008:											
2	Coverage	Liability			Comprehensive			Collision			Total	
3	Vehicle	Premium	Exposure		Premium	Exposure		Premium	Exposure		Premium	
4	Toyota Camry	\$1,000	12		\$100	12		\$200	12			
5	Ford F-150	\$1,000	12		\$100	12		\$300	12			
6	Audi A4	\$1,000	12		\$200	12		\$400	12			
7	Total	\$3,000	36		\$400	36		\$900	36		\$4,300	
10	2) Your company files a rate change effective 07/01/2008:											
11	Coverage	Liability			Comprehensive			Collision				
12	Rate Change	-10%			5%			5%				
14	3) Policy 1234567 renews on 01/01/2009. The insured deletes Physical Damage coverage on the Audi at renewal.											
15	Coverage	Liability			Comprehensive			Collision			Total	
16	Vehicle	Premium	Exposure		Premium	Exposure		Premium	Exposure		Premium	
17	Toyota Camry	\$900	12		\$105	12		\$210	12			
18	Ford F-150	\$900	12		\$105	12		\$315	12			
19	Audi A4	\$900	12		\$0	0		\$0	0			
20	Total	\$2,700	36		\$210	24		\$525	24		\$3,435	
22	4) You are asked to calculate New Money, Price Change and Exposure Change for this renewal:											
23	Coverage	Liability			Comprehensive			Collision			Total	
24		Premium Change	Exposure Change	Implied Rate Change (a)	Premium Change	Exposure Change	Implied Rate Change (a)	Premium Change	Exposure Change	Implied Rate Change (a)		
25	Amount	(\$300)	0	-10%	(\$190)	-12	-21%	(\$375)	-12	-13%	(\$865)	
26	%	-10%	0%	-10%	-48%	-33%	-21%	-42%	-33%	-13%	-20%	
27	Price Change Analysis											
28		\$\$	%		\$\$	%		\$\$	%		\$\$	%
29	New Money (b)	(\$300)	-10%		(\$190)	-48%		(\$375)	-42%		(\$865)	-20%
30	New Rate (c)	(\$300)	-10%		(\$85)	-21%		(\$113)	-13%		(\$498)	-12%
31	New Exposure (d)	\$0	0%		(\$105)	-26%		(\$263)	-29%		(\$368)	-9%
33	NOTES											
34	(a)	Implied Rate Change = (1 + New Money %) / (1 + Exposure %) - 1										
35	(b)	New Money = Renewal Written Premium - Expiring Written Premium										
36	(c)	Implied New Rate \$\$ = Implied Rate Change * Expiring Written Premium										
37	(d)	Implied New Exposure \$\$ = New Money \$\$ - Implied Rate Change \$\$										

Commercial Lines Price Monitoring

Price Change Analysis: Report



Ongoing Challenges

- Short Term Policies
- Deductible / Coinsurance %
- Change in Liability Limit
 - Rate or Exposure?
 - Current Calculation puts with rate
- Direct Basis Only
- Premium Audit
- Policies that are canceled and rewritten to same effective date

Conclusions

- Commercial Line pricing is not easy to monitor
- Start by monitoring the known pricing levers
- Institute Pricing Standards
- Audit Pricing Practices
- Automate / Edit as many pricing options as possible
- Monitor the final result: Renewal Price Change
- Establish goals and accountability
- Build tools that enable understanding