Managing Commercial Lines Pricing Levels in a Loss Cost Environment

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Abstract

The Percent of Loss Cost statistic (PoLC) is an effective tool, either alone or in conjunction with standard renewal pricing reports, to measure changes in commercial lines price levels in a loss cost environment. This paper demonstrates the calculations and definitions associated with the PoLC statistic. A case study for workers' compensation is presented which demonstrates a practical application of how PoLC can be used to segment a book of business when implementing indicated rate changes. Finally, sample reports are developed to monitor pricing results versus stated goals.

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Managing Commercial Lines Pricing Levels in a Loss Cost Environment

One challenge facing today's commercial lines actuary is to accurately measure pricing changes in a book of business. In commercial lines, the actuary cannot simply file a base rate change and feel confident that the intended change will be the implemented change. Underwriters have many judgment rating tools at their disposal including access to multiple companies and schedule rating plans that enable them to match the pricing of a policy to its exposure, or to match the pricing of a policy to a competitor's quote. Thus, the implemented rate change may not be equal to the filed or intended rate change.

Correctly estimating the actual pricing change is an important task for both pricing and planning. Anticipated rate changes are typically used for business production and loss ratio plans. If these changes are inaccurate, one may find (12 or 15 months later) that the planned results differ from the actual results due to the difference in the planned and actual pricing levels. Estimated rate impacts are generally the basis for the calculation of premium onlevel factors. Inaccuracy of these onlevel factors can have a material impact in the calculation of rate-level indications.

In order to measure the actual impact of a rate filing or pricing change, it is necessary to develop methods for tracking the actual change in the total price level, which includes measuring changes in the impact of all the rating factors as well as base rate changes. These changes can then be more accurately reflected in business plans and in subsequent rate indications.

How are these changes tracked today?

Today many companies are able to measure the pricing level changes on their renewal book of business by performing a **cash-to-cash** comparison on policies that were renewed. It is a fairly simple process – the policies that renewed are matched up to their expiring terms and the premiums are directly compared after adjusting for some obvious differences such as unequal policy term lengths. The pros and cons of this method are:

- PRO – cash-to-cash is easy for the underwriters to understand and to implement on a policy-by-policy basis.
- PRO – when measured over the entire book of business it should provide an adequate measure of the rate plus exposure change for the book.
- PRO – the data necessary to perform the comparison is fairly basic and should be available without extensive manipulation.
- CON – on an individual policy basis or with smaller segments of the book, significant exposure changes will distort the results.
- CON – only renewal business that is retained is evaluated, new business and lost renewals are excluded.

It is possible, although potentially difficult depending on data availability, to develop a renewal increase report that adjusts for exposure changes. That would certainly address the first drawback of the cash-to-cash reports; however, it would still only capture pricing changes for renewal business while ignoring new business.

For new business, some companies have monitored discretionary credit/debit usage and the amount of change from one time period to another; however, this is only one of several pricing/rating factors affecting the overall price change. The pricing picture is only complete when all factors are included.

Is there a better way?

For lines of business where rating bureaus promulgate loss costs, there is a valuable pricing measurement tool that appears to be under-utilized in the management of commercial lines insurance operations, the Percent of Loss Cost (PoLC) statistic.

PoLC Definition

Most rating algorithms start with basic limits bureau loss costs and apply a multitude of factors to compute the premium. Depending on the line of business, the list of potential factors includes (but is not limited to);

1.) Increased Limits Factor
2.) Deductible Factor
3.) Experience Modification Factor
4.) Package Modification Factor – the rating bureau generally files a suggested package mod to reflect the decreased expense in issuing a commercial multi-peril policy
5.) Loss Cost Multiplier – defined here as the (expense multiplier) * (company deviation)
6.) Schedule Rating Factor – generally a subjective factor used to capture risk characteristics not already accounted for in the rating algorithm, such as quality of management, dispersion of risk, etc.
7.) Company-specific deviations to territorial, class, or other relativities.
8.) Renewal Credits – can be based on a combination of loss experience and/or the number of policy terms that the insured has been a customer

The PoLC is the ratio of the collected premium to the underlying bureau loss cost dollars. The loss cost dollars are calculated by multiplying the published loss costs by the exposures and represent the amount of premium the bureaus estimate is needed to cover projected losses and loss adjustment expenses. The first decision to make is which rating factors should be included in the calculation of the underlying loss costs. Some

factors, such as the increased limits factor and the deductible factor, should always be considered part of the underlying loss costs since they are promulgated by the rating bureau and are objective factors used to quantify the expected loss costs. Likewise, obviously judgmental factors such as schedule rating should not be included in the underlying loss cost. However, it is less clear how package mods and experience mods, for example, should be treated in the formula.

If a company uses bureau-promulgated package mods with no modification, they should be included in the loss cost. However, if the company has filed package mods that are materially different than the bureau, the revised mods (or at least the difference from the bureau level) should be tracked as a deviation to loss costs and monitored over time.

Although experience rating plans themselves are considered to be objective, in practice, there are situations where the use of schedule credit may double-count a risk characteristic underlying the experience mod. For this reason, it is useful to track the experience mod as part of the PoLC statistic, but retain the ability to exclude it for ad hoc analysis.

As a general rule of thumb, rating factors that result from the pricing actuaries' or the field underwriters' judgment should be captured and tracked via the PoLC statistic as a deviation from the bureau loss costs.

For the purpose of this paper, the PoLC is defined as the aggregation of the loss cost multiplier, schedule rating factor, experience modification factor, package modification factor, and any company-filed deviations from the bureau loss costs. A PoLC of 120(%) means the collected written premium was 20% more than what the

bureau has filed for estimated loss costs. The general formula for the PoLC when all rating factors are multiplicative is:

$$PoLC = \frac{\text{Collected Written Premium}}{\text{Loss Costs} * \text{Exposures}} = \frac{\text{Loss Costs} * \text{Exposures} * LCM * OTHR * PKG * SRP * EXPER}{\text{Loss Costs} * \text{Exposures}}$$

LCM = Loss Cost Multiplier (including company deviations)
OTHR = Modification Factor for company-specific deviations such as territory, class, or renewal credits
PKG = Package Modification Factor
SRP = Schedule Rating Modification Factor (1 + credit/debit)
EXPER = Experience Rating Modification Factor

"Rate" states, or states that have not converted to loss costs, can also be included in the calculation by estimating the LCM. This can be determined by using the underwriting expenses and profit load assumed in the bureau rate filing, and converting these to a loss cost multiplier. Then, the rates are divided by the LCM to compute the underlying loss costs.

In a Perfect World

Ideally, the PoLC is calculated by comparing the collected written premium to the loss cost dollars in effect at a chosen point in time (the base year). These indexed loss costs are calculated as the product of the exposures in the experience period and the loss costs in effect for the base year. The computation of an 'Indexed PoLC' facilitates comparison between years by capturing underlying base loss cost changes as well as changes in all of the modification factors. The calculation is a simple one, assuming that the loss costs from the base year are accessible and you have a program that can re-rate the current exposures with the base loss costs. For policies written in 1999:

$$\text{Indexed PoLC}_{1999} = \frac{\text{Collected Written Premium}_{1999}}{(\text{Exposures}_{1999} * \text{Base Loss Costs})}$$

If the indexed PoLCs were 90%, 97% and 105% for policies with effective dates in 1998, 1999, and 2000 respectively the computed pricing changes for 1999 and 2000 are:

1999 change = (97% / 90%) – 1 = +7.8%

2000 change = (105% / 97%) – 1 = +8.2%

The +7.8% change for 1999 could be due to a change in loss costs, company deviation, schedule rating, or any other rating factor affecting the overall premium. Because the same exposures are used for the calculation of both the collected premium and the indexed loss cost dollars, the exposures cancel out and it becomes possible to use the indexed PoLC to measure true pricing changes from year to year. In other words, the change in indexed PoLC measures the change in price per exposure over the entire book; thus, it addresses both of the Cons listed for the cash-to-cash renewal reports.

Unfortunately, most companies do not have the capability to re-rate or extend exposures in this manner. If that is the case, it is still beneficial to understand the changes in all factors other than the loss costs, and to quantify the change in loss costs separately.

Calculation of Components

If re-rating or extending exposures are not viable options, there is another way to compute the underlying loss costs and the impact of each of the rating components for the PoLC statistic. Exhibit 1 demonstrates the calculations for a 5-record Commercial Auto database. This same calculation can be applied to more extensive databases. This example is for Commercial Auto where schedule rating and experience modifications are additive. The rating formula for a single vehicle and a single coverage is:

*Written Premium = Loss Cost * LCM * OTHR * (SRP + EXPER – 1)*

The loss cost should be the only field not readily available since the other fields are required for statistical reporting purposes; therefore, the first step is to calculate the Loss Cost (LC) for each record in your database:

$$LC = \frac{\text{Written Premium}}{\text{LCM} * \text{OTHR} * (\text{SRP}+\text{EXPER} - 1)}$$

At this point, you can compute the PoLC for a segment of business by adding the written premiums and comparing them to the sum of the loss costs.

$$\text{PoLC} = \frac{\text{Written Premium}}{\text{LC}}$$

Although this indicates where you are pricing your book relative to bureau loss costs, it does not quantify how much each of the rating elements is impacting the PoLC. The contributions by rating element become important in using the PoLC information to formulate pricing guidelines for the field underwriters.

The first component to quantify is the LCM, which also includes any filed company deviations. To determine the impact of the LCM, create a new field called 'LC_LCM' which is the LC multiplied by the LCM for each record:

LC_LCM = LC * LCM.

To calculate the average loss cost multiplier for the entire book of business, sum LC_LCM for all records and divide by the sum of the loss costs. This is simply the weighted average Loss Cost Multiplier using the Loss Cost as weights.

$$\text{Average Loss Cost Multiplier} = \frac{\text{LC\_LCM}}{\text{LC}}$$

The average expense mod is computed using the newly calculated 'LC_LCM' field as a base. A new field, LC_LCM_OTHR is then calculated and the sum of

LC_LCM_OTHR is compared to the sum of LC_LCM to compute the average expense mod.

$$LC\_LCM\_OTHR = LC\_LCM * OTHR = LC * LCM * OTHR$$

$$\text{Average 'Other' Mod} = \frac{LC\_LCM\_OTHR}{LC\_LCM}$$

Again, this is the weighted average 'Other' Mod factor using the product of the Loss Costs and the Loss Cost Multiplier as weights.

Because schedule and experience rating are additive in this example, the base, LC_LCM_OTHR, will be the same for each average modification factor. New fields, LC_LCM_OTHR_SRP and LC_LCM_OTHR_EXPER are calculated as follows:

$$LC\_LCM\_OTHR\_SRP = LC\_LCM\_OTHR * SRP$$

$$LC\_LCM\_OTHR\_EXPER = LC\_LCM\_OTHR * EXPER$$

and the average factors are computed:

$$\text{Average SRP Mod} = \frac{LC\_LCM\_OTHR\_SRP}{LC\_LCM\_OTHR}$$

$$\text{Average EXPER Mod} = \frac{LC\_LCM\_OTHR\_EXPER}{LC\_LCM\_OTHR}$$

Note that for individual records, it is mathematically equivalent to use the factors alone in the PoLC calculation:

$$PoLC = LCM * OTHR * (SRP + EXPER - 1)$$

This is also true for a segment of business using weighted factors as computed above.

Workers' Compensation Case Study

The first step in using PoLC to manage pricing levels is to correlate the PoLC levels with loss experience so that target PoLC levels can be established. A sample analysis for Workers' Compensation is shown in Exhibit 2. The exhibit shows WC loss

ratios and claim frequencies by PoLC range. For this company, the results for business priced below 65 PoLC have been consistently poor relative to the average. For policy year (PY) 2000, the loss ratio relativity is 1.321 for this segment compared to the total reported loss ratio. Results in the 66 to 75 PoLC range have deteriorated, showing a loss ratio relativity of 1.077 and a frequency relativity of 1.207 for PY 2000. While the projected ultimate loss ratios for business in the 76 to 145 PoLC range have deteriorated from PY 1997 to PY 2000, there has been little variation across this range within each individual year. Results at PoLC levels of 146 and above have been consistently worse than average. This may indicate that the underwriters are able to do a better job of matching price to exposure in the 76 to 145 PoLC range than above and below it.

After the loss ratios by PoLC range have been calculated, you can use the rate indication to determine the necessary rate action for each PoLC range (Exhibit 3). In this example, the overall rate indication is +20% as computed using standard actuarial methods. After allocating the rate increase to PoLC range using the loss ratio relativities from the prior step, it shows an indicated increase of +51-59% for the 'Less than .65' range. Over half of the premium is from the PoLC ranges with an indicated increase of +5% (the 76-145 range). If one were to file for an increase in loss costs and/or loss cost multiplier of +5%, the underwriters could essentially renew this business 'as is' - i.e. use the same schedule credit, company, etc. assuming that updates to the experience modification factors would net to a negligible change.

Further segmentation is necessary to determine a plan of action for the ranges with significantly different indicated rate changes. In this example, the '1.46 and Above' range is a mix with 35% of the category being comprised of accounts with experience

mods less than 125. As you can see from Exhibit 3, the indicated increase on this business is in line with the +5% that was selected for the overall rate change. The remaining business has an indication ~+33-37% and are policies that generate experience debits greater than 25%. Since they are likely larger policies, underwriters may be tempted to follow market pricing and price them in a lower rated company or with unwarranted schedule credit, thereby partially offsetting the impact of the debit. Instead of substantially increasing the base rates, it may be more appropriate to evaluate the use of company rating tiers or schedule credit and correct individual policies.

At the opposite end, the policies at PoLC levels below 75% appear to be significantly under-priced. In an effort to write the best risks, the underwriters may have double-counted the risks' prior profitable experience by applying too much schedule credit for characteristics already captured in the experience mod (probably a credit). Although there may be some classes or segments where this price level is appropriate, in general this problem will need to be corrected by individual risk pricing and underwriting and not by across-the-board base rate increases. Based on the loss correlation analysis, new business pricing guidelines should be established that limit or specify the types of business that can be written at a PoLC less than 75% or over 145%.

The above analysis, when conducted on a countrywide basis, assumes that the underlying loss cost inadequacy or redundancy is the same across states and industry segments. Companies that write business in a limited number of states or industry segments may find this assumption to be reasonable; however, other companies may find it necessary to review the PoLC and loss ratio correlations by industry group or by state.

Setting Goals and Monitoring Results

Exhibit 4 shows a sample PoLC monitoring report for Workers' Compensation that could be produced at various levels of detail including countrywide, industry segment, state, or profit center. In this example, the PoLC increased from 84.7% in 1999 to 88.2% in 2000 with most of the change coming from a reduction in SRP credits. Upon closer examination it is evident that new business pricing in 2000 did not improve in comparison to the overall average for 1999; however, the renewal business price level relative to loss costs increased by 6.7% (PoLC increased from 84.7% to 90.1%).

Given that the rate indication was +20% and that this PoLC report is not indexed with loss costs from a base year, if a 5% loss cost increase were filed effective 1/1/2001, the PoLC goal for 2001 policies to achieve rate adequacy would be:

88.2% * (1.20 / 1.05) = 100.8%.

In this case, where changes to the underlying loss costs are not reflected in the PoLC statistic, the adjustment of (1.20 / 1.05) represents the amount of pricing increase that needs to come from factors other than the underlying loss cost change.

The goal of 100.8% can apply to both new and renewal business; however, since rather large increases were selected at either end of the PoLC ranges, the average 2001 PoLC statistic could be impacted by low policy retention in these ranges. For example, non-renewing a significant portion of the policies in the < 75 PoLC range would increase the average PoLC for the book of business, even if the pricing change on the remaining policies was flat. In situations where targeted price changes vary significantly, it is probably better to use the PoLC report to monitor new business and to use renewal price increase reports to monitor the implementation of a segmented pricing plan.

Exhibit 4 shows an example of tying the selected rate changes by PoLC range for Workers' Compensation to an existing renewal increase report. For each policy, the current PoLC is computed and matched to the selected rate change for its PoLC range. If the renewal increase is calculated on a cash-to-cash basis (not adjusted for exposure changes) the selected rate change should be increased by the expected average exposure change. The 'Target Renewal Premium' is then computed by multiplying the written premium by the selected rate and exposure changes for each policy in the database. On the cash-to-cash report, for policies that were renewed and retained, the actual renewal premium is compared to the expiring premium to compute the renewal increase. The renewal increase goal is the target renewal premium divided by the expiring premium for the policies that renewed.

Mapping the goals to individual policies as opposed to publishing an overall average goal will yield a more accurate measure of actual vs. target pricing levels. For example, if policies with large targeted increases are cancelled or non-renewed, the goal will automatically adjust downward for the lost policies and there will not be a 'penalty' by comparing the achieved pricing change to an overall goal. As mentioned earlier, on a policy-by-policy basis the results vs. goal may not track well due to large exposure changes; however, on a countrywide or state level, the overall exposure change should be close to the expected average built into the goals. Obviously, the ideal is to compute the goals and the actual renewal price change excluding the impact of exposure changes – especially if reports by field underwriter or agency are to be produced.

Caveats

The case studies and examples provided in this paper assume that the underlying loss costs are inadequate or redundant by the same percentage amount across states, industry groups and effective years. If the loss cost redundancy for a state (or industry group) differs significantly from the countrywide average and if the mix of business is shifting either into or out of the state, an adjustment for this mix shift should be made before comparing the countrywide PoLC statistic from one year to the next. Likewise, state-to-state comparisons within the same year should recognize differences in underlying loss cost adequacy. For example, if the loss costs in State A are 10% more adequate than the loss costs in State B, business priced at a PoLC of 100% in State A is equivalent to a PoLC of 110% in State B.

Summary

The PoLC statistic can be a powerful tool for quantifying pricing changes for lines of business that rely on bureau loss costs. Un-indexed, it measures the change in usage of company tiers, schedule credits, and experience rating plans over time. An indexed PoLC also incorporates underlying loss cost changes and completes the pricing picture. Correlating PoLC with loss experience provides another method of segmenting a book of business and establishing pricing goals more appropriate for the risk as opposed to implementing across-the-board rate changes. Tying PoLC ranges with renewal pricing goals should reduce adverse selection and help to improve retention of business that is already adequately priced since that business will no longer subsidize inadequately priced insureds and will receive lower than average price increases. In short, incorporating PoLC into a company's pricing strategy can result in more accurate and responsive

assessments of pricing changes and therefore, enhance the ability to attain profitability in a competitive commercial lines marketplace.

Percent of Loss Cost Example
Commercial Auto

		LCM	OTHR	SRP	EXPER	LC	LC_LCM	LC_LCM_OTHR	LC_LCM_OTHR_SRP	LC_LCM_OTHR_EXPER	
Record #	**Collected Wr. Prem**	**Loss Cost Multiplier**	**'Other' Mod**	**Schedule Rating Mod**	**Experience Mod**	**Loss Cost**	**LC * LCM**	**LC*LCM*OTHR**	**LC*LCM*OTHR*SRP**	**LC*LCM*OTHR*EXPER**	**PoLC**
1	1,000.00	1.40	1.00	0.90	1.05	751.88	1,052.63	1,052.63	947.37	1,105.26	133.0%
2	750.00	1.60	1.00	0.75	0.80	852.27	1,363.64	1,363.64	1,022.73	1,090.91	88.0%
3	800.00	1.55	0.95	1.00	1.00	543.29	842.11	800.00	800.00	800.00	147.3%
4	600.00	1.35	1.00	1.00	1.00	444.44	600.00	600.00	600.00	600.00	135.0%
5	450.00	1.50	1.00	0.80	0.90	428.57	642.86	642.86	514.29	578.57	105.0%
Total	3,600.00					3,020.46	4,501.23	4,459.13	3,884.38	4,174.74	119.2%

Assume the rating formula: Collected Written Premium = Loss Cost * LCM * OTHR * (SRP + EXPER - 1)

Percent of Loss Cost (PoLC) =	119.2%	= 3,600.00 / 3,020.46	= Written Premium / LC
Average Loss Cost Multiplier (LCM) =	1.490	= 4,501.23 / 3,020.46	= LC_LCM / LC
Average 'Other' Modification (OTHR) =	0.991	= 4,459.13 / 4,501.23	= LC_LCM_OTHR / LC_LCM
Average Schedule Rating Mod (SRP) =	0.871	= 3,884.38 / 4,459.13	= LC_LCM_OTHR_SRP / LC_LCM_OTHR
Average Experience Mod (EXPER) =	0.936	= 4,174.74 / 4,459.13	= LC_LCM_OTHR_EXPER / LC_LCM_OTHR
Double-check:	119.2%	= 1.49 * 0.991 * (0.871 + 0.936 - 1)	

Since Experience and Schedule Rating are additive in this example, they are compared to the same base, LC_LCM_OTHR

Exhibit 2

Workers' Compensation
Loss Ratio Analysis by PoLC Range

Policy Year 2000 as of 12/2000

PoLC Range	Earned Prem	Pctg of Total Earned Prem	Projected Ultimate Loss Ratio	Loss Ratio Relativity	Ultimate Claim Counts	Avg Claim Frequency per $1000 Earned Premium	Frequency Relativity
Less than 65%	32,715,625	20.7%	92	1.321	9,684	0.296	1.441
66 to 75	17,812,500	11.3%	75	1.077	4,418	0.248	1.207
76 to 85	14,364,000	9.1%	60	0.862	2,183	0.152	0.740
86 to 95	11,720,625	7.4%	62	0.890	1,894	0.162	0.787
96 to 105	16,957,500	10.7%	56	0.804	2,578	0.152	0.740
106 to 115	13,715,625	8.7%	60	0.862	2,151	0.157	0.763
116 to 125	10,723,125	6.8%	62	0.890	1,853	0.173	0.841
126 to 135	9,975,000	6.3%	56	0.804	1,772	0.178	0.865
136 to 145	9,226,875	5.8%	60	0.862	1,402	0.152	0.740
146 and Above	20,662,500	13.1%	73	1.048	4,496	0.218	1.059
Total	157,873,375	100.0%	70	1.000	32,430	0.205	1.000
Avg PoLC	**0.870**						

Policy Year 1999 as of 12/2000

Less than 65%	72,500,000	22.2%	83	1.297	19,793	0.273	1.369
66 to 75	37,500,000	11.5%	70	1.094	8,663	0.231	1.159
76 to 85	28,800,000	8.8%	55	0.860	4,687	0.163	0.816
86 to 95	23,500,000	7.2%	53	0.828	3,504	0.149	0.748
96 to 105	34,000,000	10.4%	54	0.844	5,177	0.152	0.764
106 to 115	27,500,000	8.4%	51	0.797	4,331	0.158	0.790
116 to 125	21,500,000	6.6%	56	0.875	3,296	0.153	0.769
126 to 135	20,000,000	6.1%	55	0.860	3,360	0.168	0.843
136 to 145	18,500,000	5.7%	57	0.891	2,855	0.154	0.774
146 and Above	43,500,000	13.3%	66	1.032	9,592	0.221	1.106
Total	327,300,000	100.0%	64	1.000	65,257	0.199	1.000
Avg PoLC	**0.832**						

Policy Year 1998 as of 12/2000

Less than 65%	75,500,000	23.3%	78	1.264	25,670	0.340	1.301
66 to 75	41,200,000	12.7%	64	1.037	11,124	0.270	1.033
76 to 85	36,500,000	11.3%	55	0.891	8,395	0.230	0.880
86 to 95	21,500,000	6.6%	56	0.908	4,945	0.230	0.880
96 to 105	29,500,000	9.1%	52	0.843	6,490	0.220	0.842
106 to 115	25,000,000	7.7%	53	0.859	5,250	0.210	0.804
116 to 125	20,000,000	6.2%	50	0.810	4,000	0.200	0.765
126 to 135	19,500,000	6.0%	53	0.859	4,485	0.230	0.880
136 to 145	17,400,000	5.4%	56	0.908	3,306	0.190	0.727
146 and Above	38,200,000	11.8%	63	1.021	11,078	0.290	1.110
Total	324,300,000	100.0%	62	1.000	84,743	0.261	1.000
Avg PoLC	**0.799**						

Policy Year 1997 as of 12/2000

Less than 65%	74,500,000	23.6%	75	1.261	23,468	0.315	1.273
66 to 75	39,750,000	12.6%	58	0.975	9,739	0.245	0.990
76 to 85	35,500,000	11.2%	54	0.908	7,988	0.225	0.909
86 to 95	20,500,000	6.5%	53	0.891	4,100	0.200	0.808
96 to 105	28,900,000	9.1%	50	0.841	5,636	0.195	0.788
106 to 115	25,000,000	7.9%	52	0.874	5,125	0.205	0.828
116 to 125	19,100,000	6.0%	51	0.857	4,107	0.215	0.869
126 to 135	17,600,000	5.6%	54	0.908	3,344	0.190	0.768
136 to 145	16,900,000	5.3%	53	0.891	3,803	0.225	0.909
146 and Above	38,200,000	12.1%	61	1.026	10,887	0.285	1.152
Total	315,950,000	100.0%	59	1.000	78,194	0.247	1.000
Avg PoLC	**0.797**						

Workers' Compensation
Calculation of Indicated Rate Increases by PoLC Range

From Exhibit 2

Pctg of Loss Cost Pricing Range	PY 2000 Loss Ratio Relativity	PY 1999 Loss Ratio Relativity	PY 1998 Loss Ratio Relativity	PY 1997 Loss Ratio Relativity	Indication Based on PY 2000 Relativities	Indication Based on PY 1999 Relativities	Indication Based on PY 1998 Relativities	Indication Based on PY 1997 Relativities	Selected Rate Change
Less than .65	1.321	1.297	1.264	1.261	58.6%	55.7%	51.7%	51.3%	55.0%
.66 to .75	1.077	1.094	1.037	0.975	29.3%	31.3%	24.5%	17.0%	25.0%
.76 to .85	0.862	0.860	0.891	0.908	3.4%	3.2%	7.0%	8.9%	5.0%
.86 to .95	0.890	0.828	0.908	0.891	6.9%	-0.6%	8.9%	6.9%	5.0%
.96 to 1.05	0.804	0.844	0.843	0.841	-3.5%	1.3%	1.1%	0.9%	5.0%
1.06 to 1.15	0.862	0.797	0.859	0.874	3.4%	-4.3%	3.1%	4.9%	5.0%
1.16 to 1.25	0.890	0.875	0.810	0.857	6.9%	5.0%	-2.8%	2.9%	5.0%
1.26 to 1.35	0.804	0.860	0.859	0.908	-3.5%	3.2%	3.1%	8.9%	5.0%
1.36 to 1.45	0.862	0.891	0.908	0.891	3.4%	6.9%	8.9%	6.9%	5.0%
1.46 and Above	1.048	1.032	1.021	1.026	25.8%	23.8%	22.5%	23.1%	23.5%
Total	1.000	1.000	1.000	1.000	20.0%	20.0%	20.0%	20.0%	20.0%

Detail Analysis for '1.46 and Above' Range.

Year	Range	*Earned* Premium	Projected *Ultimate* Loss Ratio	*Loss Ratio* Relativity	Indication Based on *L/R* Relativities
2000	> 146, Exper Mod < 1.25	7,231,875	61.0	0.88	5.1%
	> 146, Exper Mod > 1.25	13,430,625	79.5	1.14	36.9%
1999	> 146, Exper Mod < 1.25	15,225,000	55.0	0.86	3.2%
	> 146, Exper Mod > 1.25	28,275,000	71.9	1.12	34.9%
1998	> 146, Exper Mod < 1.25	13,370,000	53.0	0.86	3.1%
	> 146, Exper Mod > 1.25	24,830,000	68.4	1.11	33.0%
1997	> 146, Exper Mod < 1.25	13,370,000	52.0	0.87	4.9%
	> 146, Exper Mod > 1.25	24,830,000	65.8	1.11	32.8%

Percent of Loss Cost Report
Workers' Compensation

Total

Effective Year	Quarter	Written Premium (000's)	Loss Costs (000's)	PoLC	LCM	OTHR	SRP	EXPER
1999	1	88,500	104,468	84.7	1.10	0.998	0.848	0.910
1999	2	79,600	96,117	82.8	1.08	0.997	0.874	0.880
1999	3	85,500	98,813	86.5	1.11	0.999	0.867	0.900
1999	4	73,700	86,921	84.8	1.11	0.998	0.860	0.890
1999	Total	327,300	386,319	84.7	1.10	0.998	0.862	0.895

Total

Effective Year	Quarter	Written Premium (000's)	Loss Costs (000's)	PoLC	LCM	OTHR	SRP	EXPER
2000	1	87,615	99,437	88.1	1.09	0.998	0.895	0.905
2000	2	77,575	91,054	85.2	1.06	0.998	0.910	0.885
2000	3	81,588	91,485	89.2	1.09	0.999	0.900	0.910
2000	4	69,550	76,514	90.9	1.10	0.998	0.920	0.900
2000	Total	316,328	358,491	88.2	1.08	0.998	0.905	0.900

Percent of Loss Cost Report
Workers' Compensation

New

Effective Year	Quarter	Written Premium (000's)	Loss Costs (000's)	PoLC	LCM	OTHR	SRP	EXPER
2000	1	23,500	29,083	80.8	1.07	0.998	0.855	0.885
2000	2	22,000	26,438	83.2	1.06	0.998	0.874	0.900
2000	3	23,000	27,341	84.1	1.05	0.999	0.867	0.925
2000	4	20,000	22,833	87.6	1.09	0.998	0.880	0.915
2000	Total	88,500	105,696	83.7	1.07	0.998	0.868	0.906

Renewal

Effective Year	Quarter	Written Premium (000's)	Loss Costs (000's)	PoLC	LCM	OTHR	SRP	EXPER
2000	1	64,115	70,354	91.1	1.10	0.998	0.911	0.913
2000	2	55,575	64,616	86.0	1.06	0.998	0.925	0.879
2000	3	58,588	64,144	91.3	1.11	0.999	0.913	0.904
2000	4	49,550	53,681	92.3	1.10	0.998	0.937	0.894
2000	Total	227,828	252,795	90.1	1.09	0.998	0.921	0.898

Renewal Price Increase Goals
Workers' Compensation

Policy	Experience Mod > 125%	Expiring Premium	PoLC	Target Renewal Price Chg	Target Renewal Exposure Chg	Target Renewal Premium
101112	N	5,000	120	5%	3%	5,408
123456	N	2,500	130	5%	3%	2,704
212223	N	25,000	70	25%	3%	32,188
345678	Y	30,000	150	35%	3%	41,715
567891	N	7,500	110	5%	3%	8,111

and so on...

Policy level detail sums into summary reports for policies that renewed.

Renewal Price Increase Report
Workers' Compensation

State	(A) Expiring Premium (000's)	(B) Renewing Premium	(C) Target Renewal Premium	(B)/(A) - 1 Renewal Price Change	(C)/(A) - 1 Goal
AL	5,000	5,375	5,300	7.5%	6.0%
AR	1,500	1,620	1,620	8.0%	8.0%
CA	2,500	2,650	2,638	6.0%	5.5%
CO	2,000	2,200	2,240	10.0%	12.0%

and so on...