Ohio Bureau of Workers Compensation

Analysis of Group Rating Plan with Recommendations

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EXECUTIVE SUMMARY

The Ohio Bureau of Workers' Compensation requested that Pinnacle Actuarial Resources, Inc. ("Pinnacle") review the current experience-based Group Rating Plan. This report provides Pinnacle's analysis of the current Group Rating Plan and several alternatives to the current Group Rating Plan.

Private employers that participate in the Group Rating Plan clearly have better experience than the non-group rated insureds on a manual premium basis. This is measured by the ratio of incurred losses to manual premium. Therefore, this group deserves an experience credit modification factor. However, the current experience rating plan credits overreact to the group-rated experience resulting in an actual loss ratio <u>after</u> the Group Rating experience adjustments that is significantly higher than the private employer overall average loss ratio. When compared with the Base (not eligible for experience rating) and non-group Experience Rated policies, the average Group Rating credit should be in the neighborhood of 45 percent. In the current plan, the average Group Rating credit for Private Employers is in excess of 75 percent.

The recently implemented limitations to the credibility table for experience rating have been a positive step in beginning the process of removing the imbalance but the magnitude of the impact of the changes are relatively small in light of the size of the imbalance.

As identified in the analysis, the groups with the highest post experience rating loss ratios are the groups with the lowest experience modification factors and the highest expected loss levels. These characteristics correlate directly with the groups receiving the highest level of credibility in the experience rating calculation. If the system was operating effectively, the experience rating plan would assist in equalizing the loss ratios across all experience modification factors and expected loss levels. But this is not the case with the current system. These findings help to shape our recommendations below.

Overall annual premium indications are based upon the experience of base rated, group experience rated and non-group experience rated policies. Therefore, the overcompensation of the Group Rating Plan directly impacts base rate levels in the state of Ohio. The impact to the private employer base rates in Ohio from the bias in the Group Rating Plan is estimated to be roughly a 20 percent overstatement of indicated base rates without the Group Rating Plan. While the current Group Rating Plan may assist in encouraging employers to remain in Ohio, the offsetting correction in BWC's base rates tends to materially offset this benefit that is intended to encourage employers to come to the Buckeye State.

Although the public employer – taxing district group rated experience on a manual premium basis is also better than the non-group rated public entity business, the difference is not quite as significant. Since the public employer – taxing district business has a different overall loss ratio than the private employers' experience and the private and public base rates are developed using a separate actuarial analysis, we have performed our Group Rating Plan analyses separately for the private employers and public employer – taxing districts.

As a result of the analysis, Pinnacle offers three potential changes to the current Ohio BWC Group Rating Plan.

1. The first possible change is to continue reducing the maximum credibility as was started in 2005 – perhaps at an increasing pace. With an indicated maximum credibility level of less than 60%, the currently planned annual movements of three to five percent will provide only incremental relief for many years to come.
2. The second suggestion is an alternative credibility table with an expansion of the expected loss ranges beyond $1 million in expected losses. This revision would be a reflection that ten insureds with a certain expected loss are not necessarily the same as one insured with the same expected loss.
3. The third potential change is to replace the current experience rating calculation structure with a structure similar to that used in most other states as developed by

the National Council on Compensation ("NCCI"). This plan gives full credibility to actual losses up to $5,000 regardless of risk size or expected loss. The NCCI plan credibility weights the actual losses between $5,000 and the state maximum with the expected losses. This plan provides benefits to smaller sized risks with better than expected experience without the need to become part of a larger group.

In addition to improving the rating structure, we feel it is important to stabilize the experience rating groups. More stability within the construction of groups from year to year would increase the accuracy of the rating plan and reduce the financial impact to insureds that are non-renewed in a group. We would recommend that the BWC explore the introduction of a Group Persistency Incentive Credit Factor - based on the number of years the current group has existed with substantively its current membership. The goal of this factor would be to minimize or eliminate incentives groups currently have to remove members from year to year based on the occurrence of a loss (or group of losses) that impact the group experience modification factor at renewal. A possible scenario would be for a new group to receive 60 percent of the group experience rating factor in the first year and an additional 10 percent each year the employer group remains together. If an employer (or employers) leaves the group, reasons other than company acquisition or closing, the percentage would decline by 20 percent subject to 60 percent floor.

Although we did not specifically include in our analysis, we recommend revisiting the original idea and concept behind the Group Rating Plan. If the idea was to allow multiple smaller employers to join together to increase the availability of safety and loss control programs while also allowing these employer's experience to be given more credibility (predictive value) in the experience rating calculation, then perhaps the size of individual employers allowed to participate in the Group Rating Plan should be limited to somewhere close to a specified expected loss amount, for example the 50 percent point in the credibility table. This limitation would discourage Plans from combining many small employers joining one or more very large employer (anchors) for the purpose of benefiting from the large employer's better than average loss experience. By selecting a relatively high point in the credibility table, an employer that is expanding and crosses over the size threshold is not substantially impacted in becoming "self experience rated".

Finally, while not within the project's scope, we suggest that the basis for determination of fees and assessments be re-examined. Fees and assessments based upon actual premiums paid may not equitably reflect the cost of the services provided to the policyholders as many costs, such are policy issuance, safety and hygiene services do not necessarily decline or increase based upon the frequency or severity of losses.

BACKGROUND

The Ohio Bureau of Workers' Compensation Group Rating Plan, introduced in 1991, allows employers of similar businesses to pool together for experience rating. Studies conducted by the BWC and their consultant, Mercer Oliver Wyman (Mercer) in 1990, 1991, 1993, 1994, 1995, 2001 and 2004 each concluded that the Group Rating Plan was not resulting in premium equity between the group rated and non-group rated employers. Specifically, group rated employers were not paying enough premium to compensate for their losses and conversely, the non-group employers were paying too much premium and effectively subsidizing the group rated risks.

In an attempt to reduce the premium subsidy paid by the non-group employers, a non-group discount factor was introduced with an offsetting increase in base rates.

More recently efforts to improve equity between the two Plans (group and non-group rated) included revisions to the credibility table along with the non-group discount factor. Effective July 1, 2005 and July 1, 2006, the BWC reduced both the credibility table maximum and non-group discount factor. Additional reductions are slated for July 1, 2007. These changes have been positive steps in beginning the process of removing the imbalance but the magnitude of the impact of the changes are relatively small in light of the size of the imbalance.

Overall annual statewide premium indications are based upon the experience of base rated, group experience rated and non-group experience rated policies. Therefore, the overcompensation of the Group Rating Plan directly impacts base rate levels in the state of Ohio. The impact to the private employer base rates in Ohio from the bias in the Group Rating Plan is estimated to be roughly a 20 percent overstatement of indicated base rates without the Group Rating Plan.

DISCUSSION & ANALYSIS

Review of Current Plan

Policy Year[1] 2004-05 premium and incurred losses as of March 31, 2006 were analyzed to determine the efficiency of the experience rating plan during the experience period. Exhibit A displays the results of the tests of the current Plan by comparing the loss ratios calculated using manual premium to loss ratios calculated using premium after experience rating, as described in "Parametrizing the Workers Compensation Experience Rating Plan" by William R. Gillam. Premium subsidies are calculated in Exhibit B.

Test statistics and premium subsidies were calculated for the following segments:

- Rating Plan
- Experience Modification Factor
- Expected Losses
- Risk Group
- Manual Classification
- Industry Group

- **Rating Plan** – Private and Public employers segmented by group rated, experience non-group rated, retro-rated and base rated. (Sheet 1)
- **Experience Modification Factor** – Private employers group-rated and non-group rated, public employers group rated and non-group rated separately analyzed. Each of the four analysis sets was further divided into five segments based on the experience mod factor. (Sheets 2, 3, 4 and 5)
- **Expected Loss** – Expected Loss was calculated by multiplying policy year 2004-05 payroll by the expected loss factor provided in the Ohio Bureau of Workers' Compensation rate manual, effective July 1, 2004. First, four expected loss ranges

[1] Policy years are defined as the twelve-month period starting on July 1st.

were selected and then further subdivided into five segments based on the expected loss. (Sheets 6, 7, 8 & 9)

- **Risk Group** – Private and public employers segmented by group rated and non-group rated risks. The group rated risks were divided into five groups based on the loss ratio using manual premium. The risks with the lowest manual loss ratios were grouped in Risk Group 1 and the risks with the highest manual loss ratios were grouped in Risk Group 5. (Sheet 10)
- **Manual Classification** – Private employers group-rated, private employers non-group rated, public employers group rated and public employers non-group rated were each divided into five groups based on the loss ratio using manual premium. (Sheets 11 and 12)
- **Industry Group** – Test statistics and premium subsidies were calculated for private employer group rated, private employer non-group rated, public employer group rated and public employer non-group rated separately. (Sheets 13 and 14)

<u>*Methodology*</u>

The analysis segments described above were each reviewed using a similar methodology. The results are displayed in Exhibits A and B based upon the following methodologies:

Test Statistic (Exhibit A)

The first step was to calculate loss ratios using manual premium. Manual premium, shown in Column (2), was calculated by multiplying the payroll by the base rate and dividing by 100. The loss ratio in Column (3) was calculated by dividing the total incurred losses by the manual premium. Column (1) provides the number of policies in each segment to provide a sense of how large the sample size is.

Column (4), squared deviation, measures the variance of the segments being reviewed before experience rating is applied.

The next step uses premium after experience rating is applied to calculate the loss ratios in Column (5). The loss ratio was calculated by dividing the total incurred losses by the premium after experience rating.

Column (6), squared deviation, measures the variance between the segments being reviewed after experience rating is applied. As the goal of experience rating is to make all risks equally desirable, the variation in Column (6) should be less than the variation in Column (4). In other words, experience rating should attempt to equalize the loss ratios.

The test statistic in Column (7) is the variance of the experienced rated Plan, Column (6), divided by the variance of the manual rated Plan, Column (4). The lower the test statistic, the better the experience rating plan is performing to make all risks equally desirable with an equitable premium level across the various groups.

Premium Subsidies (Exhibit B)

In order to estimate the dollar imbalances created by the group experience rating plans, we compare the results from each segment to the overall loss ratio for all segments combined using premium after experience rating shown in Column (4). Indicated premium for each segment, shown in Column (5), was calculated by dividing the incurred loss in Column (2) by the overall loss ratio in Column (4). As shown in Column (6), the premium subsidy is the amount that the indicated premium is larger than the experience premium shown in Column (1). Column (7) displays the relative amounts contributed to offset the premium subsidies in Column (6) by segment.

Data

Payroll, premium and loss data was provided by Mercer in electronic format. Payroll and premium data were provided in "*7-1-2004 Experience Premium.mdb*" for private employers and "*Pec Premium, Payroll, EM's 2004-2005 as of 4-28-2006.xls*" for public entities – Taxing Districts. The losses were provided by Mercer in "*MIRA Unadjusted Reserves 9-30-2005 and 3-31-2006.mdb*". The incurred losses were evaluated as of March 31, 2006 without any additional loss development adjustments. The losses in the database were not discounted and there have been no adjustments made to the losses. Loss ratios are the incurred losses (payments plus the MIRA reserves as of March 31, 2006) divided by the subject premium (either manual or experience rated). The incurred losses do not contain any adjustments for future development or IBNR reserves.

Findings

The test statistic measures how much the variability between risks changes after the experience rating plan is applied. Because one would expect that the variability before experience rating should be larger than the variability after experience rating, a successful experience rating plan should have a test statistic less than 1.00. As shown in Tables 1 and 2 below, nearly all of the test statistics are greater than 1.00. In fact, the test statistic is very large for insureds with credit experience modification factors and high expected loss. It is generally understood that the credibility or the future predictive accuracy of an insured or group increases as expected loss for the insured or group increases; therefore expected loss was selected in this study as a proxy for credibility.

Table 1 Experience Rating Test Statistics		
Segment	**Private**	**Public**
Rating Plan (Sheet 1)	7.1	0.7
Risk Group (Sheet 10)	11.2	0.5
Group Rated		
Experience Modification Factors Group 1 (2&4)	30.3	51.4
Experience Modification Factors Group 2 (2&4)	340.9	19.7
Experience Modification Factors Group 3 (2&4)	11.7	1.1
Experience Modification Factors Group 4 (2&4)	1.8	1.5
Expected Loss Group 1 (6&8)	26.1	3.0
Expected Loss Group 2 (6&8)	11.7	8.1
Expected Loss Group 3 (6&8)	58.0	3.2
Expected Loss Group 4 (6&8)	786.4	6.3
Manual Classification (11&12)	11.4	1.4
Industry Group (13&14)	13.6	4.0
Non-Group Rated		
Experience Modification Factors Group 1 (3&5)	326.7	11.7
Experience Modification Factors Group 2 (3&5)	4.6	1.9
Experience Modification Factors Group 3 (3&5)	0.6	1.2
Experience Modification Factors Group 4 (3&5)	0.1	0.4
Expected Loss Group 1 (7&9)	1.5	0.8
Expected Loss Group 2 (7&9)	1.4	0.6
Expected Loss Group 3 (7&9)	1.1	0.9
Expected Loss Group 4 (7&9)	0.4	0.1
Manual Classification (11&12)	0.8	0.9
Industry Group (13&14)	0.9	0.7

Rating Plan (Exhibit A, Sheet 1 and Exhibit B, Sheet 1)

For the Private Employers Group Experience rated policies, the manual loss ratio of 22.7 percent when compared to the overall Private Employer loss ratio of 30.3 percent, displays that on a manual basis (prior to any experience rating), the experience for group rated risks warrants some additional rate credit. When compared with the Base (not eligible for experience rating) and non-group Experience Rated policies, the overall credit should be in the neighborhood of 45 percent on average. In reality, the average Group Rating credit for Private Employers is in excess of 75 percent. Also, the non-group experience rated policies within the private sector has an overall debit experience modification that causes the actual post modification experience to be about 10 percent more favorable than "required".

Similar comments regarding the relationship of the Public Employer – Taxing District Group rated policies can be made as the 45.3 percent manual loss ratio for the group rated policies compares favorably with manual loss ratio experience of the base and non-group rated public employer – taxing district risks. After the application of the experience rating modifications; however, both the group rated and non-group experience rated risks have loss ratios in excess of the base rated risks. The indicated credit for the group rated policies is about one-third versus the actual credit of over 50 percent.

A review of the experience rating test statistic demonstrates that the variability between segments actually increased after experience rating was applied. Of the private employers, only the group rated segment displays a premium deficiency after the application of experience rating. This is consistent with the studies conducted by BWC and Mercer in 1990, 1991, 1993, 1994, 1995, 2001 and 2004. When comparing the post experience loss ratios of the public employers – Taxing Districts, we find that the ratios for experienced rated risks (both group and non-group) are significantly higher than the base rated risks.

Experience Modification Factor

(Exhibit A, Sheets 2-5 and Exhibit B, Sheet 2-5) Private Employers

Sheet 2 displays the experience of the Private Employers within the Group Rating Plan. As shown, the groups with the lowest experience modification factors generally have lower manual loss ratios than the total group rated population (22.7 percent) and the private employer population (30.3 percent from Sheet 1). But again the credits applied dramatically exceed the credits that this analysis would indicate.

There are no group rated private employer insureds with experience modification factors greater than 1.00 and 74% of the group rated insureds have experience modification factors less than 0.15. Almost 95% for the group rated insureds carry experience modification factors less than 0.50. The experience rated loss ratio for group rated insureds with experience modification factors less than 0.15 average 317% versus the before experience rating or manual premium loss ratio of 18.5%. The prospective credit for good prior experience is far too great. In a well operating plan, the experience rated loss ratio would be in the 50's as is the case for the few groups with modification factors greater than 0.49. For the group rated business, insureds with experience modification factors less than 0.26 all have loss ratios greater than 100% and thus are not paying enough to cover the cost of their claims. They are being subsidized by the insureds with higher experience modification factors. For the non-group insureds, risks with experience modification factors less than 0.50 generally have greater loss ratios than those with experience modification factors greater than 0.50. This difference identifies inequities in the Group Rating Plan.

This information may indicate that the actions to move to limit the amount of "discount" from the manual rates were very appropriate both for the group rated and non-group rate policies.

Public Employers – Taxing Districts

Sheet 4 displays the experience of the Public Employers – Taxing Districts within the Group Rating Plan. As shown, the groups with the lowest experience modification factors generally have lower manual loss ratios than the total group rated population (45.3 percent) and the total public employer – taxing district population (69.6 percent from Sheet 1). But again the credits applied dramatically exceed the credits that this analysis would indicate.

As with the private employers, there are no public employer – taxing district group rated insureds with experience modification factors greater than 1.00. Except for non-group rated with experience modification factors greater than 1.00, all of the test statistics demonstrate an increase in variability after experience rating is applied. The experience rated loss ratio for groups with the lowest experience modification factors (less than 0.17) is about 250% as compared to the before experience rating loss ratio of 33%. Even the experience rated loss ratio for groups with experience modification factors between 0.17 and 0.5 exceeds 100%. The experience rated loss ratio for groups with experience modification factors over 0.5 are less than 80%.

Similar to the private employers, the public employer – taxing district experience shows that the group rated policies with the lower experience modification factors have better manual loss ratios than the other insured but the impact of the experience rating plan is generally too generous resulting in a situation where the losses are double the premium collected to cover them.

Expected Loss (Exhibit A, Sheets 6-9 and Exhibit B, Sheet 6-9)

From this data segmentation, we can review the efficiency of the expected loss component of the experience rating plan. The expected losses are used to determine the credibility and the group maximum value. The standard for full credibility is $1 million and it comes with a $250,000 group maximum value (the largest loss included in the experience rating calculation).

For the private employer group rated policies, as the expected loss increases, the manual loss ratios generally improve. And with the previous data splits, the experience rating calculations tend to over compensate for the indicated differences in experience. For example, the policies with expected losses greater than $4 million have a manual loss ratio of 19.0 percent and a post experience rating loss ratio of 161.9 percent. In contrast, the group rated employers with expected losses less than $500,000 have a manual loss ratio of 26.2 percent and a post experience rating loss ratio of 79.8 percent. While still overcompensating – not to the same magnitude.

The non-group rated private employers do not exhibit the same swings between expected losses. This is primarily due to the fact that a majority of the policies within this group are base rated.

For the public employer – taxing districts, the group rated policies have generally consistent and somewhat reasonable manual loss ratios. After the application of experience rating, each of the expected loss groupings displays much less appropriate loss ratios.

While the test statistics for the non-group rated public employer – taxing districts (sheet 9) are much more in line with expectations the larger sized expected loss groups are much less appropriately rated after the application of experience rating.

Risk Group (Exhibit A, Sheet 10 and Exhibit B, Sheet 10)
Private Employers

Similar to the results seen in the expected losses, the risk groups show that the private employer policies with the higher manual loss ratios (top 60 percent of the group rated) receive too much benefit from the experience rating adjustments. The experience rating test statistic demonstrates that the variability between segments also increased after experience rating was applied. The risk groups were determined by creating five segments based on manual loss ratio (before experience rating). As seen in column (3), the manual loss ratios increase as designed. In a well operating system the loss ratios in column (5) would be very similar. Unfortunately, the variance actually increases. This is a sign that the Plan is placing too much reliance upon limited prior experience (credibility).

Public Employers

As with the private employers, the public employer – taxing districts with higher average manual loss ratios receive more benefit from the experience rating adjustments than is optimal. Risk Groups 4 and 5 had experience rated loss ratios in excess of 100 % which does not sufficiently cover their losses. The non-group rated insured's post experience rating loss ratios are lower than the group rated insureds.

Manual Classification (Exhibit A, Sheets 11-12 and Exhibit B, Sheets 11-12)
Private Employers

For this section of the analysis, we calculated manual loss ratios for every NCCI classification based on the actual Ohio experience. We then sorted the class by manual loss ratio from low to high and then split the classes into five segments. The impact of group rating shows that the variation increases for this segment but declines slightly for the non-group rated. The more telling information is that experience rated loss ratios which increase significantly for all manual classes in the group rated segment while the non-group rated are not similarly changed.

Public Employers

As was done with the private employers data, we calculated public employer – taxing district manual loss ratios for every NCCI classification based on the actual Ohio experience. We then sorted the class by manual loss ratio from low to high and then split the classes into five segments. As opposed to the expected convergence of loss ratios, the loss ratios spread generally expands after the application of experience rating. The experience rating does not seem to impact the non-group rated public employer segments to any large extent in this type of data segmentation.

Industry Group (Exhibit A, Sheets 13-14 and Exhibit B, Sheets 13-14)

The experience rating loss ratios and test statistic increase after experience rating is applied for the group rate policies while the variation declines slightly for the non group rated. In general, the post experience rating differences were relatively small by industry group. For private employers, the transportation and utilities groups have significantly higher pre and post experience rate loss ratios than the other industries. The underlying rates for these industry types may need additional analysis. Similarly, public employer – taxing district industry group of Emergency Services has significantly higher pre and post experience rate loss ratios than the other industries. Perhaps a function of the group construction processes but counties and cities that are not part of Group Rating Plans begin with fairly high pre-experience rated loss ratios which deteriorate substantially after the application of experience rating.

Test of Credibility Changes

As part of our assignment, the BWC requested that we calculate the impact of the recent credibility table changes. Effective on both July 1, 2005 and on July 1, 2006, the Ohio BWC reduced both the credibility table maximum and non-group discount factor. Additional reductions are proposed for July 1, 2007.

Private employer premium subsidies were calculated for policy year 2004-05 using the each of the credibility tables effective July 1st of 2004, 2005, 2006 and 2007. As shown in Table 2, the changes in credibility are reducing the group rated premium subsidy. The supporting data is displayed on Exhibit C.

Table 2
Group Rated Premium Subsidy

Credibility Table Effective	Maximum Credibility	Subsidy	Percent Change From 7/1/2004 Table
July 1, 2004	100%	*$329,901*	
July 1, 2005	95%	*$280,535*	-15.0%
July 1, 2006	93%	*$261,878*	-20.6%
July 1, 2007	90%	*$236,058*	-28.4%

Methodology

Expected losses were calculated using the payroll from policy years 1999-2000, 2000-01, 2001-02 and 2002-03 and expected loss rates effective July 1, 2004. For each of the effective dates, the credibility percentage was determined based on the expected losses according to the rating plan. Revised experience modification factors were calculated by replacing the credibility percentage. Experience modification factors were not revised when the expected loss was less than $8,000.

EM = Experience Modification Factor Effective 7/1/04

EM* = Revised Experience Modification Factor

C% = Credibility Effective 7/1/04

C%* = Revised Credibility

$$EM^* = 100\% + \frac{(EM - 100\%)}{C\%} \times C\%^*$$

Payroll Data was provided to Pinnacle by Mercer in the following electronic files:

- 7-2001 PA 1-1-2001 PEC Payroll.mdb
- Mercer Payroll 1-1996 to Present.mdb
- Mercer PA 7-1-2002-2.mdb
- Pa payroll 1-2001.txt
- Final00premium2.txt
- Pa payroll 2-2001.txt
- Calendar year pec payroll 2001-2004.xls
- Mercer PA 7-1-2002-3.mdb

Recommendations

RECOMMENDATIONS

Pinnacle has tested the efficiency of three changes to the current Group Rating Plan structure and estimated the impact of the changes.

1. Change Credibility Percent

The current BWC plans to limit the amount of credibility provided to group rated risks is a reflection that the credits provided are resulting in significantly inadequate premiums especially for the larger credit rated groups. For comparison purposes, a risk with a $1 million expected loss currently receives a credibility percent of 93 in the current Ohio plan while in the NCCI experience rating plan would have a credibility percent of 56. The maximum credibility provided in the NCCI Plan in Indiana is 80 percent for risks with expected losses in excess of $68.7 million. A further sign in combination with the analysis that too much credibility or predictive value is being given to the experience in the Ohio plan.

While the NCCI Plan provides full credibility to the primary losses, the plan reflects the random nature of the occurrence of large losses by never fully reflecting the actual experience in the excess layer. In Exhibit F, we provide an example based on one large group rated risk. By adopting a maximum credibility factor for the Group Rating Plan, the experience modification factor for this risk would be more in line with the NCCI experience modification factor. The large increase in the experience modification factor would be offset by a decline in the base rates which would moderate the actual premium impact.

A potential alternative to the current BWC Manual Appendix A, Table 1, Part A is shown in the table below. While getting to the goal-state indicated factors to achieve a more equitable distribution of actual premiums may be painful to some participants, this set of factors appears to deal very well in neutralizing the issues identified within the Group Rating Plan of inequities by experience modification factor and expected loss size.

Table 3
Experience Rating Credibility Table

Credibility Group	Expected Losses Minimum	Expected Losses Maximum	Original Credibility Percent	Group Maximum Value	7/1/2007 Proposed Credibility	Pinnacle Proposed Credibility By 2010
	0	7,999	0%	0		
1	8,000	14,999	5%	12,500	5%	9%
2	15,000	26,999	10%	12,500	9%	10%
3	27,000	44,999	15%	25,000	14%	13%
4	45,000	62,499	20%	37,500	18%	15%
5	62,500	89,999	25%	55,000	23%	18%
6	90,000	122,499	30%	75,000	27%	21%
7	122,500	159,999	35%	87,500	32%	25%
8	160,000	202,499	40%	100,000	36%	28%
9	202,500	249,999	45%	112,500	41%	31%
10	250,000	302,499	50%	125,000	45%	35%
11	302,500	359,999	55%	137,500	50%	38%
12	360,000	422,499	60%	150,000	54%	40%
13	422,500	489,999	65%	162,500	59%	43%
14	490,000	562,499	70%	175,000	63%	46%
15	562,500	639,999	75%	187,500	68%	48%
16	640,000	722,499	80%	200,000	72%	49%
17	722,500	809,999	85%	212,500	77%	50%
18	810,000	902,499	90%	225,000	81%	51%
19	902,500	999,999	95%	237,500	86%	52%
20	1,000,000 and up		100%	250,000	90%	53%

2. Expansion of Expected Loss Ranges for Credibility Groups beyond $1 Million

As described above beyond the primary portion of the loss, the experience rating plans in other states give much less weight to the experience of the risk or group and more weight to the expected loss for the rate classification. The current Ohio Group Rating Plan credibility tops out at 93 percent for risks with $1 million in expected loss. The plans in other states provide 100 percent credibility for the primary portion of losses for all risks and for the excess portion of the losses the credibility applied in the experience rating calculation reaches a maximum of 80 percent at close to $70 million in expected loss and 75 percent at expected losses above $5 million.

With the increased use of very large groups in Ohio in order to achieve the maximum credibility and the general inflation in workers' compensation costs, we would recommend that along with the suggested revisions to the credibility percents in the current Group Rating table, the BWC increase expected loss value at which the maximum credibility is achieved. A potential table is displayed below in Table 4. The impacts based on the 2004-2005 portfolio are shown in Exhibit D, pages 14 through 24.

While this change might only encourage the formation of larger "super groups" to achieve maximum benefit, it would also allow the "law of large numbers" to overcome some of the randomness within the current plan.

In a similar vein, there are differences with the loss limitations between the current BWC plan and the typical NCCI plan. For example, the per claim accident limitation in Indiana is currently $102,000 for all sized risks with a $204,000 per event limitation. This contrasts with the increased values in the Ohio plan that reach a maximum of $250,000 for risks with $1 million in expected losses. Therefore, we have not explored the possibility of increasing the group maximum values beyond $250,000.

As potential additional changes to the Plan to stabilize and encourage very similarly sized employers within groups, we discuss some group composition issues further below.

Table 4
Expanded Experience Rating Credibility Table

Credibility Group	Expected Losses Minimum	Expected Losses Maximum	Proposed Credibility Percent	Group Maximum Value
	0	999	0%	0
1	1,000	10,999	9%	12,500
2	11,000	53,999	10%	12,500
3	54,000	87,999	13%	25,000
4	88,000	136,999	15%	37,500
5	137,000	181,999	18%	55,000
6	182,000	248,999	21%	75,000
7	249,000	312,999	25%	87,500
8	313,000	411,999	28%	100,000
9	412,000	510,999	31%	112,500
10	511,000	669,999	35%	125,000
11	670,000	841,999	38%	137,500
12	842,000	1,099,999	40%	150,000
13	1,100,000	1,499,999	43%	162,500
14	1,500,000	1,999,999	46%	175,000
15	2,000,000	2,999,999	48%	187,500
16	3,000,000	4,999,999	49%	200,000
17	5,000,000	6,999,999	50%	212,500
18	7,000,000	8,999,999	51%	225,000
19	9,000,000	10,999,999	52%	237,500
20	11,000,000 and up		53%	250,000

3. **<u>Adopt an experience rating formula similar to that of NCCI</u>**

The NCCI experience rating plan separately considers both the actual and expected primary losses and the expected excess losses with an additional loss limitation that is lower than the current BWC maximum. The current Ohio BWC experience rating plan does not separately treat the primary and excess elements.

The NCCI plan gives full credibility to actual losses up to $5,000 regardless of risk size or expected loss. The NCCI plan further credibility weights the actual losses between $5,000 and the state maximum with the expected losses. This plan provides benefits to smaller sized risks with better than expected primary loss experience which is some cases may mitigate the need to become part of a larger group.

An example of one risk's experience modification factor calculation under various methods is displayed in Exhibit F.

Exhibit D, Sheets 25 through 35 display information displaying the impact of moving the private employers to an experience rating plan similar to that used in Indiana. It should be mentioned that more insureds would be eligible for experience rating as the minimum premium requirement is $5,000 rather than the $8,000 expected loss minimum in the Ohio plan.

In general, adoption of a similar plan removes many of the inequities of the current Ohio plan. The group loss ratios after experience rating are more similar but the plan does continue to slightly over adjust for the groups with lower experience modification factors. Some of this phenomenon may be due to the changing group composition issues mentioned in the next section as it is not seen in the non-group rated after experience rating loss ratios.

It may be possible and more acceptable to consider changes as suggested in recommendations 1 and 2 first to address the current inequity issues and then consider adoption of a revised experience modification calculation in following time period. This arrangement would hopefully focus on solving the issue first within the system and then modifying the system.

Group Composition Issues

The current rules for forming and dissolving rating groups reward groups that attempt to game the system. Rules that assist in the stabilizing of the rating groups would increase the accuracy of the plan. The recent history of group composition stability is displayed in Exhibit F.

Currently, an insured that is non-renewed or removed from a group receives a substantial increase in premium as they typically lose a large experience rating credit. This action results in financial concerns to the insured and potential internal strife within the BWC to attempt to mitigate the insured's change. No premium impact was calculated for the following methods to stabilize rating groups.

a. *Group Rating Persistency Incentive Credit Factor*
b. *A waiting period before including the experience of new group members*
c. *Retain former group-member's experience in the experience modification calculation for a number of periods at a decreasing rate.*

We recommend revisiting the original idea and concept behind the Group Rating Plan. If the idea was to allow multiple smaller employers to join together to increase the availability of safety and loss control programs while also allowing these employer's experience to be given more credibility (predictive value) in the experience rating calculation, then perhaps the size of individual employers allowed to participate in the Group Rating Plan should be limited to somewhere close to the 50 percent point in the credibility table. This limitation would assist to avoid many small employers joining with one very large employer for the purpose of benefiting from the large employer's better than average loss experience. By selecting a relatively high point in the credibility table, an employer that is expanding and crosses over the size threshold is not substantially impacted in becoming "self experience rated".

Fee and Assessment Basis

We suggest a re-examination of the basis for determination of fees and assessments. The determination of fees and assessments based upon actual collected premiums paid may not equitably reflect the cost of the services provided to the policyholder. Many costs, such are policy issuance, safety and hygiene services do not necessarily decline or increase based upon the frequency or severity of losses.

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Reliances and Limitations

In our analysis, we relied without audit or verification on historical exposure (payroll), premium and loss data provided to us on behalf of the Ohio BWC by Mercer. If it is subsequently discovered that the underlying data or information provided to us is erroneous, the calculations and conclusions herein will not be correct and will need to be revised.

Judgments as to conclusions, recommendations, methods, and data contained in this report should be made only after studying the report in its entirety. Furthermore, Pinnacle is available to explain any matter presented herein, and it is assumed that the user of this report will seek such explanation as to any matter in question.