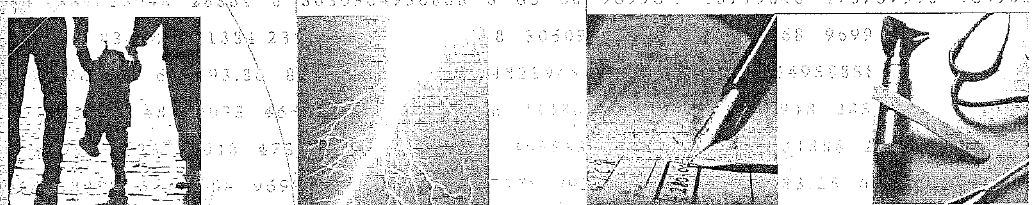
Massachusetts Workers Compensation Advisory Council

Analysis of September 2001 Workers Compensation Rating and



BUILDING RELATIONSHIPS ■ PRODUCING RESULTS

Tillinghast - Towers Perrin

Massachusetts Workers Compensation Advisory Council

Analysis of September 2001 Workers Compensation Rating and Inspection Bureau of Massachusetts Rate Filing

May 2001

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May 30, 2001

Ms. Denise A. Lucciola
Executive Director
Massachusetts Workers Compensation
Advisory Council
600 Washington Street
Boston, MA 02111

Dear Ms. Lucciola:

Enclosed, please find our analysis of the September 2001 Workers Compensation Rating and Inspection Bureau of Massachusetts rate filing. It has been a pleasure to work on this analysis for the Advisory Council. Please give me a call to discuss any questions you may have after reviewing the report.

Sincerely,

TILLINGHAST – TOWERS PERRIN

By:

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Consulting Actuary
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EXECUTIVE SUMMARY

PURPOSE AND SCOPE

The Massachusetts Workers Compensation Advisory Council (the Council) engaged Tillinghast – Towers Perrin (Tillinghast) to evaluate sections of the September 2001 Workers Compensation Rating and Inspection Bureau of Massachusetts (WCRIBM) rate filing. The purpose of our review is to provide the Council with an objective analysis of the WCRIBM rate filing. Specifically, we are to review key elements of the September 2001 rate filing.

This document presents a summary of our findings.

DISTRIBUTION AND USE

We have prepared this report for the Council to assist it in evaluating the impact of the rate filing. We understand that copies of our report will also be provided to the Commissioner of Insurance. In addition, we understand that under the Freedom of Information Act, this report may become public information available on request to anyone. In such an instance, we request that a list of recipients be provided to Tillinghast periodically. Permission is hereby granted for this distribution on the condition that the entire report is distributed rather than any excerpt. Third parties should recognize that the furnishing of this report is not a substitute for their own due diligence and should place no reliance on this report or the data contained herein that would result in the creation of any duty or liability by Tillinghast to the third party.

Any reference to Tillinghast in relation to this report in any reports, accounts, or other published documents or any verbal reference issued by the DIA is not authorized without our prior written consent.

The exhibits attached in support of our recommendations and findings are an integral part of this report. These sections have been prepared so that our actuarial assumptions and judgments are documented. Judgments about the conclusions drawn in this report should be made only after considering the report in its entirety. We remain available to answer any questions that may arise regarding this report. We assume that the user of this report will seek such explanation on any matter in question.

Our conclusions and recommendations are predicated on a number of assumptions as to future conditions and events. Those assumptions, which are documented in subsequent sections of this report, must be understood in order to place our conclusions in their appropriate context. In addition, our work is subject to inherent limitations, which are also discussed in the report.

RELIANCES AND LIMITATIONS

In this review we relied without verification or audit, upon information supplied by the WCRIBM. We did, however, review the information provided to us for reasonableness.

We have used what we consider to be reasonable actuarial methods and assumptions in our analysis. We have not anticipated any extraordinary changes to the legal, social or economic environment which might affect the frequency or severity of claims. Due to the nature and degree of uncertainties that attach to commercial insurance coverages, no assurance can be given that actual losses will emerge according to any projections contained herein.

We have reviewed previous WCRIBM filings for the Council. The current analysis includes discussion of issues raised in previous reviews. In particular, the Advisory Council should review our prior analyses for further background on the issues raised in this review.

FINDINGS

The following sections provide background on the key issues concerning our analysis and summarize our findings.

1. Background

The WCRIBM filing is for rates and rating values to be effective September 1, 2001. An overall rate increase of 7.7% is proposed, based principally on loss experience for policy year 1998 and accident year 1999.

The WCRIBM filing is a comprehensive document which includes substantial analysis of issues relating to the determination of the rate level indication. While we have identified a number of issues relating to the filing, we should also note that the WCRIBM filing is significantly more thorough and comprehensive than industry workers compensation filings we typically see in other states. Analysis of Massachusetts workers compensation experience is complicated by the system/market changes that have occurred in recent years, and the WCRIBM has developed some sophisticated "state of the art" methodologies for use in its analysis of the workers compensation experience. The current filing is "stream-lined" relative to prior years, which facilitates the review process. It appears that the WCRIBM has given greater weight to the Commissioner's decisions in prior rate cases in the current filing relative to the prior filing.

The September 2001 filing excludes the experience of Eastern Casualty Insurance Company, the largest workers compensation writer in the Commonwealth. This company, which has about 10% market share, resigned from the WCRIBM in 2001 and submitted its own rate filing to the Commonwealth, with a proposed effective date of July 1, 2001.

2. *Reconciliation with Prior Filing*

Exhibit 1 documents our estimate of the rate level indications which would have been expected for the 2001 WCRIBM filing based solely upon information contained in the previous WCRIBM filing. The previous filing indicated an increase of 2.4% in voluntary rates as of August 1, 1999 and a 20.3% decrease was approved as of September 1, 1999, leaving a residual rate level need of 28.5%. This figure is based upon the WCRIBM's methodologies and assumptions. Adjusting this residual need for an additional twenty-five months of trend and subsequent benefit changes leads to an expectation of a 45.5% rate level increase for the 2001 filing. The 2001 filing presents rate level indications of +7.7%, implying that the 2001 rate level indication was about 25% lower than expected based on the prior filing.

This substantially better than expected rate indication is consistent with what was observed with recent WCRIBM filings. In these previous filings, the rate level indications were better than what one would have expected based on the prior year's filing.

The unanticipated significant improvement in the indications does not appear to be due to any major change in the WCRIBM's ratemaking methodology. Rather, the improvement appears to be due to factors affecting the system itself, such as underlying data, benefit changes, administrative changes, and changes in policy coverage. However, the filing does not identify the possible causes of the improving experience.

The following sections discuss the most significant issues associated with the filing.

3. *Trend/Law Amendments*

The trend methodology used in the current filing is similar to the one used in the 1999 rate filing submitted by the State Rating Bureau (SRB). It represents a significant change from the prior WCRIBM filings, which used econometric models to estimate trends, reflecting both industry and external data.

The current filing relies on a linear regression of on-level loss ratios over a five year period (1996 – 2000). We note the following with respect to the trend model.

✓ Time period fitted – The WCRIBM selected a five year experience period so that all of the data would be post Chapter 398 experience (i.e., the impact of this law reform would not need to be estimated). Five years is a relatively short period to fit to a model and the immaturity of the data makes it very sensitive to the development patterns selected (which are used to project the losses to an ultimate basis). Most other trend methodologies use a larger number of observations. We note that the regression statistics produced by the model are relatively poor, which is partially a function of the number of data points fitted. However, given the actual observations in the five-year period, it would be very difficult to derive a positive trend from the combined data.

- ✓ Adjustment for cost containment – The WCRIBM explicitly assumes a 35% cost containment impact, with more weight given to the later years in the trend period, reflecting the impact of QLMP and mandatory utilization review. They also assume that there will be no improvements in cost containment subsequent to 1998. While these assumptions may be reasonable, they do not provide evidence to support them. To the extent these assumptions are incorrect, the projected loss ratios (and consequently the rates) will be mis-stated. Although prior WCRIBM filings had included a cost containment adjustment, the current filing gives more weight to the impact of cost containment.

The WCRIBM model potentially understates trend, given that it relies on five data points in a period in which loss ratios display significant volatility. Exhibit 2, attached, which is pulled directly from the WCRIBM filing, shows historical loss ratios for the 1995 through 1999 years. A comparison of the last three data points suggests that the loss ratio may be turning (i.e., moving from a negative trend to a positive trend). The type of model and number of observations used by the WCRIBM could not be expected to catch a turning point. They also do not separately analyze the frequency and severity components for comparable policy years. This level of detail could provide more insight into the trend analysis.

A more reasonable trend alternative to consider could be:

- ✓ Assume 1% indemnity trend, based on the 1998 and 1999 paid indemnity on-level loss ratios (the WCRIBM filing implies a 2.7% trend for this period).

- ✓ Assume a 3% medical trend, or roughly half the level indicated in the WCRIBM filing (the analysis of the Boston Medical Care Index). Given the external pressures on medical costs, it is unlikely that workers compensation medical costs will experience negative prospective trend. We note that this assumption may be optimistic as external data suggests a prospective medical trend in the range of 4 to 6% annually. The assumed trend rate of 3% considers the recent experience, and an ongoing impact of the medical fee schedule and utilization review.

- ✓ Combining these two assumptions using 68%/32% weights (from the WCRIBM filing) results in a combined trend rate of 1.6% (or less than half of the trend implied between the 1998 and 1999 policy year on level loss ratios). Substituting this trend assumption would result in a rate indication of 13.5%, rather than the +7.7% indication in the filing.

In general, the approach to calculating the impact of law amendments is similar to that used in prior filings. The impact of these changes is modeled using a simulation model. We note, as we had previously, that these models have not been updated with the exception of wage distributions.

One of the more significant inputs in the simulation model is the average weekly wage (AWW) level. The October 1, 2000 Department of Employment and Training statistics reported a 10.8% increase in the AWW from October 1, 1999 to October 1, 2000, which is nearly double the annual average increase during the 1990's (the range is 3 to 5%, with the exception of 1999, when it was about 7%). Increases in the AWW significantly effect the estimated impact of statutory benefit changes.

The following table shows a summary of recent changes in the AWW, as well as on-level factors (which are used to bring historic losses to current benefit levels) from comparable periods.

Date	% of Change in AWW	Benefit Level Changes*
10/1/90	3.4	1.008
10/1/91	5.1	1.012
10/1/92	5.4	1.011
10/1/93	4.2	1.009
10/1/94	3.5	1.006
10/1/95	3.1	1.005
10/1/96	4.5	1.008
10/1/97	5.5	1.010
10/1/98	5.2	1.009
10/1/99	7.1	1.012
10/1/00	10.8	1.021

* Excludes Chapter 398

Note that the 2000 projected benefit level change is about double the historic level. While this may not be unreasonable for projecting the impact of the 2000 changes, it likely overstates the level of statutory changes going forward. Using a benefit level change factor consistent with historic levels would reduce the rate indication to about 6.3%.

4. *Profit Provision*

The underwriting profit provision increased from –0.017 to –0.066. This reflects an increase in investment yields, a reduction in the assumed tax level, and a slight slow down in the payment patterns. Although the direction of the change appears reasonable, the individual assumptions need further analysis. Had this provision remained unchanged, the indicated rate level change would have been +14%, or nearly double the proposed change.

Representing a change from prior filings, the WCRIBM "reluctantly" used investment income tax assumptions that were consistent with the prior rate decision. The also included a provision for investment expense, which had not been included in prior filings. The combined effect of these assumptions increased (i.e., produced a more negative) underwriting profit provision.

As we have noted previously, the WCRIBM filing recognizes in its profit model the loss of investment income associated with the payout of policyholder dividends. We cannot determine if this approach is consistent with the requirements of Chapter 398 that prohibit any provision for policyholder dividends in the filing. The inclusion of this provision by the WCRIBM increases the indications slightly. The WCRIBM's estimate of dividend payouts is based on long term historical experience, which may not be predictive of future dividend payouts given changes in dividend plans and profitability.

5. Loss Development

The WCRIBM filing takes historical reported (paid plus case) and paid losses by year at various evaluation points and develops those losses to an estimated ultimate value through the use of loss development factors.

There are three key observations with respect to the development factor analysis.

- The WCRIBM filing indicates some deterioration in loss development since the previous filing. The deterioration effects the more recent years, emergence on older policy/accident years that pre-date Chapter 398, which still comprise the majority of data in the development "triangles" (i.e., the post Chapter 398 experience represents less about 25% of the development data) is generally consistent with expectations.

- The filing would be significantly enhanced by the inclusion of lost-time claim count data for both reported and closed claims, since a significant portion of the development data is compiled and analyzed on an individual carrier basis. This would allow better analysis of trends in development due to:

  ✓ Changes in claims settlement rates
  ✓ Changes in case reserving practices.

  Given the level of changes in the marketplace, some of the observed changes in development patterns may be attributable to these factors.

  Also, identifying the source of the shifts in observed loss development would better measure if there is a potential bias in the loss development factors used in the filing. If the observed deterioration is an aberration, and will be reversed in future years, then the rate indications may be overstated. If the observed improvement is due to a systematic shift that will continue in future years, then the rate indications may be significantly understated.

- Finally, the WCRIBM continues to adjust reported losses for the escalation of benefits. The escalation factors in the current filing (average 1.025) are roughly consistent with the prior filing, but still contribute about one to two points to the rate indication. We have questioned this methodology in previous reviews, and still question whether the methodology results in an overlap with the other aspects of the loss development methodology. (Inadequate reserves for claims subject to benefit escalation contribute to the loss development observed in the loss development data. We note that this phenomenon may be contributing to the increase in the incurred tail factor). We also note that the Schedule Z data underlying the WCRIBM's analysis of the benefit escalation claims does not match the basic loss development data in terms of time period, and may result in adjustments that are inconsistent with the data.

6. *Expenses*

In general, the WCRIBM used a similar approach with respect to expenses as in prior filings, (with the exception of the 1999 rate filing. In the 1999 rate filing, the WCRIBM made two specific changes with respect to expenses; other acquisition expenses were treated as fixed expenses and the commission allowance was adjusted to reflect the estimated impact of rate deviations). The WCRIBM reverted to their historic approach in the September 2001 filing (i.e., treating other acquisition expenses as variable expenses and not considering the impact of deviations in commission allowance calculation).

Generally, the treatment of expenses within the filing is consistent with prior rate decisions. There are a few items where judgmental selections could have been made differently (i.e., the determination of pool expenses, the projection of payroll growth), but the impact of these judgments is relatively small in the context of the overall filing.

7. *Classification Rates*

The most significant change made by the Bureau in the derivation of classification rates relates to the credibility calculation. These calculations affect the weights placed on the various pure premium relativities (Massachusetts, countrywide, and underlying current rates) in the calculation of the formula relativity for each class (which flows into the calculation of the individual class rate). The current filing uses the methodology which was used in rate filings prior to August 1999. The WCRIBM made this change because they believe the historic formula was simpler to administer and understand.

The overall effect of this proposed change is to increase the credibilities associated with the Massachusetts and countrywide relativities and to place less weight on the relativities produced by the prior rates (i.e., it reduces stability but increases responsiveness). For example, there were a number of classes whose Massachusetts experience was not considered 100% credible in the prior filing; the revised credibility method results in 100% credibility for Massachusetts experience for some of these classes. The indicated countrywide credibilities are generally increased from the prior filing, so that the balance of credibility (which is assigned to the relativity underlying the present rate) is decreased. These do not affect the overall rate level, but do affect the allocation of costs by insured.

RECONCILIATION OF RATE REQUESTS
EFFECTIVE SEPTEMBER 1, 1999
AND TO BE EFFECTIVE SEPTEMBER 1, 2001

1. Proposed 1999 Rate Increase*	2.4%
2. Approved 1999 Rate Increase*	-20.3%
3. Residual WCRIBM Rate Need in 1999	+28.5%
4. Adjustment based on 1999 WCRIBM Filing to develop 2001 WCRIBM Rate need:	
a. Net Loss Trend	+10.7%
b. Impact of Subsequent Law Amendments	+1.9%
5. Expected WCRIBM Rate Need in 2001 based on WCRIBM 1999 Rate Filing Documentation	+45.0%
6. Rate Change Proposed for 2001	+7.7%
7. Difference Versus that Projected from 1999 Rate Filing Documentation	-25.7%

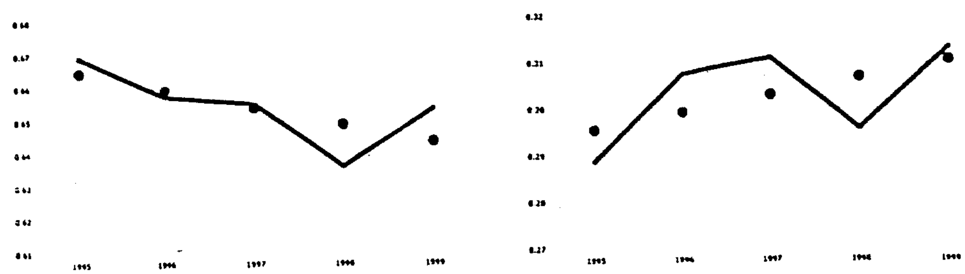
*Filing proposed 8/1/99 effective date, but was implemented on 9/1/99.

Exhibit 2

TREND

Indemnity and Medical Trend

Indemnity Loss Ratio (and 5yr fitted)   Medical Loss Ratio (and 5yr fitted)



Section V - Trend
Subsection A - Net Trend
9/1/01

Section V-A
Chart 1

TREND

Observed and Fitted Loss Ratios