

Comments of Birny Birnbaum
On Behalf of the Proposition 103 Enforcement Project

Workshop to Consider Values for Generic Determinations
Pursuant to Title 10, California Code of Regulations, Section 2646.3

August, 2002

My name is Birny Birnbaum. I am consulting economist specializing in insurance rates, regulation and policy issues. I have been accepted as an expert on both economic and actuarial issues in automobile, residential property and other lines of insurance in administrative and judicial proceedings. I have participated in a number of rulemaking and administrative proceedings in California related to automobile insurance and participated in the Commissioner's Prior Approval Task Force in 1997, which examined the development of generic determinations. My comments are presented on behalf of the Proposition 103 Enforcement Project and will largely be limited to personal lines of insurance.

Catastrophe Adjustment Period

The number of years proposed for the catastrophe adjustment period for personal lines are a bit odd – 22 years for personal dwelling fire but 21 years for homeowners fire, 39 years for dwelling extended coverage and homeowners wind and 34 years for auto physical damage. Is there a basis for these selections other than availability of data?

It is important to define non-cat versus cat losses for purposed of calculating the losses subject to the adjustment. The use of a low threshold, for example, to identify cat losses may compromise the use of a long catastrophe adjustment period.

Loss Development

The proposed minimum number of reporting intervals for fire and homeowners are the same at six (6) reporting periods. This suggests similarity in the length of loss development for the two lines. Yet, in the proposed leverage factors, fire is 3.5 and homeowners is only 2.0. The treatment of fire and homeowners is not consistent across these determinations.

The proposed minimum number of reporting intervals for private passenger auto bodily injury liability and uninsured motorist is also six (6) reporting periods. These auto coverages are considered longer-tailed lines than property coverages, such as fire and homeowners. In addition, the minimum number of reporting intervals for private passenger auto property damage – at two (2) – seems inconsistent with the six (6) for fire and homeowners.

Finally, this section of the regulations also provides, “Loss development may employ either paid losses or the sum of paid losses and case-specific reserves, provided that if the ratio of case-specific reserves to paid losses increases by an amount greater than a figure to be specified by the Commissioner for the respective lines, in accordance with section 2646.3, loss development shall be based solely on paid losses.” I recommend the requirement for paid loss development be triggered if the *absolute value* of the change in the ratio of case-specific reserves to paid losses exceeds 5%.

Loss Trend

I recommend against the use of Fast Track data for private passenger auto loss trend for several reasons. First, Fast Track data is not intended for ratemaking purposes, as is stated on the cover letter accompanying the data. Second, Fast Track data represent a sample of companies who voluntarily report their experience. This sample may or may not be even a majority of the market and may change from one quarter to the next. Third, the Fast Track data do not undergo significant data quality review. Fourth, Fast Track data do not separate voluntary and assigned risk market experience. Given the importance of loss trends in the rate development, more comprehensive and detailed auto trend data should be utilized.

It is necessary to consider premium trend in the development of private passenger auto physical damage rates. To the extent that physical damage premium trends are not elsewhere considered – in annual symbol revisions, for example – there is a need to offset the physical damage loss trend with premium trends to produce a composite loss trend.

ALAE Trend

ALAE is not reported separately in Fast Track data, so the determination of private passenger ALAE is unclear.

Expense Trend

I recommend an expense trend of 0% for the following reasons. Expense trend is not necessary when the number of exposures is increasing, which is typically the case. If the number of exposures increases by 4%, the insurer will get 4% more fixed expenses, assuming constant premium. Second, the proposed expense trend does not take into account the growth in productivity of workers. Since salaries are the dominant share of fixed expenses and productivity – measured by premium per employee – is generally increasing, expense trend is not needed. Finally, I recommend that fixed expenses be calculated on the basis of the average of the most recent two or three years of experience. This rolling average of fixed expenses per exposure helps smooth outlier years and is sufficient to identify any underlying increase (or decrease) in fixed expenses per exposure.

Efficiency Standard

The efficiency standards are overstated for several reasons. First, the expense data used to calculate the efficiency standards do not exclude the types of expenses set out in Section 2644.10.

Second, the expenses include a substantial “fee” paid by companies in the Farmers Group to an affiliated management company. This fee – or at least a substantial portion of the fee – is properly characterized as profit and should be excluded from expenses. For several years, the Texas Insurance Commissioner has excluded a portion of the Farmers management fee from expenses and the same should be done in calculating the efficiency standards. Attached are a few pages from a proposal for decision in a Texas hearing that explains the issue.

Third, there has been a tremendous increase in auto insurer advertising and marketing over the past few years. These massive increases in advertising represent an investment in growing market share by the insurers and, consequently, the dramatic increase in advertising expenditures should come from investors and not policyholders.

Fourth, the results are unreasonable. Attached please find 1999 and 2000 California pages from the NAIC *Report on Profitability*. These figures do not jive with the proposed efficiency standards for personal lines. The proposed efficiency standards reflect auto loss ratios in the mid-60’s. This is too low to represent an “efficiency standard.”

Target Rate of Return and Leverage Factors

It is important to test reasonableness of after-tax rate of return, leverage factor and investment yield with the resulting profit provision. There is a relationship between target return and investment income as well as a relationship between leverage – which relates to the amount of risk for the investor – and target return. It is also important to maintain some continuity over time to avoid unnecessary and unreasonable discontinuities in profit provision values form year to year. I start with target rate of return.

To avoid arguments over the construction of specific models for estimating cost of capital, I will refer to methods used by David Appel in a recent Texas proceeding. Since David was the witness for the insurance industry, I approach the models as producing the cost of capital estimates that are on the high end of the range of reasonableness.

David utilized the discounted cash flow and capital asset pricing model approaches for estimates as of October 1, 2001. The DCF and CAPM estimates were 10.65% and 12.12%, respectively. Updating the CAPM for lower current interest rates produces an estimate, using David’s methodology, of 11.54%. I have not updated his DCF, but assume it would be the same or lower today than the 10.65% estimate from October 2001.

David typically takes the average of the CAPM and DCF as his point estimate – about 11.1%. A few adjustments can be considered. First, the group of companies whose data produced these estimates is more highly leveraged with debt than the industry on average. Consequently, the cost of capital for the industry is lower than for the group of companies in the various samples. The Texas Insurance Commissioner has typically reduced the cost of capital indications by about 0.5% to account for this.

Second, David relies upon the geometric mean for calculating the CAPM risk premium. The Texas Commissioner has used an average of the geometric and exponential means, which causes the risk premium to go down by about 1.0%.

Third, David's use of long-term bond rates and risk premia, as opposed to reliance on short-term instruments, is not without controversy. The CAPM indication based upon the 20-year Bond is 2.6% higher than the indication based upon the 3-month Treasury.

Fourth, David's equal weighting of DCF and CAPM indications suggests equal validity to both methods. In fact, the reliability of the CAPM for estimating cost of capital has been widely questioned.

Assembling the foregoing, a reasonable current property casualty industry average after-tax target rate of return *on net worth* is 9.5% to 10.0%

Finally, the cost of capital estimates are percentages of GAAP Net Worth. Since the regulations call for a target rate of return as a percentage of SAP Surplus, an adjustment is necessary if there is a difference between GAAP Net Worth and SAP Surplus. The following table shows the relationship for the past four years, as reported in the NAIC *Report on Profitability*:

The NAIC *Report on Profitability* reports the figures in the first two data columns: Direct Earned Premium to Net Worth and Direct Earned Premium to Surplus. The third column is my calculation of Net Worth to Surplus. Given that the NAIC *Report on Profitability* limits the ratios to one decimal place, the calculations are a bit crude, but indicate an average difference of less than 10%. Further, the differences are expected to narrow with the Codification of Statutory Accounting Practice. With codification, for example, surplus will now include deferred taxes, thereby eliminating one of the differences between SAP Surplus and GAAP Net Worth.

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	2000		
	<u>DPE/Net Worth</u>	<u>DPE/Surplus</u>	<u>NW / Surplus</u>
PPA	1.1	1.2	1.09
Homeowners	1.1	1.3	1.18
Fire	1.2	1.2	1.00
All Lines	0.8	0.9	1.13
	1999		
	<u>DPE/Net Worth</u>	<u>DPE/Surplus</u>	<u>NW / Surplus</u>
PPA	1.1	1.1	1.00
Homeowners	1.1	1.2	1.09
Fire	1	1.2	1.20
All Lines	0.8	0.8	1.00
	1998		
	<u>DPE/Net Worth</u>	<u>DPE/Surplus</u>	<u>NW / Surplus</u>
PPA	1.1	1.1	1.00
Homeowners	1.1	1.2	1.09
Fire	1	1.2	1.20
All Lines	0.8	0.8	1.00
	1997		
	<u>DPE/Net Worth</u>	<u>DPE/Surplus</u>	<u>NW / Surplus</u>
PPA	1.2	1.3	1.08
Homeowners	1.2	1.3	1.08
Fire	1.2	1.4	1.17
All Lines	0.8	0.9	1.13

The difference between SAP and GAAP returns are further diminished by the fact that, in addition to GAAP net worth being greater than SAP surplus, GAAP income is also greater than SAP income. The following table, taken from the III *Fact Book*, shows smaller differences between SAP and GAAP returns than indicated by the differences between GAAP net worth and SAP surplus alone.¹ Consequently, any adjustment for the target rate of return based upon the differences between GAAP net worth and SAP surplus are minimal.

¹ The 2000 figures come from a III press release for SAP and from ISO's *Insurer Financial Results 2000* for GAAP return.

	<u>SAP</u>	<u>GAP</u>	<u>GAP to SAP</u>
1993	10.6%	11.0%	96.4%
1994	5.6%	5.6%	100.0%
1995	9.0%	8.7%	103.4%
1996	9.5%	9.3%	102.2%
1997	11.9%	11.6%	102.6%
1998	9.2%	8.5%	108.2%
1999	6.6%	6.4%	103.1%
2000	6.3%	5.8%	108.6%

Based upon the foregoing, a 10% industry average after-tax rate of return on surplus is a reasonable estimate of a industrywide property casualty after tax target rate of return on surplus. A review of the historical returns of the property casualty industry compared to other industries confirms the reasonableness of the 10% figure. The ISO report, *Insurer Financial Results 2000*, states:

The Fortune 500 consists of the 500 largest industrial and service corporations in the United States. ISO estimates that the median GAAP RONW for the Fortune 500 companies in 2000 was 15.7% — more than double the 6.1% RONW earned by large property/casualty insurers and the 5.8% RONW earned by the property/casualty industry overall. Though longer-term data indicates that insurers have a history of being less profitable than the Fortune 500, the gap between insurers' rate of return and the Fortune 500's was much larger than normal in 2000. From 1983 to 2000, the median RONW for the Fortune 500 averaged an estimated 13.9% — 4.7 percentage points more than the 9.2% average RONW for large insurers and 5.0 percentage points greater than the 8.9% average RONW for the entire property/casualty industry.²

Now the question arises, what sort of range should exist around the average rate of return to give meaning to the methodology employed by the Department? I recommend a minimum rate of return of 5% and a maximum rate of return of 12.5%. The range is greater on the low end to make it easier for insurers to deviate down from rate indications without seeking variances from the Department. The recommended maximum is 2.5% greater than the average, which provides a cushion above the average for some insurers to use without variance while still respecting the overall intent of the regulation.

² http://www.iso.com/studies_analyses/study016.html

The next piece of the puzzle is the leverage ratio. In 2000 NAIC *Report on Profitability*, the actual earned premium to surplus ratios for private passenger auto liability and physical damage were 1.0 and 1.7, respectively. The earned premium to surplus ratios for homeowners and fire were 1.3 and 1.2. Although these leverage factors by line of insurance are the result of an allocation (by premium and reserves), the actual leverage factors – by line and overall – are much lower than the proposed generic leverage factors. Although there has been much commentary regarding “surplus” surplus, the investment yields as a percentage of premiums, as well as the reasonable target return on surplus, are related to leverage factors. The table below shows the indicated profit provision (profit factor less investment factor) based upon different leverage ratios and actual earned premiums, surplus, reserves, investment income, realized capital gains and federal income taxes for private passenger auto and homeowners predominating companies from Best’s *Aggregates and Averages*. The first column shows the profit provisions resulting from the actual investment yield from 2000 (including five-year average of capital gains), the actual federal income tax rate, the recommended 12.5% maximum target rate of return and various leverage factors. The second column increases the tax rate to 25%. The third column lowers the investment yield to 6.00% and the fourth column increases the tax rate and lowers the investment yield. The next table shows the actual investment yields and income tax rates for the years 1996 through 2000 to give a sense of the variation from year to year.

<u>Max Target Rate of Return</u>	12.50%	12.50%	12.50%	12.50%
<u>Investment Yield</u>	6.88%	6.88%	6.00%	6.00%
<u>Federal Income Tax Rate</u>	13.29%	25.00%	13.29%	25.00%
<u>Leverage Factors</u>	<u>Profit Provision</u>	<u>Profit Provision</u>	<u>Profit Provision</u>	<u>Profit Provision</u>
0.50	7.53%	12.04%	10.27%	14.77%
1.00	0.00%	2.25%	1.85%	4.10%
1.50	-2.51%	-1.01%	-0.95%	0.55%
2.00	-3.76%	-2.64%	-2.35%	-1.23%
2.50	-4.52%	-3.62%	-3.20%	-2.30%
3.00	-5.02%	-4.27%	-3.76%	-3.01%
3.50	-5.38%	-4.73%	-4.16%	-3.51%
4.00	-5.65%	-5.08%	-4.46%	-3.90%
4.50	-5.86%	-5.36%	-4.69%	-4.19%
5.00	-6.02%	-5.57%	-4.88%	-4.43%
5.50	-6.16%	-5.75%	-5.03%	-4.62%

<u>Year</u>	<u>Investment Yield</u>	<u>Tax Rate</u>
2000	6.88%	13.29%
1999	6.54%	18.14%
1998	6.55%	22.26%
1997	7.23%	18.79%
1996	6.64%	15.37%

The purpose of this exercise is to test the reasonableness of the various inputs into the profit provision. While the investment yield for particular lines will surely vary from the average – in relation to both reserves and surplus supporting the business in that line of insurance – the personal lines leverage factors, with the exception of homeowners, appear high. I recommend a 2.00 leverage factor for both fire and homeowners lines. The disparity between the proposed fire and homeowners leverage factors – 3.5 and 2.0 – is unwarranted. I recommend a 1.50 leverage factor for private passenger auto liability and a 3.50 leverage factor private passenger auto physical damage. **It is essential to state again that these recommendations for leverage factors are based upon – and dependent upon – my rate of return recommendations.**

Annual Review of Generic Determinations

I recommend that the Commissioner annually review the generic determinations by holding a workshop, such as the one in this proceeding. While many of the generic determinations will not need to change annually, some determinations will need to change annually. For example, loss trend can change dramatically from one year to the next and have a major impact on indicated premiums. The future annual reviews will be more modest than this year's review because fewer determinations will be at issue.