COMPLETE ACTUARIAL SOLUTIONS COMPANY

The CASCO Bulletin

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Letters of Credit and Discounting

The selection of an appropriate discount rate was discussed in the previous CASCO Bulletin (Issue 1, 4th Quarter 2010). Discount rate selection is more complicated for captives and risk retention groups (RRGs) holding assets that do not generate investment income such as letters of credit (LOCs). Although this should not cause an issue in discount rate selection under GAAP fair value accounting, it can cause issues with auditors and regulators focused on solvency and adequacy.

Captives and/or RRGs form the backbone of self-insurance programs and are generally treated as insurance companies by regulators. They are often allowed to carry LOCs, surplus notes, and other types of assets that cannot be treated as admitted assets by traditional insurance companies. These types of assets do not generate investment income and can create an imbalance if liabilities are discounted.

The discounting of liabilities is essentially the current recognition of expected future investment income. Therefore, the discounted liability, along with the investment income it assumes, can be thought of as the value necessary to cover the full amount of the liability as it becomes payable. The following example shows that for a company earning a 3% risk-free yield on invested assets, the use of LOCs or other non-invested assets reduces the effective investment yield.

Example: 3% Risk-Free Yield on Invested Assets

1) Undiscounted Liabilities	$5,000,000
2) Discounted Liabilities at 3%	$4,600,000
3) Letter of Credit	$3,000,000
4) Invested Assets	$1,600,000
5) Total Assets = (3) + (4)	$4,600,000
6) Investment Income per Year = (4) x 3%	$48,000
7) Effective Investment Yield = (6) / (5)	**1.0%**

The existence of an LOC in the above example, accompanied by a selected discount rate of 3%, would cause an imbalance because the effective investment yield of 1% is lower than the 3% assumed by the discount rate. This imbalance necessitates future LOC increases or cash infusions. One reasonable approach to avoid such an imbalance is for the company to use a discount rate equal to the effective risk-free investment yield of 1% (option #1 below). Another possible approach is to use a 3% discount rate, but only discount the portion of liabilities that are backed by invested assets (option #2 below). These two possible options yield very similar results.

Example: Two Discounting Options

1) Undiscounted Liabilities	$5,000,000
2) Option #1 - Liabilities Discounted at 1%	**$4,861,000**
3) Option #2 - Partial Discounting at 3%	
a) Liabilities to be Discounted	$1,600,000
b) Discounted at 3%	$1,472,000
c) Liabilities Not Discounted = (1) - (3a)	$3,400,000
d) Total Discounted Liabilities = (3b) + (3c)	**$4,872,000**

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Risk margins at any given confidence level are affected by:

- Loss portfolio size
- Inherent volatility of the line of coverage
- Retention levels

The financial strength and objectives of the insurer/self-insurer should also be considered when selecting the confidence level.

Ask the Actuary: Confidence Level Estimates

Confidence level estimates provide a way of calculating risk margins for reserving and pricing. In addition, they are a valuable tool in managing insurance programs since they quantify the financial effects of potential adverse experience under possible program choices such as limits, retentions, lines of coverage, capitalization, and investment strategy.

Q: What are confidence level estimates and confidence level risk margins?

A "confidence level" estimate of losses is the amount for which there is projected to be a certain likelihood that the actual losses will be less than or equal to that amount. For example, the average seasonal snowfall in New York City is 28 inches and the 75% confidence level estimate is 37 inches (based on data since 1869). This means that there is projected to be a 25% chance that the actual snowfall in a given season will be **more** than 37 inches (it looks like that will be the case this time!). A confidence level risk margin is the percentage difference between a confidence level estimate and the expected level estimate (the average). Therefore, the 75% confidence level risk margin for seasonal snowfall in New York City is 32% [(37÷28)-1].

Q: What is a reasonable confidence level risk margin?

The risk margin at any given confidence level is generally higher for smaller loss portfolios, lines of coverage that are more inherently volatile, and higher retention levels. Management's selection of the confidence level should also consider the financial strength and objectives of the insurer/self-insurer. Below are examples of medical professional liability and workers' compensation confidence level risk margins based on data from a sample of CASCO clients.

Example: Medical Professional Liability

	Program with 25 Claims per Year		Program with 100 Claims per Year	
Per Claim Retention	75% Confidence Level Risk Margin	90% Confidence Level Risk Margin	75% Confidence Level Risk Margin	90% Confidence Level Risk Margin
$500,000	27%	57%	14%	28%
$5,000,000	40%	95%	22%	46%

Example: Workers' Compensation

Program Size	75% Confidence Level Risk Margin	90% Confidence Level Risk Margin
Annual payroll below $200,000,000	23%	63%
Annual payroll above $200,000,000	16%	36%

Market Focus

In this issue, we look at medical professional liability rates for the Pennsylvania JUA and two large commercial insurers in the state.

The market for medical professional liability insurance in PA has become more competitive over the last few years, as seen by a decrease in JUA policies in force (peaked in February 2004) and written premiums. More of the JUA's insureds have found coverage elsewhere, particularly with risk retention groups rather than traditional commercial carriers in the state.

Large overall rate increases in the earlier part of the decade were followed by more moderate changes, ending with three straight years of rate decreases.

Market Focus: Pennsylvania JUA

The Pennsylvania Professional Liability Joint Underwriting Association (JUA) plays an important role in the medical professional liability insurance market in Pennsylvania. Currently, most of the major insurers of physicians and surgeons in the state provide historical data to the JUA, creating a broad statistical database for calculating physician specialty and territorial relativities. CASCO uses these relativities for many of our Pennsylvania health care provider clients. In addition, the Mcare Fund uses the JUA rating structure as part of the allocation process for the annual assessments to providers.

The JUA's historical overall rate changes and written premiums are shown below, followed by a graph of historical rates by county.

Pennsylvania JUA
Historical Rate Changes and Written Premiums

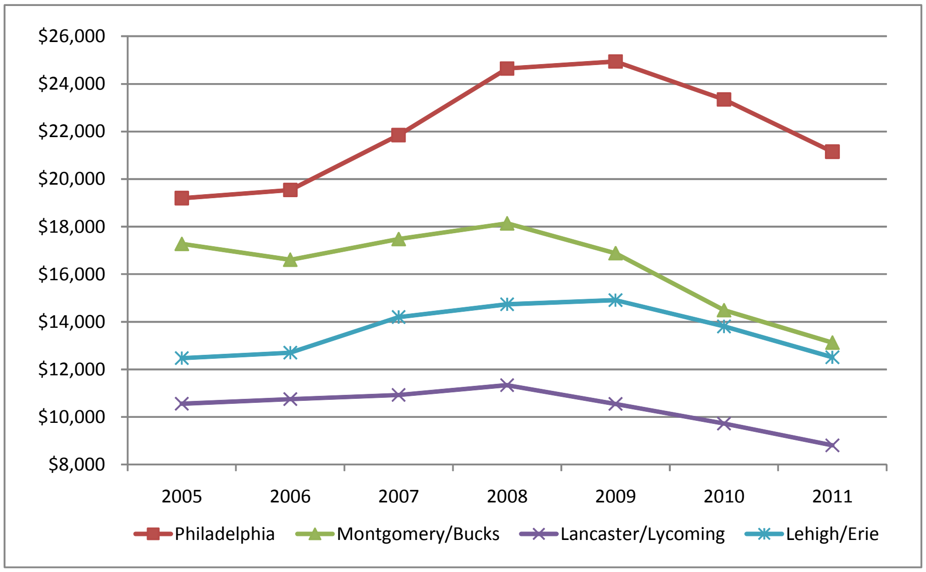
Effective Date	Overall Rate Change [1]	Written Premium
1/1/2002	19.4%	$36,430,956
9/1/2002	48.0%	34,628,497
9/1/2003	4.2%	43,572,845
9/1/2004	0.6%	33,870,878
1/1/2006	-6.6%	26,640,667
1/1/2007	7.7%	21,998,525
1/1/2008	5.4%	13,965,599
1/1/2009	-4.4%	10,407,749
1/1/2010	-8.9%	6,320,973 [2]
1/1/2011	-9.4%	4,581,441 [2]

1. Overall rate changes only reflect changes in base rates, physician relativities, and territorial relativities, and are applied equally to institutional and non-institutional rates.
2. Estimated based on filed rate changes and JUA's expected decrease in number of policies in force.

Market Focus: Pennsylvania JUA (continued)

Rates have decreased or remained relatively stable for the counties displayed, except Philadelphia, whose rates have increased over this time period.

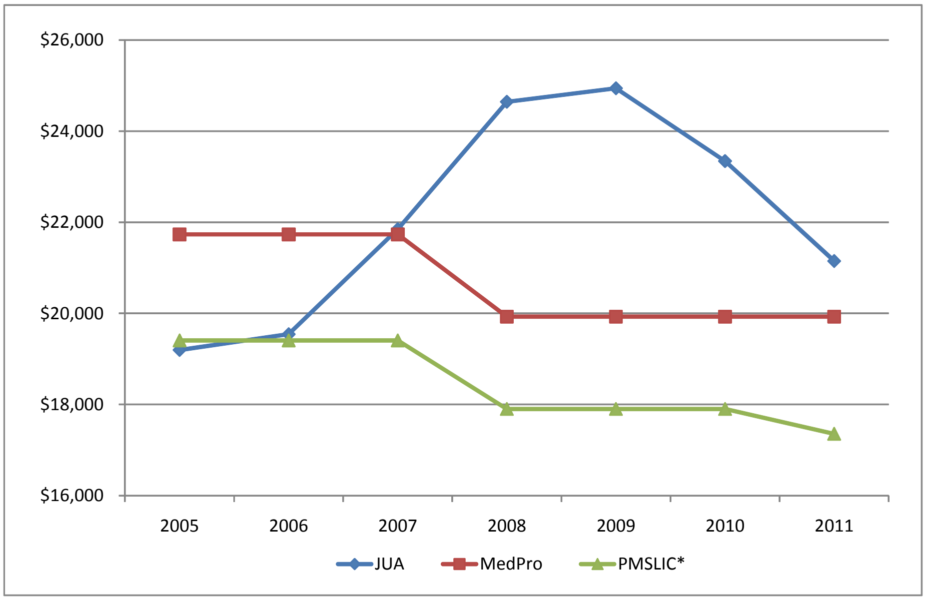
Pennsylvania JUA Historical Base Class Rates by County



Following are several graphs, differing by county (or county group), comparing recent trends in JUA base rates to similar trends for two major Pennsylvania medical professional liability carriers (PMSLIC and Med Pro).

JUA rates for Philadelphia county have experienced large year-to-year swings and increased about 10% over this time period, while MedPro and PMSLIC rates have decreased about 8% and 11%, respectively.

Pennsylvania JUA Historical Base Class Rates vs. MedPro and PMSLIC - Philadelphia County

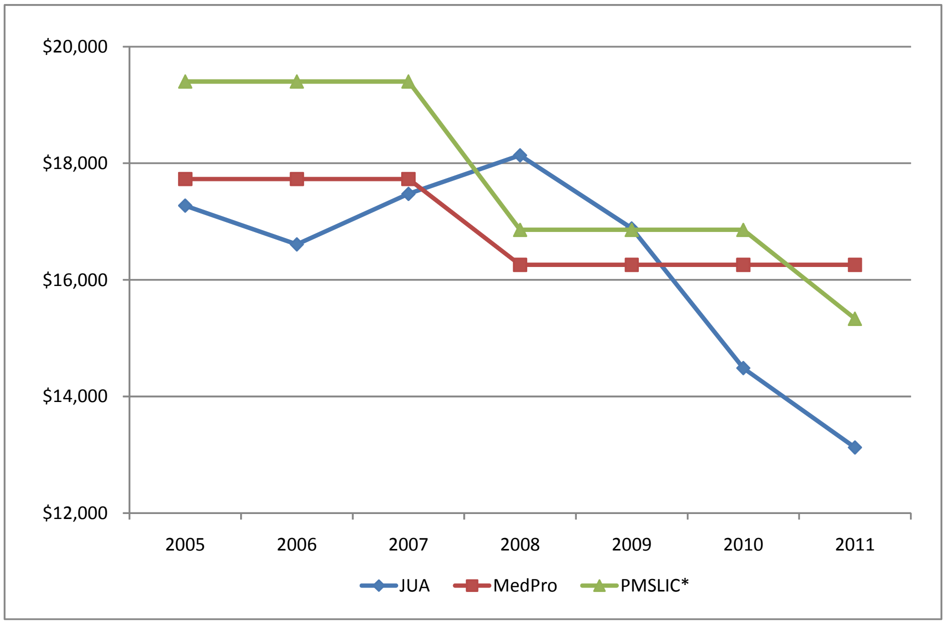


*PMSLIC rates are mature claims made, while JUA and MedPro rates shown are occurrence.

Market Focus: Pennsylvania JUA (continued)

JUA and PMSLIC rates for Bucks & Montgomery counties have decreased significantly over this time period (24% and 21%, respectively). MedPro rates have also decreased but not as dramatically (about 8%).

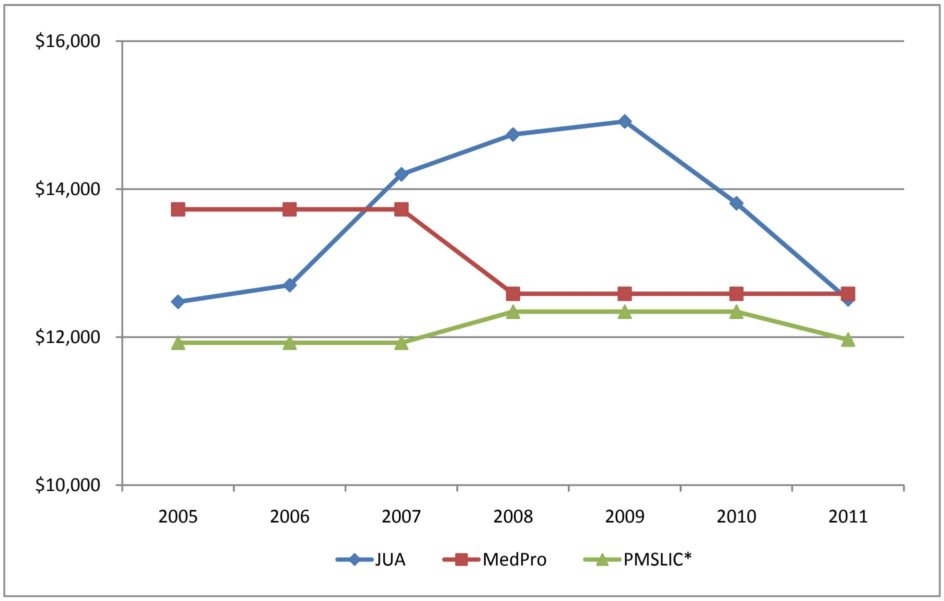
Pennsylvania JUA Historical Base Class Rates vs. MedPro and PMSLIC - Bucks & Montgomery Counties



*PMSLIC rates are mature claims made, while JUA and MedPro rates shown are occurrence.

PMSLIC rates for Erie county have remained relatively stable over this time period and Med Pro rates have decreased about 8%. JUA rates have varied from year-to-year but are currently back to their 2005 level.

Pennsylvania JUA Historical Base Class Rates vs. MedPro and PMSLIC - Erie County



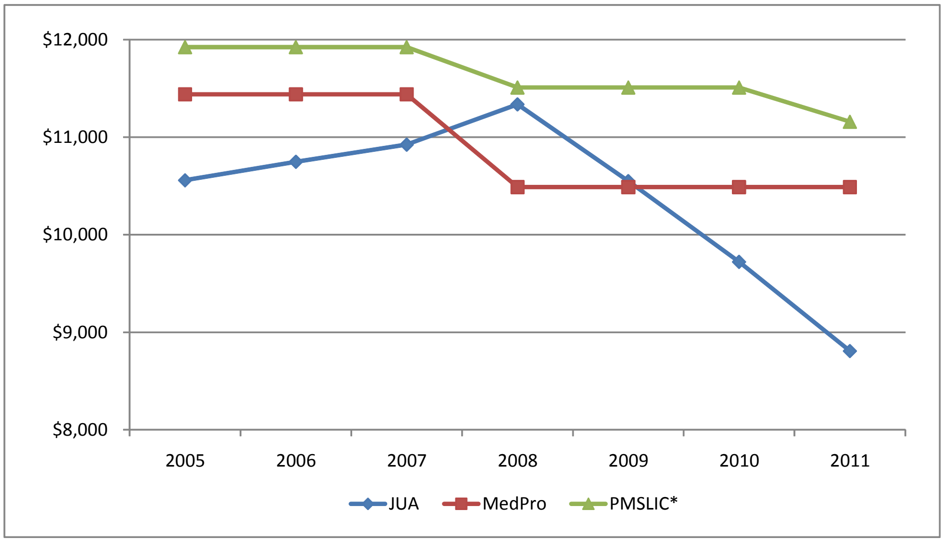
*PMSLIC rates are mature claims made, while JUA and MedPro rates shown are occurrence.

Market Focus: Pennsylvania JUA (continued)

JUA rates for Lancaster and Lycoming counties have decreased significantly (about 17%) over this time period, while rates for Med Pro and PMSLIC have also decreased but not to the same extent (about 8% and 6%, respectively).

PMSLIC's claims made rates are higher than JUA's and MedPro's occurrence rates in all years.

Pennsylvania JUA Historical Base Class Rates vs. MedPro and PMSLIC - Lancaster & Lycoming Counties



*PMSLIC rates are mature claims made, while JUA and MedPro rates shown are occurrence.

Interesting Articles

New Federal Role in Insurance Regulation
The federal government's new role in insurance regulation poses significant challenges and opportunities for the insurance industry.

How to Destabilize the Financial System
In 2009, in the aftermath of the Global Financial Crisis, 140 American banks failed and hundreds of other banks were classified as "problem institutions" by the FDIC. We should have learned from a previous banking crisis, which occurred during the 1980s.

Insurers and Actuaries Need to Address Unique Risks Posed by Climate Change
Insurers and actuaries must act now to address the risks posed by climate change liability.

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About CASCO

We provide ongoing actuarial services to over 100 clients in several areas:

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- Workers' Compensation
- Automobile Liability
- Managed Care Errors & Omissions
- Medical Benefits Stop Loss Risk
- Disability Benefits

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- Communication with auditors, regulators, and excess insurers
- Other regulatory or administrative problems
- Impact analysis of judicial/law changes affecting program costs
- Strategic risk financing studies
- Retention limit analysis (single and multi-line)
- Internal cost allocation
- Pro-forma projections of program results under varying scenarios
- Cash-flow forecasts to help in setting investment strategy
- Evaluation of insurance products
- Projecting costs for acquisitions and new ventures
- Expert witness testimony
- Benchmarking data on loss costs, trends, retention limits, and more

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