

# U.S. Property Casualty Insurance Profit Cycle Review

December 2010

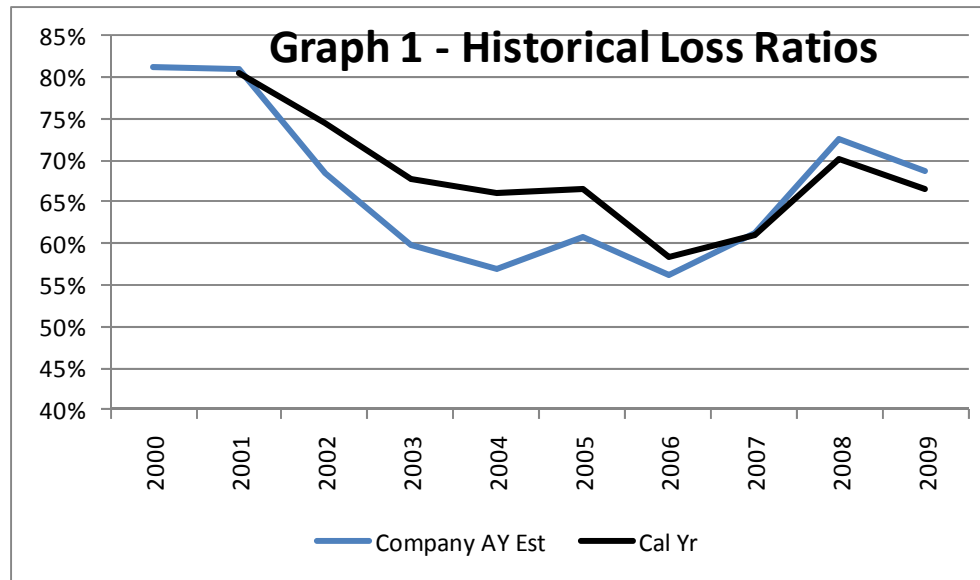
## Summary:

Our independent review of the U.S. Property Casualty Insurance Industry finds that accident years 2000-2009 were better than reported as of 2009. We estimate that the industry still had significant reserve redundancy as of the end of 2009. The recent deterioration in accident year results appears to be real, though not as strong as indicated by reported results. Accident year profitability is likely to deteriorate for some time to come, as prior year reserve releases will reduce the pressure to raise rates.

## Important Note Regarding Actuarial Estimates Contained in This Report

The report is based on independent actuarial analysis of reported insurance results by carrier and line. Like any actuarial analysis, it results in *estimates* rather than exact amounts. These estimates have the potential to be inaccurate, sometimes by significant amounts, as a result of unforeseen developments (ex. changes in inflation, tort environment, etc). The data that was used for the analysis is highly aggregated and subject to potential distortions due to items such as aggregate loss covers, portfolio transfers, acquisitions, and business mix shifts within an insurance line. While we feel that this analysis is well reasoned and the conclusions appropriate, analyses by others could result in different conclusions.

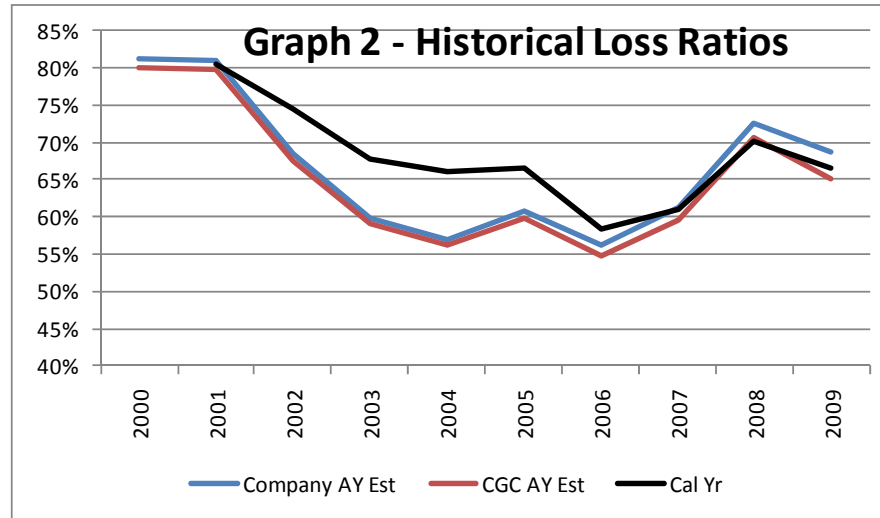
## U.S. Property Casualty Insurance Industry <sup>1</sup> Accident Year vs Calendar Year Loss Ratios (as Reported)



Loss ratios are a common measure of insurance industry profitability. Calendar year loss ratios reflect the total losses actually booked in a given year, and do not change (barring earnings restatement). Company estimates of accident year loss ratios reflect results on premium earned in a given year, and are revised annually in statutory financial statements. Graph 1 above shows calendar year loss ratios, compared to 2009-reported accident year loss ratios. Both the calendar year and accident year loss ratios show improvement in the first part of the decade and deterioration later in the decade. However, the calendar year loss ratio improvements from 2001 to 2006 was gradual and understated the true improvement in results.

2006 appears to be the most profitable point in the cycle. After that point, both the calendar year results and the results by accident year (from 2009 Schedule P) show deteriorating loss ratios, The calendar year changes were more gradual.

## U.S. Property Casualty Insurance Industry Accident Year vs Calendar Year Loss Ratios



We now add a third loss ratio perspective. The red line is our *independent opinion* of the industry accident year loss ratio (CGC AY Estimate). We arrived at this opinion through individual reserve analysis of companies' losses by line as reported in Schedule P of the 2009 Annual Statement, and then aggregating these results across line of business and company.

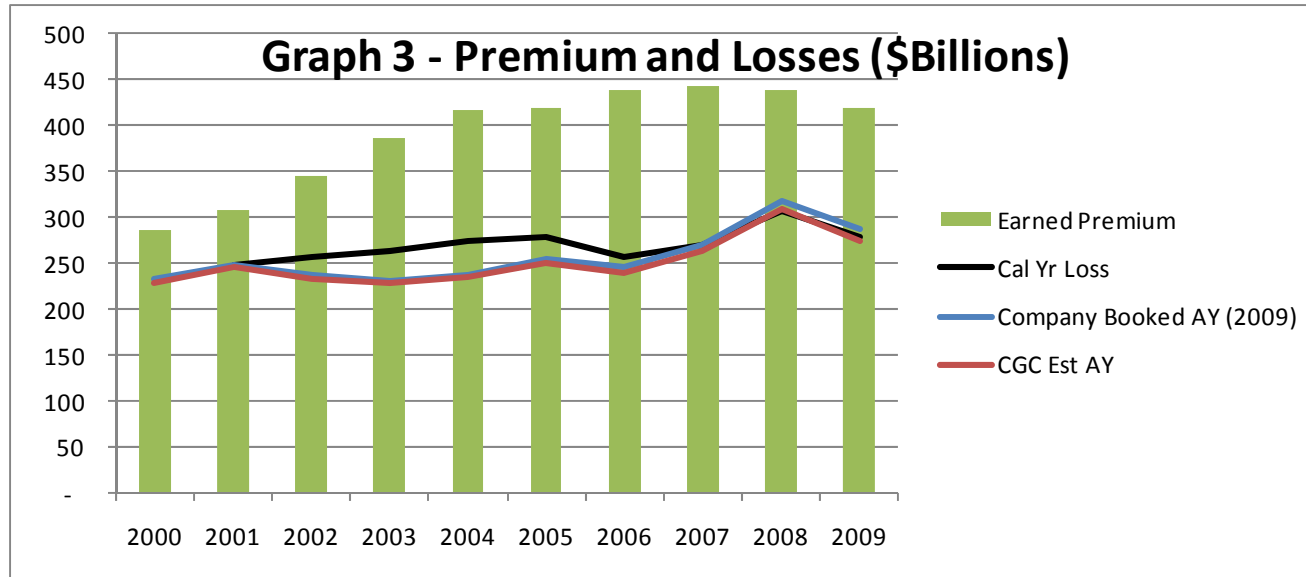
The CGC accident year loss ratio indicates that the accident years for 2000 through 2009 were better than insurance companies in aggregate have reflected on their annual statements, even as of 2009.

While the market is definitely softening, our view is that the rate of deterioration is not as great as what is indicated by the 2009 booked accident year results.

Although the difference between the booked estimates and our estimates may seem minor, the cumulative effect of these differences across accident periods suggests a significant level of reserve redundancy as of year end 2009. This is likely to provide a benefit to calendar year results for the next few years, reducing the pressure to raise premium rates.

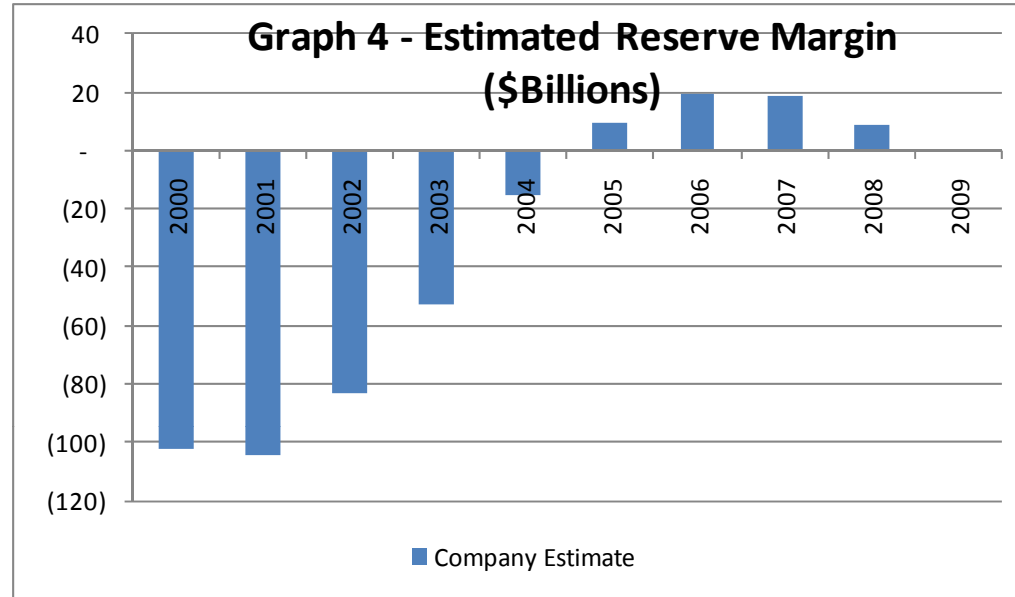
Although improvement in loss ratios occurred between 2008 and 2009, this is likely not due to strengthening of prices, but rather that 2008 was heavily impacted by natural catastrophe and mortgage related losses.

## U.S. Property Casualty Insurance Industry Premiums and Estimated Ultimate Losses



This information takes on additional meaning when shown in dollar terms rather than percentages. From 2000 to 2006, aggregate losses were relatively flat. Losses began to climb again at that point, and earned premium itself declined in the last two years, resulting from the combined effects of a soft market and reduced exposures from a depressed economy.

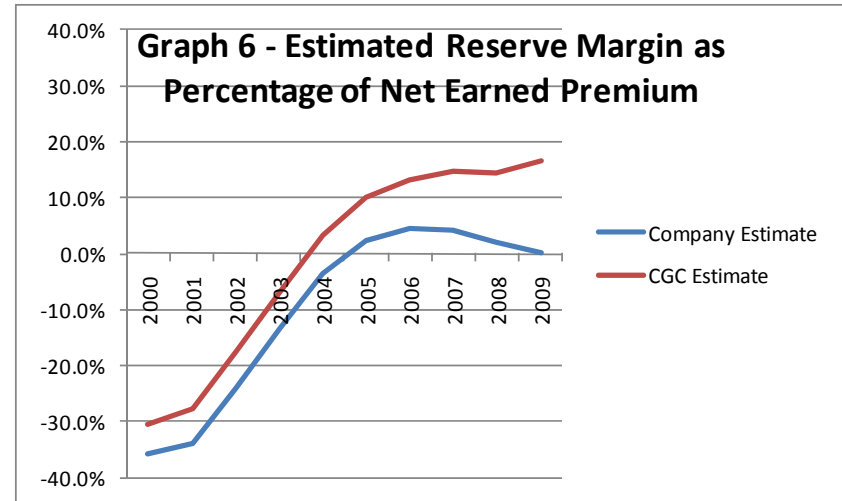
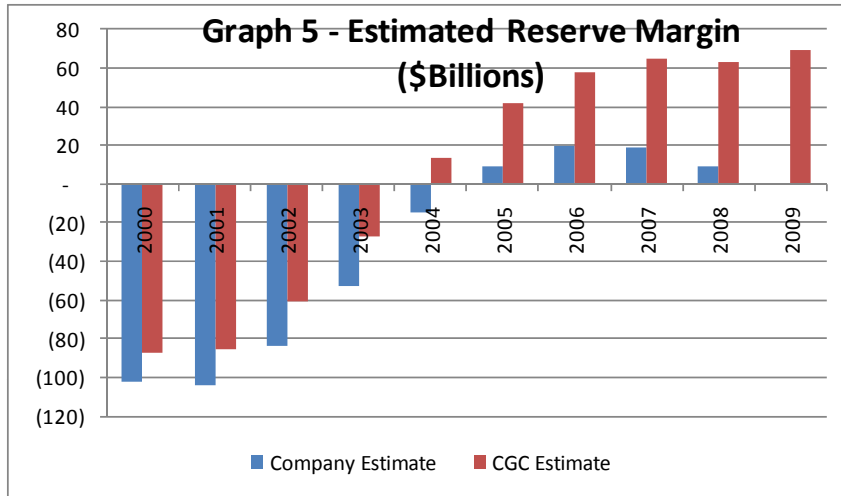
## U.S. Property Casualty Insurance Industry Reserve Adequacy (as Reported)



Each year, companies update their estimates of losses for past accident years. From these changing estimates, a hindsight view of reserve margin can be produced, assuming that current booked reserves are perfectly adequate.

Assuming that the amount booked at the end of 2009 was correct, total industry reserves were short in 2001 by about \$100 billion, and were redundant in 2006 by \$20 billion.

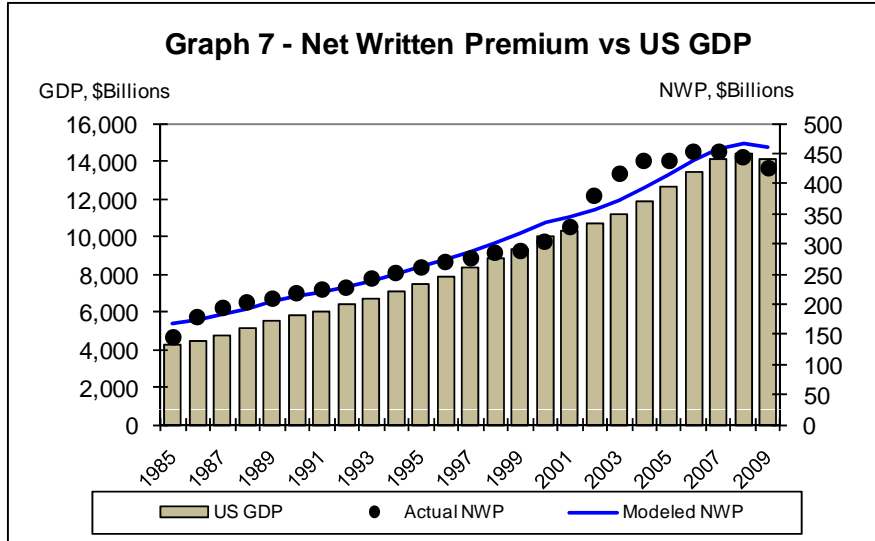
## U.S. Property Casualty Insurance Industry Reserve Adequacy



Our analysis indicates a cycle with more symmetry. Using our current estimates, the low point for industry reserves adequacy was in 2000 with an inadequacy of about \$90 billion. More importantly, we believe that there was still significant reserve redundancy (about \$70 billion) at the end of 2009.

As a percent of 2009 earned premium, this estimated reserve redundancy represents almost 20 loss ratio points. We believe that these twenty points will be observed in prior year releases over a number of years, and that it will not be until the industry reserve position is severely inadequate that insurance rates will harden. The last hard market began when reserve inadequacy was at about 30% of one year's earned premium.

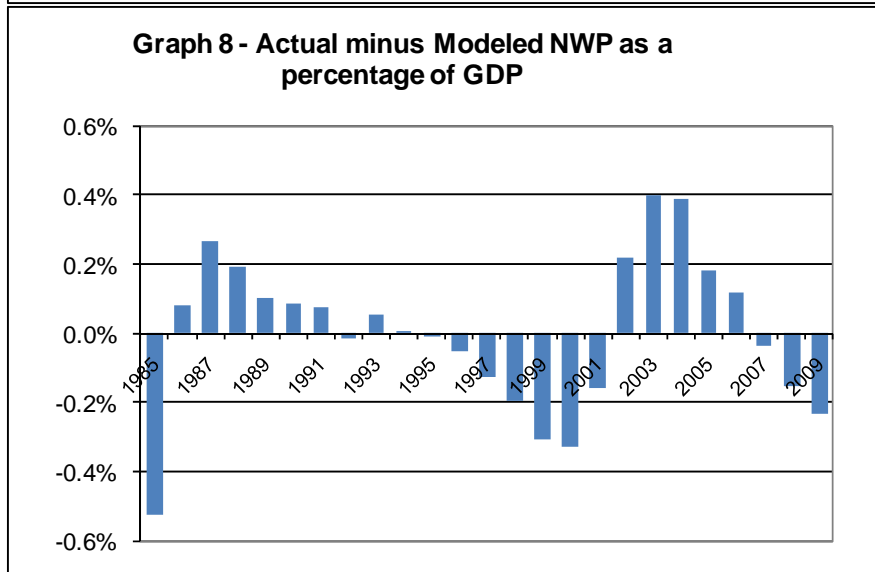
## U.S. Property Casualty Insurance Industry Premium Cycles and U.S. GDP



Because the most recent profit cycle for the property casualty insurance industry lasted 16 years peak to peak, looking at only the last decade does not provide a complete picture of the cycle. Some additional insight can be gained by looking at Net Written Premium<sup>1</sup> compared to the US Gross Domestic Product (GDP).

We modeled Net Written Premium as a function of GDP (linear regression). Over the long term, written premium grows consistently with GDP (graph 7).

The property-casualty insurance market cycle is dramatically shown by looking at the difference between actual and modeled net written premium as a percent of GDP (graph 8).



A cyclical relationship is exhibited, with peaks and troughs at around 0.3-0.4% of GDP.

This view suggests that pricing may begin hardening within the next couple of years. This is at odds with our analysis of the industry loss reserve position discussed earlier. With the recent, highly significant decline in nominal GDP, we are hesitant to rely on the long term observed relationship shown in this view. Instead we are of the view that prices will harden later, as indicated by the view of reserve redundancy.

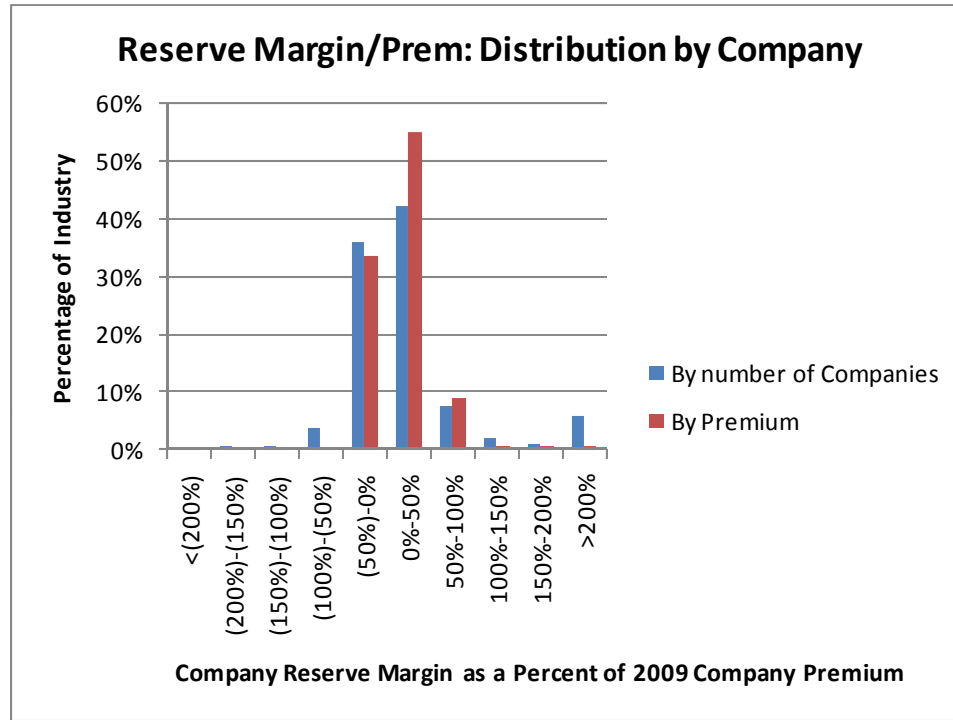


## U.S. Property Casualty Insurance Industry Loss Ratios by Line of Business

Schedule P Line	Incurred Year 2009 Loss Ratio		
	Booked	CGC Estimate	Difference
Homeowners/Farmowners	69%	70%	-1%
Priv Pass Auto Liab	73%	70%	3%
Comm Auto Liab	63%	58%	5%
Work Comp	77%	67%	10%
Comm Multiple Peril	60%	59%	1%
Medical Malpractice	79%	55%	24%
Special Liability	58%	52%	7%
Other Liability	70%	65%	5%
Non-Proportional Reinsurance	63%	44%	19%
Products Liability/Completed Ops	68%	75%	-7%
Short Tailed Lines	66%	64%	2%
<b>All Lines Combined</b>	<b>69%</b>	<b>65%</b>	<b>4%</b>

As discussed earlier, our view of recent loss ratios is more favorable than what has been booked. While pricing for the various lines of business tend to move together, the level of discrepancy between the booked 2009 accident year result and our estimate of the ultimate result for this year varies significantly by line of business, with the most significant discrepancies in medical malpractice and in non-proportional reinsurance. A notable exception to the general situation is in the products line, with our estimate of the 2009 loss ratio being above what is currently booked.

## U.S. Property Casualty Insurance Industry Reserve Strength - Differences by Company



Although we believe the industry in total was carrying redundant reserves as of the end of 2009, this does not mean that we believe *all* companies' reserves were redundant. There is a range of results at the company level, as illustrated by the graph above. We believe most of the companies had redundancy in their reserves at the end of 2009, but that there were a significant number of companies that we believe had inadequate reserves. As the pricing environment continues to soften, we expect this curve to shift to the left, until the pressure to report adverse results becomes too great and pricing action must be taken by a large number of companies.