Mark Burgess
FCAS, MAAA
Burgess@cascoconsulting.com

# Ask the Actuary: Loss Trend

Actuarial analysis involves the use of historical data to project future losses. The historical experience must be adjusted to reflect any anticipated changes through the application of loss trend factors.

Q: What are the components of loss trend?

Actuarial projections rely on frequency, severity, and exposure trend assumptions. Frequency trend accounts for any anticipated change in the number of claims occurring over time. Severity trend anticipates changes in the cost per claim (including inflation). Exposure trend captures the impact a changing exposure base (growing or shrinking operations) is expected to have on losses.

Q: What are reasonable trend assumptions?

Selection of trend assumptions should consider past experience as well as reasonable future expectations. Frequency trend is often assumed to be flat (0% change) in the absence of specific legal or risk profile changes. Selected severity trend assumptions are generally larger for higher retention levels and for lines of coverage that are more affected by inflationary forces. Below is a graph of developed historical severity for CASCO medical professional liability clients.

CASCO Clients - Developed Medical Professional Liability Severity Trend
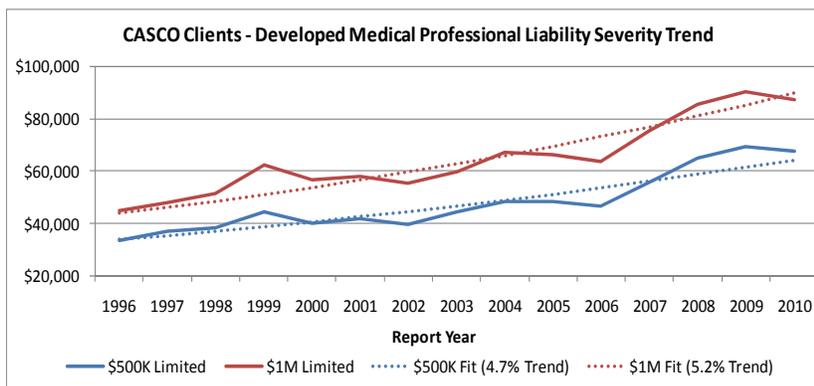
Severity trend for layers excess of a deductible can be highly leveraged. This is especially true in cases where the deductible remains fixed for a long period. The example below shows how severity trend for an excess layer can be much higher than the overall trend.

Assumed severity trends of 4.7% for losses limited at $500k and 5.2% for losses limited at $1M result in a severity trend of 7.2% for losses between $500k and $1M in this example.

Trend Example

(1) 2010 $500k limited severity	$ 67,800
(2) 2010 $1M limited severity	$ 87,300
(3) 2010 severity in $500K to $1M layer = (2)-(1)	$ 19,500
(4) 2011 $500k limited severity assuming **4.7%** trend	$ 71,000
(5) 2011 $1M limited severity assuming **5.2%** trend	$ 91,900
(6) 2011 severity in $500k to $1M layer = (5)-(4)	$ 20,900
(7) Resulting $500k to $1M layer trend = (6)/(3) - 1	**7.2%**