

8. (2.75 points)

Given the following information for a general liability policy, determine the value of X that yields an experience modification of +4.5%.

- Effective period of the policy: January 1 to December 31, 2014.
- Expected loss ratio: 65.6%.
- Type of policy being rated: Claims-made.

Loss Experience		
Policy period	Type of Policy	Includable Losses in Experience Period (Limited by MSL)
January 1, 2012, to December 31, 2012	Claims-made	X
January 1, 2011, to December 31, 2011	Occurrence	\$72,234
January 1, 2010, to December 31, 2010	Occurrence	\$30,484
Total		\$102,718 + X

Policy Period	Coverage	Company Subject Loss Cost
Latest Policy Year	Prem/Ops	\$32,160
	Products	\$6,679
Prior Policy Year	Prem/Ops	\$42,832
	Products	\$14,137
Next Prior Policy Year	Prem/Ops	\$38,695
	Products	\$13,327
Total		\$147,830

Subject Loss Cost	Credibility	Expected Experience Ratio	Maximum Single Loss
\$138,763 - \$145,183	0.33	0.866	\$109,200
\$145,184 - \$151,800	0.34	0.870	\$111,400
\$151,801 - \$158,621	0.35	0.874	\$113,700
\$158,622 - \$165,658	0.36	0.878	\$116,050
\$165,659 - \$172,920	0.37	0.882	\$118,450

Loss Development Factors			
Subline	Latest Policy Year	Prior Policy Year	Next Prior Policy Year
Prem/Ops	0.519	0.338	0.198
Products	0.766	0.637	0.528

Question 8:

Model Solution 1

CSLC = 147,830 \rightarrow $z = .034$ EER = 0.870 MSL = 111,400

PY	Covg	CSLC	EER	LDF	ARULL
2012	Prem	32,160	0.870	0	0
2012	Prod	6,679	0.870	0	0
2011	Prem	42,832	0.870	0.338	12,595
2011	Prod	14,137	0.870	0.637	7,835
2010	Prem	38,695	0.870	0.198	6,666
2010	Prod	13,327	0.870	0.528	6,122
Total		147,830			33,218

$ARULL = CSLC \times EER \times LDF$

$Mod = z \times (AER - EER) / EER$

$0.045 = 0.34 \times (AER - 0.87) / 0.87$

$AER = 0.985147059 = (102,718 + X + 33,218) / 147,830$

$X = 9,698$

Examiner's Comments:

Common errors that resulted in partial credit:

- LDFs were used for the Claims Made (2012) Policy
- Did not multiply by EER in calculation of the ARULL
- In the formula for the Mod, some candidates used $1 + Mod$ instead of just the mod itself on the left side of the equation
- Candidates did not do the entire first step to calculate the ARULL
- There were some candidates who did not explicitly calculate the AER, however if they arrived at the correct answer, they were given full credit. If the candidate did not explicitly calculate the AER, but got the wrong answer, additional deductions were taken since the steps were not clearly documented.
- Incorrect formulas
- Did not calculate includable losses correctly
- Some candidates wrote down the correct credibility to use somewhere on the page, but actually used something different in formulas and calculations
