Model: 2019.Spring #4

Problem Type: Leveraged Effect of Limits of Severity Trend

Find

(a) calculate the basic limits loss trend over a 1-year time frame

(b) calculate the excess limits loss trend over a 1-year time frame

Given

claim #	total limits loss
1	28,000
2	48,300
3	51,500
4	97,500

total limits severity trend	7.0%
basic limit	50,000

(a)   calculate the untrended and trended **basic** limits losses

claim #	untrended basic limits loss	trended basic limits loss
1	28,000	29,960
2	48,300	50,000
3	50,000	50,000
4	50,000	50,000
total	176,300	179,960

basic limits loss trend   =   179,960   /   176,300   -   1

                                 =   2.08%

                                            (final answer)

(b)   calculate the untrended and trended **excess** limits losses AND trended total limits losses

claim #	untrended excess limits loss	trended TOTAL limits loss	trended excess limits loss
1	0	29,960	0
2	0	51,681	1,681
3	1,500	55,105	5,105
4	47,500	104,325	54,325
total	49,000	241,071	61,111

excess limits loss trend   =   61,111   /   49,000   -   1

                                  =   24.72%

                                             (final answer)

Observation

The basic limits loss trend always has the smallest _magnitude_ or absolute value.
The excess limits loss trend always has the greatest _magnitude_ or absolute value.
    and
The total limits loss trend is always in the middle

If the total limits loss trend is applied to basic limits losses then
    ====>   if the trend is positive the trended basic limits losses will be _over_estimated.
    ====>   if the trend is negative the trended basic limits losses will be _under_estimated.

Reading: Werner 06: Premium   W-06 (070) - (Problem 2)
Model: 2019.Spring #4
Problem Type: Leveraged Effect of Limits of Severity Trend

Find   (a) calculate the basic limits loss trend over a 1-year time frame

             (b) calculate the excess limits loss trend over a 1-year time frame

Given

claim #	total limits loss
1	64,800
2	94,700
3	100,800
4	117,000

total limits severity trend	-10.0%
basic limit	90,000

Reading: Werner 06: Premium
Model: 2019.Spring #4
Problem Type: Leveraged Effect of Limits of Severity Trend

(a)   calculate the untrended and trended **basic** limits losses

claim #	untrended basic limits loss	trended basic limits loss
1	64,800	58,320
2	90,000	85,230
3	90,000	90,000
4	90,000	90,000
total	334,800	323,550

basic limits loss trend   =   323,550   /   334,800   -   1

                                 =   -3.36%
                                            (final answer)

(b)   calculate the untrended and trended **excess** limits losses AND trended total limits losses

claim #	untrended excess limits loss	trended TOTAL limits loss	trended excess limits loss
1	0	58,320	0
2	4,700	85,230	0
3	10,800	90,720	720
4	27,000	105,300	15,300
total	42,500	339,570	16,020

excess limits loss trend   =   16,020   /   42,500   -   1

                                  =   -62.31%
                                             (final answer)

Observation

The basic limits loss trend always has the smallest <u>magnitude</u> or absolute value.
The excess limits loss trend always has the greatest <u>magnitude</u> or absolute value.
     and
The total limits loss trend is always in the middle

If the total limits loss trend is applied to basic limits losses then
     ====>   if the trend is positive the trended basic limits losses will be <u>over</u>estimated.
     ====>   if the trend is negative the trended basic limits losses will be <u>under</u>estimated.