

Reading: Friedland 17 (ULAE) (Fr17.ULAE) Practice A a-Question
Model: 2018.Fall #22
Problem Type: Classical/Kittel approach for ULAE with relaxation of 50/50 assumption

Random A Use the classical approach to estimate the unpaid ULAE for AY 2020

occurrence <= policy type

CY	paid ULAE	paid claims	incurred claims	<== incurred includes reported & IBNR
2016	0	0	0	
2017	54,000	460,000	540,000	
2018	51,000	329,000	570,000	
2019	47,000	397,000	460,000	
2020	60,000	314,000	520,000	

124,000	case outstanding (total across all AYs)
118,000	total IBNR (total across all AYs)
42%	% of total IBNR attributed to future case development on known claims

55%	percent of unallocated work that occurs when a claim is opened
45%	percent of unallocated work that occurs when a claim is closed

Step 1: classical ULAE ratio ==> (paid ULAE) / (paid claims)

CY	paid ULAE	paid claims	ULAE ratio
2016	0	0	
2017	54,000	460,000	11.7%
2018	51,000	329,000	15.5%
2019	47,000	397,000	11.8%
2020	60,000	314,000	19.1%

Sometimes there is a **trend** in ULAE ratios.
If so, you may need to use **judgement**
instead of just selecting the average

14.5% <== selected (average)

Step 2: apply formula for unpaid ULAE

$$\text{unpaid ULAE} = (\text{ULAE ratio}) \times [45\% \times (\text{Case} + \text{IBNER}) + 100\% \times \text{IBNYR}]$$

where:

$$\begin{aligned} \text{IBNER} &= 42\% \times \text{Total IBNR} &<== \text{Incurred But Not ENOUGH Reported} \\ &= 42\% \times 118,000 \\ &= 49,560 \end{aligned}$$

$$\begin{aligned} \text{IBNYR} &= \text{Tot IBNR} - \text{IBNER} &<== \text{Incurred But Not YET Reported} \\ &= 118,000 - 49,560 \\ &= 68,440 \end{aligned}$$

therefore:

$$\begin{aligned} \text{unpaid ULAE} &= 15\% \times [45\% \times 173,560 + 100\% \times 68,440] \\ \text{unpaid ULAE} &= 21,285 &<== \text{final answer} \end{aligned}$$

Reading: Friedland 17 (ULAE)
Model: 2018.Spring #23
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Random B

Use the **classical** approach to estimate the **unpaid** ULAE for AY **2022**

occurrence <== policy type

CY	paid ULAE	paid claims	incurred claims	<== incurred includes reported & IBNR
2018	0	0	0	
2019	45,000	371,000	430,000	
2020	49,000	309,000	500,000	
2021	51,000	419,000	510,000	
2022	44,000	305,000	500,000	

116,000	case outstanding (total across all AYs)
69,000	total IBNR (total across all AYs)
73%	% of total IBNR attributed to future case development on known claims

70%	percent of unallocated work that occurs when a claim is opened
30%	percent of unallocated work that occurs when a claim is closed

Step 1: classical ULAE ratio ==> (paid ULAE) / (paid claims)

CY	paid ULAE	paid claims	ULAE ratio
2018	0	0	
2019	45,000	371,000	12.1%
2020	49,000	309,000	15.9%
2021	51,000	419,000	12.2%
2022	44,000	305,000	14.4%

Sometimes there is a **trend** in ULAE ratios.
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instead of just selecting the average

13.7% <== selected (average)

Step 2: apply formula for unpaid ULAE

$$\text{unpaid ULAE} = (\text{ULAE ratio}) \times [30\% \times (\text{Case} + \text{IBNER}) + 100\% \times \text{IBNYR}]$$

where:

$$\begin{aligned} \text{IBNER} &= 73\% \times \text{Total IBNR} &<== \text{Incurred But Not ENOUGH Reported} \\ &= 73\% \times 69,000 \\ &= 50,370 \end{aligned}$$

$$\begin{aligned} \text{IBNYR} &= \text{Tot IBNR} - \text{IBNER} &<== \text{Incurred But Not YET Reported} \\ &= 69,000 - 50,370 \\ &= 18,630 \end{aligned}$$

therefore:

$$\begin{aligned} \text{unpaid ULAE} &= 14\% \times [30\% \times 166,370 + 100\% \times 18,630] \\ \text{unpaid ULAE} &= 9,356 &<== \text{final answer} \end{aligned}$$