

## Tutorial 3 - Financial Reporting

1. Given the ratio of paid ALAE to paid claims and ultimate claims in table below:

AY	12m	24m	36m	Ult	Ult Claims
2005	0.0060	0.0077	0.0080	0.0080	210,000
2006	0.0070	0.0081	0.0090		218,400
2007	0.0065	0.0079			227,140
2008	0.0062				236,220

If the paid ALAE for AY2008 is 500, what is the ultimate ALAE and unpaid ALAE for AY2008?

2. You are given the following claims paid data:

AY	1	2	3	4	Paid ULAE
1994	3,575	5,363	6,328	6,961	350
1995	4,200	6,300	7,434		600
1996	4,875	7,313			800
1997	5,600				1,000

- Tail factor = 1.027
- Total case reserves as at 12/31/1997 = 4,000

Calculate the estimated unpaid ULAE as at 12/31/1997.

3. Given that:

CY	Paid ULAE	Paid Claims& ALAE
2006	11,000	60,000
2007	14,000	90,000
2008	16,000	110,000

and for all AYs, as of Dec 31, 2008:

- Case Reserves= \$293,000
- IBNR = \$114,000

Estimate the unpaid ULAE as of Dec 31, 2008

4. Using weighted average for the selected ULAE ratio, the company's unpaid ULAE is 3,120. You are given the following information:

CY	Paid ULAE	Paid Claims & ALAE
2006	A	17,000
2007	2,750	21,500
2008	4,500	35,000
2009	5,500	40,000

If the case reserves is \$20,000 and IBNR is \$14,000. What is the value of A?

5. You prepare ULAE reserve estimate using the Wendy Johnson count-based method. The following weights for the three different types of claim counts are used:

Newly reported counts	30%
Open counts	60%
Closed counts	10%

You are given the following additional information:

Historical Counts:

CY	Paid ULAE	Newly Reported	Open	Closed
2013	71,520	86	43	93
2014	55,420	67	32	78
2015	35,630	44	19	57

Projected Counts:

CY	Newly Reported	Open	Closed
2016	19	7	31
2017	6	1	12
2018	1	0	2

6. You are given the following information: Historical Counts:

CY	ULAE	Newly Rpt.	Open	Closed
2012	1,862	1550	577	1580
2013	2,100	1700	614	1663
2014	1,995	1685	621	1678

Projected Counts:

CY	Newly Reported	Open	Closed
2015	665	316	970
2016	150	82	384
2017	0	0	82

There is no expense trend in the last 3 years and prospectively, the expense trend is expected to be 3% annually. If the weights for newly reported, open and closed counts are 20%, 70% and 10% respectively, estimate the unpaid ULAE.

7. Explain why dollar based method is not suitable for estimating unpaid ULAE if the written exposures is decreasing.
8. Given the following information:  
Cumulative Reported Count:

AY	Paid ULAE	12m	24m	36m	Ult
2014	1,500	99	124	150	150
2015	2,200	120	149		180
2016	2,900	140			211

Incremental Closed Count:

AY	12m	24m	36m
2014	78	44	28
2015	89	61	30
2016	108	64	39

Calculate the unpaid ULAE using Wendy Johnson method. Assume that the weights for newly reported, open and closed count to be 20%, 70% and 10%, respectively.

9. Complete the following table:

AY	Paid	Case Reserves	Reported	IBNR	Est. Ult. Claim
2008	4,148			4,975	16,797
2009	1,890			6,713	16,081
2010	1,292			8,424	17,352

What is the total claims liabilities if the estimate unpaid loss adjustment expense is 6,000?

10. Suppose that the ELR for unearned premium is 75% and the unearned premiums is 1,352. Calculate the premium liabilities if:
- ULAE is 10% of expected claims
  - Maintenance Expense is 5.3%
  - Commissions is 3.6%
11. You are given the following information as of Dec 31, 2016:

Net Written Premium	10,000
Net Earned Premium	5,000
ULR	80.00%
ULAE (of net claims)	15.00%

The general expense ratio is 20% of net premium and proportion of general expense applicable to net unearned premium is 30%. Calculate the PL as of Dec 31, 2016.