

11. (2 points)

A company that began writing business in 2012 writes only commercial auto liability. The following excerpts are from the company's 2016 Schedule P.

Sch. P, Part 2 – Incurred Net Loss and DCC Expense Reported at Year End					
Years in Which Losses Were Incurred	2012	2013	2014	2015	2016
2012	1,000	1,300	1,500	1,500	1,400
2013		2,000	3,000	3,100	3,100
2014			4,000	3,500	3,400
2015				3,200	3,000
2016					3,000

Sch. P, Part 3 – Cumulative Paid Net Loss and DCC Expense Reported at Year End					
Years in Which Losses Were Incurred	2012	2013	2014	2015	2016
2012	200	750	1,100	1,300	1,400
2013		500	1,500	2,100	2,700
2014			1,300	2,200	3,100
2015				1,400	2,400
2016					1,500

Sch. P, Part 4 – Bulk & IBNR Reserves on Net Loss and DCC Expense Reported at Year End					
Years in Which Losses Were Incurred	2012	2013	2014	2015	2016
2012	500	300	250	100	-
2013		1,000	800	300	100
2014			1,900	500	100
2015				1,500	200
2016					1,300

a. (1 point)

Calculate the calendar year 2016 case incurred net loss and DCC expense.

b. (0.5 point)

Calculate the calendar year 2016 paid net loss and DCC expense.

c. (0.5 point)

Based on the data provided, describe one potential concern a regulator may have with this company's reserve adequacy.

- Including change in total asset value. This fails to recognize that a portion of the change in total asset value is already recognized in net income so adding changes in asset value is double counting the change in surplus. For example if a hypothetical company started business writing a single \$100 policy on 1/1/2016, given no taxes, expenses, losses or other income sources, it's 2016 net income would be \$100. Its change in surplus and assets would also be \$100. Adding the change in assets to net income would say its surplus increased \$200.
- Errors in overall approach to problem:
 - A few candidates took a different approach in solving this problem by trying to directly solve for 2016 surplus as 2016 assets minus 2016 liabilities. Although it is possible to calculate 2016 assets, not enough information was provided to directly calculate 2016 liabilities from the inputs provided.

QUESTION 11

TOTAL POINT VALUE: 2

LEARNING OBJECTIVE: C1

SAMPLE ANSWERS

Part a: 1 point

Sample 1

CY 2016 Incurred Net Loss and DCC

$$= (3000+3000+3400+3100+1400) - (3200+3500+3100+1500) = 2600$$

CY 2016 Bulk & IBNR Reserves

$$= (1300+200+100+100+0) - (1500+500+300+100) = -700$$

CY 2016 Case Incurred Net Loss and DCC

$$= 2600 - (-700) = 3300$$

Sample 2

$$\begin{aligned} \text{Case Incurred} &= 3000 + (3000-3200) + (3400-3500) + (3100-3100) + (1400-1500) - \\ &[(1300 + (200-1500) + (100-500) + (100-300) + (0-100))] = 3300 \end{aligned}$$

Sample 3

Case Incurred = Paid + Change(Case Reserves)

$$\text{Paid} = 2016 \text{ Cum.} - 2015 \text{ Cum.} = (1400 + \dots + 1500) - (1300 + \dots + 1400) = 11100 - 7000 = 4100$$

Case Reserves = Part 2 – Part 3 – Part 4

	2015	2016
2012	100	0
2013	700	300
2014	800	200
2015	300	400

2016	200
<p>AY 2013 @ 2016 = 3100-2700-100 = 300</p> <p>Change in Case = (0+300+...+200) – (100+...+300) = -800</p> <p>Case Incurred = 4100 + (-800) = 3300</p>	
Part b: 0.5 point	
<p><u>Sample 1</u></p> <p>Sum Part 3, 2016 – Sum Part 3, 2015 = 11100-7000 = 4100</p> <p><u>Sample 2</u></p> <p>Paid in 2016 = (1400+2700+3100+2400+1500) – (1300+2100+2200+1400) = 4100</p>	
Part c: 0.5 point	
<ul style="list-style-type: none"> • Paid losses at equivalent maturities are increasing, but incurred losses have started decreasing. Could signal under reserving. • There has been a drastic increase in the % Paid: <ul style="list-style-type: none"> 2012 @ 12 mos = 20% 2013 @ 12 mos = 25% 2014 @ 12 mos = 32.5% 2015 @ 12 mos = 44% 2016 @ 12 mos = 50% They have dramatically decreased the reserves, which may be deficient • The company seemed to under-reserve in 2012-2013 (upward incurred dev) and then over-reserve in 2014-2015 (downward incurred dev). Reserve practices are inconsistent. Are current reserves adequate? • The company may be over reserving at first and then having negative development. They may be underpaying taxes. We can see this in Part 2 where 2015 column usually less than 2014 column and 2016 less than 2015 • 2016 CY Case Incurred < 2016 CY Paid so change in case is negative. Reserves could be deficient • The IBNR reserves from AY 2014 are decreasing at first evaluation point. Company may underestimate the emerging claims • Sch P Part 2 shows incurred losses in AY 12 and 13 have grown substantially since inception. This may lead to concern that based on the older available AYs losses are booked too low. • Commercial Auto Liability is a long-tailed line. It may not make sense to have 0 bulk and IBNR reserves in 2016 for the 2012 AY. This is maybe too low. 	
EXAMINER'S REPORT	
<p>Candidates were expected to use Sch P, parts 2-4 to calculate CY case incurred and paid losses. Candidates were also expected to recognize patterns in the Sch P data given that might alert a regulator to a potential problem with the company's financial position.</p>	

Many candidates struggled to interpret what was meant by case incurred loss in part a. Also, some candidates struggled to connect the data given to potential regulatory concerns, either pointing out a trend in the data without the potential issue or providing the issue without a direct correlation to the data.

Part a

Candidates were expected to calculate the 2016 CY case incurred using the data given.

Common errors included:

- Calculating incurred – paid – IBNR (2-3-4) instead of just incurred – IBNR (2-4)
- Calculating just CY incurred (just 2)
- Calculating incurred + IBNR (2+4)
- Calculating incurred – paid (2-3)
- Calculating paid + IBNR (3+4)
- Calculating paid + 2016 case instead of paid + change in case
- Only using 2016 column and not subtracting 2015

Part b

Candidates were expected to calculate the 2016 CY paid using the data given.

Common errors included:

- Only using 2016 column and not subtracting 2015

Part c

Candidates were expected to connect trends in the data given to potential regulatory concerns

Common errors included:

- Recognizing the IBNR was decreasing over time but with no connection to a long-tailed line or comparing that trend across AYs
- Recognizing the reserves were potentially overstated b/c of the downward trend in incurreds but not tying to a regulatory concern
- Recognizing other trends in the data but not providing a potential concern
- Only providing a concern without tying it to the data given

QUESTION 12

TOTAL POINT VALUE: 2

LEARNING OBJECTIVE: C1

SAMPLE ANSWERS

Part a: 1 point