18. (3.75 points)

Given the following information for an insurance company that is going to be acquired on January 1, 2017 (all figures are in millions of dollars):

- Amounts at time of acquisition:

Fair Value Assets	280
U.S. GAAP Assets	275
Fair Value Liabilities (other than Loss & LAE Reserves)	70
Purchase Price	11

- Expected future nominal loss & LAE payments related to liabilities incurred at time of acquisition:

Year	Amount
2017	100
2018	60
2019	40
2020 and beyond	0

- Loss & LAE payments are made halfway through each year.
- The required capital at each year-end is 50% of the average nominal unpaid loss + LAE over the previous 12 months.
- The return on capital is paid to investors at each year end.
- Pre-tax cost of capital: 9%
- Risk-free interest rate: 2%
- Illiquidity premium: 1%

a. (3.25 points)

Calculate the value of the purchaser's goodwill under U.S. Purchase GAAP accounting using the Cost of Capital Approach.

b. (0.5 point)

Briefly describe how goodwill is both calculated and amortized under SAP.

CONTINUED ON NEXT PAGE

QUESTION: 18	
TOTAL POINT VALUE: 3.75	LEARNING OBJECTIVE: C3
SAMPLE ANSWERS	

Part a: 3.25 points

Sample 1

	2017	2018	2019	2020
Inc. Payments	100	60	40	0
Unpaid year start	200	100	40	0
Unpaid year end	100	40	0	
Avg. unpaid	150	70	20	
Required Capital	75=150*0.5	35	10	
Cost Capital	4.5=75*(9%-3%)	2.1	0.6	
PV payments	98.53=100/(1.03)^0.5	57.4	37.15	
PV cost capital	4.37=4.5/(1.03)^1	1.98	0.55	
Fair value liability=98.53+57.4+37.15+4.37+1.98+0.55+70=270				
Goodwill=11-(280-270)=1				

Sample 2

Discounted Loss and LAE payments = $\frac{100}{(1.03)^{.5}} + \frac{60}{(1.03)^{1.5}} + \frac{40}{(1.03)^{2.5}}$ = 193.08

	1	2	3
Required Capital	75=(200+100)*0.5	35	10
R-i applied to capital	4.6=75*(0.09-0.03)	2.1	0.6
Discount to capital	1.03^(-1)	1.03^(-2)	1.03^(-3)
Total=6.9			

Fair value liability for Loss and LAE =193.08+6.9 = 200
Total value of Liability = 200+70 =270
Fair value of Asset = 280
Goodwill=11-(280-270)=1

Part b: 0.5 point

Sample 1

- Goodwill under SAP is purchase price less surplus of acquired entity
- It is amortized over the time the acquiring company benefits from the purchase, up to 10 years

Sample 2

- Under SAP, goodwill is the difference between purchase and policyholder surplus.
- Goodwill is amortized to unrealized gains for a period of no more than10 years

EXAMINER'S REPORT

The candidates were expected to understand the details of the difference between GAAP and SAP in Goodwill and how the fair value of claims liabilities, including risk margins is calculated.

This question tests subject matter that has not been heavily tested in the past and requires detailed knowledge of GAAP principles. Candidates were more familiar with the description of Goodwill calculation under SAP than the numeric calculation of GAAP.

Part a

The candidates were expected to know how the Goodwill is calculated under GAAP using the Cost of Capital Approach.

Common mistakes included:

- 2% discount instead of 3% (forget illiquidity premium)
- Capital equals 50% of payments instead of average unpaid balance
- Capital equals 50% of BOY unpaid balance
- Cost of capital of 9% instead of 6%
- Used GAAP asset value instead of fair value
- Goodwill equals net fair value less purchase price rather than reverse.

Part b

The candidates were expected to briefly describe how goodwill is calculated and amortized under SAP.

Common mistakes included:

- PHS less purchase price rather than reverse
- Fair value of net assets instead of PHS
- Forgot 10 year limit on amortization