10. (4.5 points)

A company began operations on January 1, 2016. The following information comes from the company's 2016 and 2017 Annual Statements (all figures are in millions of dollars):

Calendar Year Premiums	**2016**	**2017**
Direct and assumed premiums written	75	100
Direct and assumed premiums earned	40	90
Ceded premiums written	15	20
Ceded premiums earned	8	18

Accident Year Results as of December 31, 2017	**2016**	**2017**
Direct and assumed losses incurred	24	54
Direct and assumed losses paid	18	20
Ceded losses incurred	1.5	3.5
Ceded losses paid	0.5	2.5
Direct and assumed loss adjustment expenses incurred	7	16
Direct and assumed loss adjustment expenses paid	4.5	6
Ceded loss adjustment expenses incurred	0.3	0.8
Ceded loss adjustment expenses paid	0.1	0.2

Remaining Year-End Balances	**2016**	**2017**
Real estate	9	48
Cash	10	22
Bonds	30	50
Common stocks	5	11
Deferred agents' balances (admitted)	14	19
Provision for reinsurance	1	3
Other liabilities write-ins	2	4

a. (2.75 points)

Calculate the company's 2017 statutory surplus.

b. (0.75 point)

Evaluate whether the company's IRIS ratio 9 (Adjusted Liabilities to Liquid Assets) falls into the usual range.

c. (1 point)

Describe how two schedules or exhibits in the Annual Statement, other than the Balance Sheet, can be used to analyze the potential for liquidity concerns.

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SAMPLE ANSWERS AND EXAMINER'S REPORT

SPRING 2019 EXAM 6US, QUESTION 10	
TOTAL POINT VALUE: 4.75	**LEARNING OBJECTIVES: C1, C2**
SAMPLE ANSWERS	
Part a: 2.75 points	

2017 statutory assets = Real estate + Cash + Bonds + Common Stocks + Deferred agents' balances (admitted) = 48 + 22 + 50 + 11 + 19 = 150

2017 net loss reserve balance = Accident year 2016 net reserve balance as of 2017 + Accident year 2017 net reserve balance as of 2017 = [(24 – 18) – (1.5 – .5)] + [(54 – 20) – (3.5 – 2.5)] = 38

2017 net loss adjustment expense reserve balance = Accident year 2016 net reserve balance as of 2017 + Accident year 2017 net reserve balance as of 2017 = [(7 – 4.5) – (.3-.1)] + [(16 – 6)-(.8-.2)] = 11.7

2017 net UEPR = 2016 calendar year net UEPR balance + 2017 calendar year net UEPR balance = [(75-40)-(15-8)] + [(100-90) –(20-18)] = 36

2017 statutory liabilities = 2017 net loss reserve balance + 2017 net loss adjustment expense reserve balance + 2017 net UEPR + 2017 provision for reinsurance + Other liabilities write-ins = 38+11.7+36+3+4 = 92.7

2017 statutory surplus = 2017 statutory assets – 2017 statutory liabilities = 150 – 92.7 = 57.3

Part b: 1 point

Adjusted liabilities = 2017 statutory liabilities (from part a) – 2017 Deferred agents' balances
= 92.7 – 19 = 73.7

Liquid assets = 2017 cash + 2017 bonds + 2017 common stocks = 22+50+11 = 83

IRIS ratio # 9 = adjusted liabilities / liquid assets = 73.7 / 83 = .888

Evaluation: since .888 < 1 the ratio falls into the usual range

Part c: 1 point

Any two of the following:

- The comments on the collectability of reinsurance in the SAO could be used to determine if there are issues receiving payment from reinsurer which could lead to liquidity issues
- The income statement can show the profitability over a period of time. It could show if the company is losing money which would decrease surplus and be less of a cushion to cover policyholder obligations
- Notes to the financial statement contains sections related to credit risk. Insurers might need to liquidate assets for liabilities. By looking at the notes we can better understand the credit risk and therefore understand if there are any liquidity concerns
- Cash flow statement – can see cash inflow and outflow during the year and if there is

higher cash inflow liquidity risk will be reduced

- Schedule P can be used to examine loss development. Users can see how losses developed overtime and see if the company is consistently experiencing adverse or favorable development. If adverse development persists there may be liquidity concern.
- Schedule D – this gives information about the company's holdings of bonds. One can look at the investment portfolio to see if the company is matching duration of investments to duration of losses. To remain liquid the company should heavily rely on shorter term investments if it has shorter tailed lines of business.
- 5 year summary – this lists the operating ratios for the last 5 years. A company that is operating profitably is less of a liquid concern since they are taking in more premiums than their anticipated loss and expense obligations.
- Schedule F can be used to analyze credit risk arising from reinsurance treaties. It will provide detail of ceded liabilities and the reinsurers' collateral. Excessive reinsurance without collateral could indicate future liquidity concerns especially if the reinsurers are slow pay or have excessive disputed claims
- Schedule T can provide info on where risks are written and if there are potential cat exposures that would require a large amount of liquidity to pay for potential losses.
- Schedule A provides information on real estate including if real estate is occupied or held for sale. Large balances of real estate that is occupied could indicate a large amount of illiquid assets compared real estate held for sale that is more liquid
- Notes – uncollectable reinsurance – may impact liquidity if reinsurance becomes uncollectable and need to pay claims
- Examine exhibit E to get accurate detail of insurer's cash and cash equivalent assets – would be concerned if figures are low here compared to more illiquid assets
- IEE can show expenses by line and if any are unusual or large. This may affect liquidity if there are unusually high expenses that the insurer has to pay
- Schedule D and DA show the company's portfolio of bonds and stocks which are typically easier to convert to cash
- Notes to financials talks about the risk of material adverse development and cat risks which can potentially cause liquidity problems
- Schedule BA shows the long term investments. A company worried about liquidation should not carry as much in this schedule compared to more liquid assets like cash.

EXAMINER'S REPORT

Candidates were expected to understand how to calculate a company's statutory surplus. They were also expected use the company data to calculate IRIS ratio #9 and determine whether the ratio was within the usual range. Finally, candidates were expected to describe how two schedules or exhibits in the annual statement, other than the Balance Sheet, can be used to analyze the potential for liquidity concerns.

Part a

Candidates were expected to understand how to calculate a company's statutory surplus.

Common mistakes included:

- Attempting to calculate year end 2016 surplus to use the net income method to

calculate 2017 surplus. The 2016 surplus estimate requires loss and loss adjustment expense balances as of year end 2016. These amounts were not provided. • Excluding deferred agents' balances from 2017 statutory assets • Considering deferred agents' balances as a liability • Including net earned premium in the 2017 statutory assets • Adding the change of provision for reinsurance and other liability write-ins (2017 balance minus the 2016 balance) to liabilities rather than the 2017 balance • Not calculating net reserves by subtracting ceded amounts • Not subtracting direct and assumed losses paid to determine reserve balances
Part b
Candidates were expected use the company data to calculate IRIS ratio #9 and determine whether the ratio was within the usual range. Common mistakes included: • Not subtracting deferred agents' balances from liabilities • Subtracting deferred agents' balances from assets rather than liabilities • Incorrectly identifying the range of usual values, or omitting it all together
Part c
Candidates were expected to describe how two schedules or exhibits in the annual statement, other than the Balance Sheet, can be used to analyze the potential for liquidity concerns. Common mistakes included: • Giving a section of the annual statement and properly explaining what it contains but neglecting to explain how the contents relate to liquidity • Incorrectly stating items that are in exhibits (for example, stating that real estate in is exhibit D)