6. (2.25 points)

a. (1 point)

Discuss whether there is a need to explicitly account for the following costs in primary ratemaking:

i. Proportional reinsurance
ii. Non-proportional reinsurance

b. (0.5 point)

Identify two sources of investment income considered in the total profit provision.

c. (0.75 point)

Briefly discuss whether trending is necessary for the following:

i. Variable expenses
ii. Fixed expenses when using the exposure-based projection method
iii. Fixed expenses when using the premium-based projection method

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QUESTION 6	
TOTAL POINT VALUE: 2.25	**LEARNING OBJECTIVE(S): A4**
SAMPLE ANSWERS	
Part a: 1.0 point	

<u>Sample responses for i. proportional reinsurance:</u>

- Proportional reinsurance does not need to be accounted for since it affects losses and premiums equally and doesn't distort the loss ratio
- Don't need because premium and claim ceded in same proportion so the ultimate indicated rate change

<u>Sample responses for ii. non-proportional reinsurance:</u>

- Should be addressed explicitly because amounts aren't proportional to total and will distort triangles and loss ratios
- Non-prop does need to be accounted for in ratemaking because premium and losses may be ceded disproportionately resulting in change to Net L/R and Rate Indication
- Yes, Stop Loss or EOL would cause changes to the Loss Ratio

Part b: 0.50 point

Any two of the following, without having answers that are too similar to each other:

- PHDR supplied funds(UEP, Reser)
- Investor supplied funds
- Capital from investors
- Unearned premium
- Loss reserves
- IBNR or Case Reserve
- Stocks
- Bonds
- Mutual funds
- Real estate
- Dividends
- Interest
- Capital gains

Part c: 0.75 point

<u>Sample response for variable expense:</u>

Vary with premium and premium is usually trended so no need to trend VE

<u>Sample responses for fixed expenses when using the exposure-based projection method:</u>

- If exposure is inflation sensitive and expenses trend at different rate then necessary
- If exposure in non-inflation sensitive then … need trending
- Trend can be used if fixed expense trend is different from exposure trend
- Fixed expenses using exposure based need to be trended if the underlying exposure is not inflation sensitive

<u>*Sample responses for fixed expenses when using the premium-based projection method:*</u>

- only necessary if expense trend differs from premium trend
- Assuming that fixed expenses trend at the same rate as premium then no trending, but, if they trend at different rates then trending necessary

EXAMINER'S REPORT

Candidates were expected to understand and know how to use reinsurance costs, investment income and expenses in ratemaking.

Part a

Candidates were expected to understand and articulate how reinsurance costs need to be accounted for in primary ratemaking.

In a proportional reinsurance contract the same percentage of premium and loss is ceded and therefore does not impact the primary loss ratio.

In a non-proportional reinsurance contract premium and loss are not ceded proportionally and therefore will distort the primary loss ratio if not considered.

Common mistakes included:

- Restating what proportional and non-proportional reinsurance are without taking a position regarding ratemaking implication.
- Mixing up proportional and non-proportional reinsurance.

Part b

Candidates were expected to identify two sources of investment income.

A wide variety of answers were accepted, including many answers that were not mentioned in the text.

Common mistakes included:

- Identifying collected premium as a source of investment income (as opposed to Unearned Premium)
- Identifying underwriting income and investment income as sources of investment income. These are the two sources of total income, not investment income.

Part c

Candidates were expected to understand when trending is necessary for variable and fixed expenses.

Variable expenses, by definition, are a percentage of premium and will automatically change when premium changes. Therefore, there is no need to trend variable expenses.

When using the exposure-based projection method fixed expenses can trend at a different rate than exposures and may therefore need to be trended. Candidates did not necessarily have to understand that some exposures are already inflation sensitive. An example of why or why not to trend fixed expenses relative to the type of exposure was acceptable. Stating that fixed expenses can trend at a different rate than payroll was acceptable.

When using the premium-based projection method fixed expenses need to be trended independently unless fixed expenses are assumed to trend at the same rate as premium. This is an explicit assumption that needs to be made, unlike variable expenses which are defined to be a ratio to premium.

Common mistakes included:

- Referring to loss trend instead of fixed expense trend.
- Stating that there is no need to trend fixed expense if exposure is/isn't inflation sensitive.
- Stating that fixed expenses don't need to be trended when using the premium-based projection method because fixed expense has been ratio-ed to premium.