

Actuarial Society of South Africa

EXAMINATION

October 2015

Subject A302 — Communications

EXAMINERS' REPORT

General Examiner’s comments

Question 1

This question tested candidates’ ability to strike a balance between technical information and understandable communication. The better students managed to achieve both. However, it was often the case that good communication marks were accompanied by poorer technical marks and vice versa (depending on the side to which the student erred).

Candidates needed to ensure that they use the correct formatting style when drafting their responses.

Some students failed to follow the instructions in the question paper correctly and their explanation did not cover the two deposits separately. This made it more difficult for them to obtain full technical marks and impacted on their communication marks if their approach made it more difficult for a lay person to follow.

Some students failed to do a word count as requested and lost marks. Others were penalised because their word count was erroneous. Words are to be counted from the subject line to the closing sentence (i.e. count all words between “Grow Sure ...” and “Yours sincerely” in the below draft). Words contained in tables are included in the word count.

Question 2

This question tested candidates’ ability to interpret information for lay persons. To do this, candidates needed to keep jargon to a minimum, interpret trends correctly and realise the potential impact of a call centre on 2020 figures.

About a quarter of the candidates took a membership trend from 450 to 300 over 5 years and extrapolated it to 150 in 5 years’ time. It is concerning that actuarial students with degrees cannot calculate a trend. $300/450 \times 300 = 200$.

The potential impact of a call centre on membership numbers and the proportion of females needed to be covered. Some candidates equated a rise in membership numbers as an increase in cost. While this is true in rand terms, it has the potential to lead to decreased costs as a percentage of salary (as costs were quoted in this question). This issue needed to be communicated carefully, ensuring that the trustees were not left with the impression that increasing membership numbers equated to increasing administration cost as a percentage of salaries.

Some candidates failed to include a summary slide and other simply re-used the first 2 slides as given in the question paper. Better candidates reformatted both slides and made slide headings more specific.

Question 1

Letter

Up to 50% of the marks are available for the mechanics of the communication.

Length: Award marks if the actual word count is between 500 and 600 or half marks if between 475 and 500 or 600 and 625 words. No marks if the word count is outside the 475 to 625 range.

Format Sender’s address is a letterhead across top of page, including correct address details (no punctuation, etc.); alternatively, students can simply state: “Letterhead including contact and address details”. The date should be on right OR left, but not below the recipient’s address. It should be written out formally e.g. 27 January 2015. The format mark also includes salutation and close. Marks will be lost if the student chooses a “Dear Sir/Madam” approach as the recipient’s name is given.

Language: This section includes choice of words, register/level of language, avoidance of jargon, style & tone, grammar, punctuation, spelling etc. Tone should be friendly but also respectful and courteous. Students need to balance the need to answer clearly while avoiding an excessively numeric approach.

Planning and structure: This involves the use of headings in the letter. Also includes the logical, coherent arrangement of information, good sentence and paragraph structure, good clear use of information without technical formulae etc. as well as good beginning, middle, end conventions: Opening paragraph: goodwill and topic identification; relevant body explanations and close: goodwill once again and pointing the way ahead.

Overall impression: How does the whole letter ‘hang’ together? Would Mr Yates be satisfied with this reply or would he have further queries/requests for clarification?

]

Content

Up to 40% of the marks are available for the content of the letter. Content marks for each point may be scaled down where the content is unclear.

The following points **should** be included:

1. Numbers on statements correct (explicitly stated up-front)
2. Accumulated return over two years
 - Generic explanation: annual returns compounded
 - Specific explanation of compound growth
 - Explained/demonstrated
 - In a step-by step manner
 - Using R1 million and average annual return of 7%
3. Annualised return of $x\%$
 - Definition: Average/steady annual return earned over the period = $x\%$
 - Using 7% as per client question
 - Same capital accumulates to same amount over same period implies same annualised return *{a correct explanation re constant growth over 2013 and 2014 also gets full marks}*
 - Irrespective of return sequence/order
4. Actual annual returns
 - Actual annual returns earned by Fund A and B the same
 - Earned in reverse order
 - {if show numbers in table or mention in sentence without an accompanying point that they are equal, but in reverse order, half marks apply}*
 - Explain/demonstrate impact of actual returns on accumulated amount
 - Under both funds in a step-by step manner
 - Showing accumulation = same rand amount of R1 145 000
 - Therefore annualised return the same at 7%

5. Impact of cash flows during investment term

- Generic explanation:
 - Order of returns received likely to impact on accumulated investment amount
 - If cash flows occur during investment period *{or similar}*
- Specific explanation of initial investment *{recap}*
 - Initial R1m investment grew to R1 145 000
 - Over 2 years in both funds
- Specific explanation of deposit:
 - Deposit of R70 000 on same date/31 December 2013
 - Grew by 20.5% to R84 350 under fund A
 - Shrank by 5% to R66 500 under fund B
 - Difference in growth of R17 850
 - Equal to difference in fund balances of same amount

Max 40

Meeting the overall objectives

Up to 10% of the marks are available for meeting the objectives of the communication.

Overall, will Mr Yates

- Understand:
 - Accumulation of returns
 - Annualised returns concept
 - Impact of
 - Initial investment
 - Subsequent deposit
- Be left with a positive view of you as an investment consultant?

Draft solution

Your company letterhead, including address and full contact details

26 October 2015

Mr B Yates
12 Orange Street
Blossom Estate
Evergreen City
2250

Dear Mr Yates

Grow Sure unit trust investment growth

Thank you for your letter dated 20 October 2015. The situation with your two investments seems counter-intuitive. However, your fund statements are correct. The annualised returns for the two investments are equal, but Fund A’s balance is bigger than Fund B’s at the start of 2015. The reason for this lies in the definition of an annualised return. Annualised returns are calculated based on a single deposit. The additional R70 000 deposits were the cause of the discrepant fund balances. Let me explain.

Annualised return

An annualised return of 7% over a period means that a lump sum investment would earn an *average* annual return earned over that period of 7%. The *actual* returns earned each year can differ from 7%. Any sequence of actual returns that would result in the same amount of capital growing to the same accumulated amount over the same period would have the same annualised return.

Consider an investment of R1 million that earns an annualised return of 7%. The R1 000 000 earns R70 000 return in the first year, growing to R1 070 000. The entire R1 070 000 earns a 7% return in the second year and grows to R 1 145 000 after the second year. Returns are compounded.

Any R1 000 000 investment that grows to R1 145 000 at the end of two years has an annualised return of 7%.

The annual returns earned by funds A and B were the same, but were earned in reverse order:

Fund	Annual return	
	2013	2014
A	-5%	20.5%
B	20.5%	-5%

The order in which identical returns are added to a lump sum does not influence a fund’s final balance. R1 million invested in Fund A would have shrunk to R950 000 in the first year and then grown to R1 145 000 in the second year. In contrast, R1 million invested in Fund B would have grown to R1 205 000 and then shrunk to R1 145 000. The annualised return is 7% under both funds.

The order in which returns are received would likely have an impact on your accumulated investment if cash flows occur during the period of the investment.

Impact of deposit on funds

You invested R1m on 1 January 2013 and deposited a further R70 000 at the end of the first year into both funds. Let us consider the growth in each deposit separately under both funds.

The initial R1m investment grew to R1 145 000 over two years in both funds. Poor first year returns were offset by good second year returns or vice versa.

The deposit of R70 000 only grew for one year: 2014. It grew by 20.5% to R84 350 under Fund A by 2015. It shrank by 5% to R66 500 under Fund B. There is a R17 850 difference in growth of the deposits under the two funds. This is the reason that the fund balances differ by R17 850.

Annualised returns reflect the average, annual return earned on a lump sum investment. They are applicable to your initial investment. Subsequent cash flows are not invested for as long as the initial investment and can accumulate in a different way to it. This is true even if different funds earn the same returns, but in a different order.

Please let me know if you would like to discuss these ideas any further. My telephone number is (021) 890 5674.

Yours sincerely

<signature>

Kim Hummer
Investment Consultant

Word count: 570

Question 2

Presentation

Up to 50% of the marks are available for the mechanics of the communication.

Range of slides: Title slide, background/agenda slide which refers to the purpose of presentation; ‘body slides’ covering various ideas/concepts/sections; concluding/summary slide with offer to take questions. Marks would be lost if too few or too many slides; students were asked for 8 to 10 slides.

Headings & Titles: This includes major and sub-headings and numbering (internal & slide). Question headings may be sued. This mark also includes all titles and labels (schematics/tables) and correctness of names and dates in headings and titles (e.g. fund, people, etc.). Headings need to be explanatory and informative so communicative at a glance: not just Background, for example but Background to what (e.g. presentation, fund, change etc.)? Labels, especially table headings, are accurate and complete.

Structure & Design: This has more to do with appearance and layout of slides. It includes use of space and composition; size/clarity of writing (font); number of bulleted/numbered sections; choice, type and execution of graphic (appropriateness). Any visual must add value, not be merely decorative, and must be clear at a glance. In this question, a table is probably the only real choice for visuals. Better scripts may attempt flow diagrams or other visuals.

Language: Actual wording of headings and bullets (phrases, not full narrative sentences), grammatical parallel structure throughout, consistent use of language and punctuation, headings neither too cryptic nor longwinded, overall grammar, spelling, overall tone (not too familiar, chatty or emotive). Use of rhetorical

Overall impression: How does the whole presentation ‘hang’ together in terms of coherence, logical development, structure of message and ‘look’ – all the elements above working together to create good impression.

Content

Up to 40% of the marks are available for the content of the slides. Content marks for each point may be scaled down where the content is unclear.

1. Current contribution

- Member and employer contribution to *retirement* each 5%; total =10%
- Expenses funded additionally by employer; Total employer contribution 8.3%
- Risk 2.5% and admin 0.8% so
- If expenses increase, so does employer contribution

2. Trends in membership and expenses

- 6 categories covered: average age, no. of members, %females, total expenses, risk and admin cost *{lose half mark per category missed; 0 min}*
 - 2010 and 2011 numbers correct *{lose half mark per error; 0 min }*
 - 2020 numbers
 - correct*{lose half mark per error; 0 min}*
 - clearly projections/use an “if” statement
- Increase in average age and decrease in % females leads to expected increase in risk cost *{½ mark given if only refer to fact that mortality costs increase}*

3. Possible call centre development *{no mark if not clear the call centre is not definite}*

- considered by employer for 2017
- Could employ up to 200, mostly female
- Would reduce risk costs

4. Proposed contribution changes

- Members contributions continue at 5%
- Employer contribution
 - Total fixed 1.2% higher at 9.5% of salary
 - Irrespective of changes in expenses
 - % to retirement funding changes in direct portion to expense
 - 6.2% to retirement funding at current expenses
- Total contributions to retirement = 11.2%; 1.2% greater than current

- but will ↓ if expenses increase↑

5. Proposal advantages and disadvantages

- Employer advantages:
 - Fixed known contribution, not at risk of increasing expenses
 - Conversely, this is a disadvantage for employee
 - Easier to plan/alternative
- Employer disadvantages:
 - Immediate increase to retirement funding of 1.2% of salaries
 - 0.5% higher for employer in 5 years if no call centre; but may reduce thereafter (and vice versa)
 - Above all = employee advantage

Max 40

Meeting the overall objectives

Up to 10% of the marks are available for meeting the objectives of the communication.

Overall, will the Trustees understand:

- Current method of funding towards retirement: general concept, impact on expenses
- Trends, in particular age and gender, impact risk cost
- Proposed method of funding towards retirement: general concept, impact on expenses
- Advantages and disadvantages of proposal
 - As is
 - Allowing for call centre plans being realised

Draft solution

XYZ PENSION FUND
CONTRIBUTION RATE PROPOSAL IMPLICATIONS

To: XYZ Pension Fund Trustees
By: Henry Ivor Ikw
Fund Actuary

26 October 2015

1

Topics to be covered

- Current contribution situation
- Relevant trends in membership and contributions
- Possible call centre development
- Proposed contribution changes
- Proposal advantages and disadvantages
 - Employer
 - Members

2

Current contribution situation

Contributions as a % of salary

- Member contributions = 5%
- Employer contributions to retirement = 5%
- Total to Retirement funding = 10%
- Expenses funded additionally by employer:
 - Risk = 2.5%
 - Administration = 0.8%
- Total Employer contribution = 8.3%

If expenses increase, so does employer contribution and vice versa

3

Relevant Trends in Membership and Expenses

	1 October 2010	1 October 2015	1 October 2020 (expected*)
Average Age (years)	35	39	43
Number of members	450	300	200
% Females	63%	52%	43%
Total Expenses(% salaries)	2.6%	3.3%	4.0%
Administration cost	0.8%	0.8%	0.8%
Risk cost	1.8%	2.5%	3.2%

* Based on current business model

Projected increase in average age and decrease in % females

- Will increase likely death claim numbers
- Will increase insurer’s assumed risk cost

4

Possible call centre development

- Employer considering developing a call centre in 2017
 - Could employ up to 200 people
 - Would be mostly female
- New staff likely to be
 - Younger on average
 - Female
- This would reduce risk costs

5

Proposed contribution changes

- Member contributions continue at 5% of salaries
- Employer contributes a fixed total of 9.5% of salaries
 - Current expenses of 3.3% covered
 - Balance of 6.2% goes to retirement funding
 - Greater than current 5% to retirement funding
- Total to members’ retirement funding = 11.2%
- But, any ↑ expenses increase → members’ retirement funding ↓ by same %

6

Proposal advantages and disadvantages

	Advantages	Disadvantages
Employer	<ul style="list-style-type: none"> • Fixed known contribution rate • Easier to plan and budget • Not at risk of increasing expenses 	<ul style="list-style-type: none"> • Immediately pay extra 1.2% salaries
Members	<ul style="list-style-type: none"> • Immediate increase to retirement funding of 1.2% 	<ul style="list-style-type: none"> • At risk of increasing expenses • Amount to retirement funding may decrease in future

But if new call centre developed ...
contribution to retirement funding likely to stay higher in foreseeable future

7

Conclusions

Implications of proposal

- Employer contribution
 - Immediately 1.2% higher
 - fixed inclusive of expenses
- Expense risk transferred from employer to members
 - ↑ expenses → total funding towards retirement ↓

Total retirement funding net of expenses	
IF no call centre develops	IF call centre develops
<ul style="list-style-type: none"> • Immediately 1.2% higher • Expected 0.5% higher in 5 years • May reduce thereafter 	<ul style="list-style-type: none"> • Immediately 1.2% higher • Expected even higher in 5 years

8

ANY QUESTIONS?

Contact details:

HI.lkew@consultants.com

THANK YOU

9

END OF EXAMINERS' REPORT