EXAMINERS' REPORT

November 2024 examinations

Subject F102 — *Life Insurance*
Fellowship Principles

INTRODUCTION

The attached report has been prepared by the subject's Principal Examiner. General comments are provided on the performance of candidates on each question. The solutions provided are an indication of the points sought by the examiners, and should not be taken as model solutions.

QUESTION 1

i. Differences:

- Term assurance product (through the internet):
  - The target market is any person who has a specific need that can be met by a term assurance product.
  - Term assurance products are typically used for a specific purpose, such as paying off a loan
  - Since the product is sold through the internet, there is likely to be limited underwriting.
  - The sum assured will also likely be capped.
  - It therefore makes the product suited for the lower- and middle-income households, who might not have need for high sums assured.
  - Because of the limited underwriting, the product might be slightly cheaper (compared to the fully underwritten version), which therefore makes it more suitable for a target market that does not have a significant amount of disposable income.
- Income Protection (independent intermediaries):
  - People that make use of brokers, may have a higher level of financial sophistication than people who make use of direct underwriting methods.
  - This product is likely targeted at the middle to upper income classes.
  - The products sold through independent intermediaries also tend to be more expensive (the intermediary needs to be paid) and there is normally more rigorous underwriting involved.
  - Income protection products tend to have more complicated definitions and nuances compared to a simple term assurance product and therefore require a higher level of financial understanding (this is where the intermediary assists).
  - This product is therefore suitable for a target market that has more disposable income and higher financial literacy (or access to an intermediary who can assist).

ii. Product Design Factors:

- Meeting customers' needs:
  - Both products need to meet the customer needs of their respective target markets. (If not, the company will battle to sell policies and not recoup the expenses invested in designing the products.)
- Profitability:
  - Both products will have to meet specific profit criteria.
  - The new income protection product might have a higher profitability requirement if the company is taking on more risk with this product. This will have to be agreed by the company's Board and pricing team.
- Marketability:
  - Both products need to be marketable through their respective distribution channels. It is therefore important that these products meet customer needs and provide value for money.

- Competitiveness:
  - The products need to be competitive in their respective markets. The income protection product will be subject to more scrutiny. Independent intermediaries are expected to find the best value for money for their clients.
  - The level of competitiveness will also be dependent on the market and what other competitors are offering. It might be that the competition for term assurance is low and for income protection products the competition is high. The company will have to do proper research for the new product.
- Financing requirements:
  - The new product might have more upfront costs than the existing term assurance. This will be driven by higher underwriting costs as well as remuneration for the financial advisors.
  - The new product will likely result in more new business strain than the existing product.
  - It is therefore important to consider the company's free asset position as well as the impact of writing new business for the new product.
- Risk Characteristics:
  - The new product introduces new risks related to disability.
  - The target markets (and products) are also completely different, so the company may also experience different lapse rates.
  - The company will need to consider what level of risk it is comfortable with for the new product, given that it has little experience in managing the new risks.
  - The company may consider a reinsurer to help manage the new risks.
- Onerousness of any guarantees:
  - The company should consider the impact of any guarantees offered on the products. The question did not state any guarantees (like premium guarantees), and it is therefore likely that the company is not offering any guarantees on these products.
- Sensitivity of profit:
  - The company would have sensitivity tested the term assurance product to mortality, lapses and expenses under various scenarios.
  - The company will have to do sensitivity tests for the new product as well. This will include morbidity, lapses and expenses.
  - The company will need to determine if the new product remains profitable and feasible under various circumstances.
  - Income protection generally has a wider range of outcomes as disability rates vary more with economic circumstances than mortality.
- Extent of cross-subsidies:
  - The company will determine whether there will be any cross-subsidies for the new product – large policies cross-subsidising small policies.
  - The company may consider the existing approach on the term product.
  - It is important that the different products don't cross-subsidise each other.
  - However, the company may have some economies of scale by adding more policies on its books and these should be spread appropriately across the different products.
- Administration systems:
  - The existing system is unlikely to cater for the new, more complicated product.

- The company would need to build a new system with added capacity to manage the new product.
- However, the company can leverage their existing knowledge to help with ensuring that the new system is adequate and fit for purpose.

- Consistency with other products:
  - These products are quite different, so it would be difficult to compare them for consistency.
- Meeting Regulatory Requirements
  - The company will need to meet all the regulatory requirements for both products. The company would need to understand the requirements of the new product.
  - There might be additional requirements for using standardised or industry definitions for various disability or incapacity criteria.

Examiner Comments

Overall, performance on this question was below expectations. While candidates generally handled the first part on target markets reasonably well, many wasted time on unnecessary details and missed specific characteristics of the potential policyholders.

The second part, requiring a comparison of product design factors, was poorly answered by most. Common pitfalls included discussing the product design features in detail and how this meets the needs of the clients while overlooking all the other design factors. A structured comparison was explicitly required. Candidates are reminded to carefully read questions, focus on relevance, and structure their answers effectively to maximize marks.

Lastly time management is as always critical – there was ample evidence of poor time management in this question with some candidates going into significant detail on some of the factors while only mentioning others without any discussion.

QUESTION 2

Considerations:

- Affordability:
  - The company should assess whether the alteration is supportable by the asset share (i.e. the policy value before the alteration does not exceed the asset share on average, over time).
  - The difference between the asset share and the policy value before alteration on the current premium basis, represents the accumulated value of historical profit to the date of alteration.
  - This could be argued to be an appropriate amount of profit for the risk the company has been exposed to, to date.
  - The policy value after alteration is calculated using the current premium basis, which means that the future profits expected from the altered policy is consistent with profit expected on the new without-profits policies with the critical illness (CI) accelerator.
  - The actuary should also consider whether the allowance for initial expenses in the current pricing basis is appropriate:
    - The allowance for underwriting costs in the current pricing basis will still be relevant.
    - However, other initial expenses that are incurred on new business may not be appropriate.
  - As the altered policy will lead to a premium increase,
    - The cost of additional commission payable should also be included.
  - The cost of the alteration should be included, for example by adding it to the policy value after the alteration.
- There is a risk of anti-selection from existing policyholders.
  - Additional underwriting is therefore required.
  - An exclusion for pre-existing conditions would be required.
  - It is likely that this option is only available to policyholders younger than a certain age (e.g. 60).
- Offering this option would assist in avoiding the potential problem of lapse and re-entry.
  - As the policy value after alteration is calculated on the current premium basis, the premium on the altered policy should be consistent with the premium on new policies.
- Surrendering the existing policy and buying a new policy is a boundary condition.
  - There is still a lapse-and-re-entry risk if the surrender value offered on the whole life policy is very generous.
- The company should consider whether surrender values before and after the alteration are consistent.
- Stability over time and duration.
  - Using the different bases for policy values before and after the alteration, may make the alteration terms unstable over time.
  - The alteration basis is unlikely to change very often, because it is dependent on the current premium basis, which generally should not change frequently.

- Could also only offer as a “once-off”, which would limit the problem.
- The company will have to consider alteration terms used by competitors.
  - This may affect policyholders’ reasonable expectations.
- Small alterations.
  - There is likely to be a minimum sum assured for the CI benefit, so it is not necessary to assess the impact of “small alterations” to the policy.
- Easy to document/administer.
  - It may be difficult to administer and document because the original pricing basis may no longer be available.
- Easy to explain.
  - Could be difficult to explain to policyholders, who are unlikely to be familiar with present value calculations.
- Likely to be allowed by regulation / professional guidance.

Examiner Comments

Question 2 was generally well answered. However, candidates who tended to perform better were able to generate a wider range of points and ensured that their comments about each sub-category (e.g. affordability, fairness etc.) were specific to the question and scenario.

Candidates who performed poorly were more generic in their statements and did not discuss the nuances required to obtain the higher weighted marks.

QUESTION 3

i. Reasons for monitoring experience:

- To develop earned asset shares.
- To update assumptions as to future experience
  - For both pricing and reserving.
- To monitor any adverse trends in experience to take corrective actions.
- To provide management information.

ii. Possible reasons for losses:

- A key reason for losses could be that the outgo from company expenses allocated to the unit-linked endowments exceeds the income from policy charges.
- Usually this arises when expenses are relatively fixed whereas policy charges are variable.
- This can be due to various reasons, such as:
  - Poor investment returns reducing the fund-based charges received.
  - Lower new business volumes than expected, leading to less income relative to fixed acquisition expenses.
  - Higher exits than expected (such as surrenders).
  - Overly generous surrender values (or insufficient surrender charges).
  - Higher than expected expense inflation.
  - Unexpected once-off costs.
  - Higher than expected dealing costs.
- If unitised with profits, where the insurer shares in the investment profits, then lower than expected investment returns will give rise to losses.
- Losses from new business (due to new business strain) could exceed profits from existing business (e.g. if the book is relatively young).
- There may be too many expenses allocated to the product, e.g. due to an error in the analysis.
- The pricing may have been aggressive (low charges), in order to attract business.
- If there are high levels of sums assured, there could be mortality losses, for example due to:
  - Inadequate risk charges.
  - Higher than expected deaths (for various reasons including pandemics and catastrophes).
- Default of a reinsurer (if reinsured).
- There could be an error in the analysis.
- Cross-subsidies assumed in pricing between bigger and smaller policies not coming to fruition.

iii. Different expense types:

- Initial/acquisition costs (other than commission) if such costs are spread over some period after sale.

- Renewal/maintenance.
- Investment.
- Claims (of all kinds).

iv. Expense investigation process:

- Get total company expenses over a past recent period, say the last 12 months or previous financial year.
- Remove any expenses deemed not relevant, such as once-off costs or shareholder-only costs.
- Sub-divide the expenses by type:
  - Initial.
  - Renewal.
  - Termination.
  - Investment.
  - Overheads.
- Further sub-divide or allocate each of the above into the different product groupings, specifically the unit-linked endowments.
- If deemed necessary, these can be further split between single and regular premium contracts.
- Consider if any of the resulting 'cells' of expenses are too small to be credible.
  - If so, group these small cells pragmatically with other cells.
- Expenses are allocated to 'cells' based on an analysis of expenses by department or function:
  - Staff expenses may need to be subdivided between cells by the use of timesheets.
  - Property expenses can be allowed for by charging a notional rent to each department in proportion to the floorspace occupied, and then allocated to the different cells in proportion to the department's salary costs.
  - New computer costs can be spread over their future expected lifetimes and then allocated to departments in proportion to usage.
  - Investment costs would be subdivided by asset class and usually allowed for by a reduction in yield for each class.
  - One off capital costs would be spread over the expected future lifetime of the item, then treated as an overhead.
  - Pragmatically allocate overheads e.g. in proportion to the split of direct expenses.
- Check that all expenses are accounted for, that is nothing relevant lost in the above process.
- Calculate per-unit expenses by dividing the monetary amount of expenses in each cell by the relevant denominator (such as number of policies or total sum assured or total unit funds), eg:
  - Per policy for initial and renewal.
  - Per unit sum assured for underwriting expenses (e.g. if material and not included in initial).
  - Termination expenses may be per policy or percentage of unit fund value.
  - Percentage of unit fund value (or funds under management) for investment.

- Consider the expected future per-unit expenses given the insurer's plans over the business planning horizon, and adjust the above as necessary (other than for inflation).
- These best estimates may need to be adjusted to include a margin for prudence.
  - The size of any margin incorporated will depend on the legislation and accounting principles governing the preparation of those accounts in the country concerned, and the degree of risk associated with the parameter.

Examiner Comments

This question was largely bookwork and was answered well by most candidates. Candidates that did not know their bookwork well, were unable to score well.

Part (ii) of the question was answered well by candidates who were able to apply their knowledge of a unit linked product in suggesting potential sources of experience loss.

Weaker candidates tended to produce vague and unstructured answers for part (iv).

QUESTION 4

i Market-consistent valuation

- To determine a market-consistent liability value of the without-profits endowment assurance book of business, future unknown parameter values and cashflows are set to be consistent with the market values
  - where a corresponding market exists.
- Market values are also used for the assets backing these liabilities, if a market price exists.
- One method would be to determine the market price of a portfolio of assets whose cashflows exactly replicate the expected cashflows on the endowment assurance.
- The current market price of this replicating portfolio would then be taken as the market-consistent value of the liabilities.
- It may be difficult to determine a portfolio of assets which exactly replicate the expected cashflows of the endowment assurance.
- An alternative method would be to discount the expected liability cashflows
  - at current risk-free rates of interest.
- Future investment returns are based on a risk-free rate of return,
  - irrespective of the type of asset actually held, and the discount rates are also based on risk-free rates.
- The risk-free rates may be determined based on government bond yields
  - or on swap rates.
- It would be most appropriate to use different discount rates for different durations to reflect a yield curve.
- It would only be appropriate to use swap rates if there is a sufficiently deep and liquid swap market in the country where the insurer operates.
- It may be appropriate to make a deduction to allow for credit risk.
- It is unlikely to be appropriate to add an illiquidity premium to the risk-free rate,
  - as the insurer would be exposed to price volatility on the bonds backing the liabilities if the insurer has to sell the bonds to pay surrender values during the term of the endowment assurance.
- It may be difficult to obtain market-consistent assumptions for some elements of the basis, such as mortality, persistency or expenses,
  - for which there is not a sufficiently deep and liquid market in which to trade or hedge such risks.
- For these assumptions the insurer will start with best estimate assumptions.
  - A risk margin would then be added to the best estimate liability.
- The risk margin would reflect the compensation required by the market in return for taking on the uncertain aspects of the liability cashflows.
- The risk margin can be allowed for by adding an explicit margin to each assumption.
- Alternatively, an overall reserving margin can be determined using the cost of capital approach.

ii Discount rate on immediate annuities

- The insurer may be able to invest in corporate bonds to maturity which exactly replicate the some of the expected cashflows on the book of immediate annuities.
- The insurer would therefore not be exposed to the liquidity risk due to price volatility on the bonds, as the bonds will be held to maturity.
- Corporate bonds typically have a higher yield than risk-free bonds due to the relative illiquidity of these assets.
- It may therefore be possible for the insurer to take credit for the illiquidity premium on the corporate bond yields and thereby discount liabilities at a higher yield than risk-free.
- However, since the insurer is only just launching this product, it may take some time for the book of immediate annuities to be large enough to have predictable cashflows and therefore be able to take credit for the illiquidity premium in the valuation of the immediate annuity liabilities.

Examiner Comments

Question 4 was generally poorly answered.

For part (i) many candidates could not generate enough points to score well. Too many candidates treated this question as an assumption setting question, instead of describing how the market consistent value of the endowments would be calculated.

Candidates also missed easy marks on the risk margin – the compensation that a third party would require for taking on the uncertainty in these liabilities.

In part (ii) plenty of candidates missed that the illiquidity premium would be the difference in the discount rate. Candidates that picked this up and described that annuity cash flows are longer dated and more predictable than endowment cash flows, scored quite well.

QUESTION 5

i. Revalorisation method features:

- The profit, or surplus, to be awarded to a particular contract is expressed as a percentage (r% say) of that contract's supervisory reserve.
  - The benefit (sum insured) under the contract and the premium payable by the policyholder are then increased by the same percentage (r%).
  - In practice the premium might remain level (and the benefit increases by less than r%).
- The profit is normally divided into a "savings" profit and an "insurance" profit.
  - The "savings" profit represents the profit from the assets and can be distributed in whole or in part under the revalorisation method.
  - The minimum proportion of savings profit distributed is normally specified in policy conditions and is an important marketing and competitive aspect of the product.
  - The "insurance" profit is that arising from all sources other than return on the assets and is normally retained for the shareholders as reward for pure insurance risks borne.

ii. Reasons for choosing this method:

- The method codifies exactly how a company should distribute its profits – it usually requires very little judgement compared to the additions to benefits method.
  - This makes the method simple to apply, and
  - cheaper to administer.
- Some policyholders may prefer this approach:
  - It may be more understandable and thus appealing to policyholders;
  - Bonuses are more stable and predictable under this approach as it discourages equity investment – it appeals to more risk averse policyholders (e.g. older policyholders).
- The company may wish to differentiate itself from competitors.

iii. Investment risk:

- The initial sum assured is a guaranteed benefit – if the insurer earns a lower investment return than that required to meet this guarantee (i.e. the assumption in pricing), the insurer will experience a financial loss (all else being equal).
- In order to be able to declare a bonus, the insurer needs to earn a return exceeding the expected valuation rate:
  - Policyholders may have an expectation regarding the level of bonus – if this is not met it could lead to a deterioration in policy retention experience.
  - Policy conditions and regulations may prohibit reduction of benefits in the event of returns being lower than the expected valuation rate, in which case the company faces losses.

- The company may struggle to find sufficient and adequate assets to match its guarantees and bonus expectations in a developing country.
- The company could face default risk (higher in developing countries) on some of its assets.
- This method is not compatible with profit deferral and equity investment:
  - Investment returns (and bonuses) may be disappointing (and not even match inflation) compared to competitors who can include equity investments under additions to benefits, causing higher withdrawal risk and reputational damage.

iv. Suitability of the asset split:

- A large part of the liabilities will relate to guaranteed benefits (sum insured) and this must be matched as closely as possible:
  - By term, currency (local), and nature (fixed).
  - Local FI government bonds of suitable terms should offer a good match for these liabilities.
- For future bonuses the insurer needs to be certain that it can earn a return that exceeds its valuation interest rate in each period for it to be able to declare bonuses – FI bonds are suitable for providing this certainty.
- Some liabilities will relate to the insurer's own expenses in administering this business, and these will be real in nature as they mainly relate to staff and IT costs:
  - Ideally real assets should be used to match these liabilities;
  - To the extent that these liabilities are small and inflation is not expected to differ much from implied levels priced into bonds, the insurer could invest in FI bonds and cash as it has done, although ILB would be better (if available).
- Cash holdings may be needed to meet claims and expense outgo expected in the short term.
- Overall the asset split does not appear to be unreasonable, provided it is aligned with policyholder expectations and pricing basis.

v. Comments on the suggestion:

- The merit of the suggestion will depend on the reason for it, for example:
  - To the extent that the insurer has large free reserves and large risk appetite, it could decide to adopt a mismatched position (to pursue higher returns for shareholders and policyholders).
  - The equity holdings may be suitable for matching the insurer's expenses in administering this business.
- The revalorisation method requires that all investment profit be distributed as it arises, thus preventing deferral of distributions, and the insurer needs to be certain that it can earn a return that exceeds its valuation interest rate in each period for it to be able to declare future bonuses:
  - For these reasons it will therefore wish to avoid volatile assets such as equities for purposes of matching benefit obligations.

Examiner Comments

Question 5 was generally not well answered.

Part (i) required candidates to distinguish between the savings profit and insurance profit given their different treatment.

For part (ii) some candidates confused the question and instead wrote about why the insurer should have chosen the additions to benefit method.

For parts (iii)-(v) the candidates that did well were those that generated more points specific to the circumstances (product, developing country etc.) whilst candidates who performed less well made very generic points and did not discuss the situations when equity investment would/would not be appropriate.

QUESTION 6

i. Reasons for analysing surplus:

- To show the financial effect of divergences between the valuation assumptions and the actual experience, exposing which assumptions are the more financially significant.
- To show the financial effect of writing new business.
- To provide a check on the valuation data and process, if carried out independently
- To identify non-recurring components of surplus, thus enabling appropriate decisions to be made about the distribution of surplus to with-profits policyholders.
- To give management information on trends in the experience of the company.
- To comply with regulatory requirements.

ii. Possible reasons for mortality profit:

- Mortality profit arises when the actual mortality experience over the period is better than that expected in the assumptions used at the start of the period.
- We would expect to see a mortality profit when the assumptions are prudent, such as in supervisory reserves.
- The sophisticated underwriting could be particularly effective in rating individuals and minimising anti-selection, whereas the valuation assumptions do not reflect this.
  - For example the valuation assumptions could be at a more aggregate or prudent level.
  - Or the assumptions could ignore the selective effect of the underwriting.
  - Or the class of lives that are attracted to this product are better (in terms of mortality) than assumed.
- The insurer's dynamic pricing model could incentivize policyholders to maintain healthier lifestyles, and this could lead to lower claims than expected and a subsequent profit.
- There could have been overall improvement to underlying mortality not yet reflected in adjusted premiums.
- It could be due to random fluctuations or seasonality (particularly if the period of investigation is very short).
- There could be an error in the analysis of surplus.
- Efficient claims management practices could also contribute to a mortality profit. More thorough investigation of claims and effective fraud detection than allowed for could result in fewer illegitimate claims paid out than anticipated.

iii. Data required for mortality investigation:

- Benefit start date.
- Benefit cease date (if applicable).
- Date of birth or age at entry.

- Count of actual death claims reported in the period.
- Can use either, or both, of benefit count or sum assured for the above.
  - If using the sum assured, then this would be needed at each date if this potentially varies over time.
- Identifiers in order to group the data into relevant homogeneous groups, typically the rating factors applied in the pricing.
  - In particular whether standard or non-standard.

iv. Factors to consider when reviewing valuation mortality assumptions:

- The insurer may not adjust its valuation assumptions, for example if:
  - The period over which the analysis of surplus was too short.
  - The amount of surplus was small.
  - The mortality investigation revealed no material change to underlying mortality.
  - The financial effect of changing the assumptions is not material.
- The insurer would consider the results of the mortality investigation, assuming this covers an appropriate time interval and gives credible results.
  - In particular, how the experience has changed compared to the current mortality basis.
- Consider whether to create its own mortality tables or to adjust standard tables.
  - Given the niche nature and the techniques used, it would seem unlikely that standard tables could even be suitably adjusted.
- Expected future mortality experience over the valuation projection period.
  - May consider trends if the projection period is particularly long, or if the trends show worsening mortality.
  - Would typically ignore mortality improvements in term assurance valuation.
- Consider if there are any regulatory requirements or accounting standards that apply, such as the inclusion of margins.
- May consider mortality experience from reinsurers or industry, although these are less likely to be applicable given the nature of this insurer.

Examiner Comments

Part (i) was generally well answered.

Part (ii) was reasonably answered. A common issue was that candidates did not relate their comments to the specific scenario in the question. Many candidates also commented that the company was selecting good lives as a result of the underwriting process. While this may well be true, they will only make a profit if the lives selected are better than expected.

The marks for part (iii) were generally good, but too many candidates did not consider that for a mortality investigation the deaths and the exposed to risk are required. A list of rating factors only received limited credit.

Part (iv) was poorly answered. Many candidates listed the factors that need to be considered when setting an assumption. Few candidates considered the situation given where there is already an assumption and an investigation in place.

QUESTION 7

i Why use a cash flow approach:

- The cashflow approach will allow for the complexity of the product, e.g.:
  - multiple lives insured;
  - multiple projected decrements (death and withdrawal).
- In particular it will also allow the company to investigate the sensitivity to profit due to:
  - mortality variance;
  - variations in average numbers of children insured; and
  - children's ages.
- A cashflow approach allows the measurement of the expected return that the providers of capital will receive.
- A cashflow approach will allow for the projection of both statutory reserves and capital requirements.
- A cashflow approach will allow flexibility to model country A and X together or separately.
  - The cashflow method may be easier to allow for the different mortality in the two countries.
  - The cashflow method can allow more easily for different lapse rates in the two countries.
- The company may wish to allow for stochastic decrements or decrements that may vary over time.
  - It is unlikely that stochastic investment returns will be required since this is a protection policy.
  - However, mortality could be projected stochastically.
  - Similarly for lapses which will impact per policy expenses.
- A cashflow method allows the modelling of interdependencies between variables
  - and the link between the variables and economic conditions.
- A cashflow method will allow the company to model projected birth rates since newborns are automatically insured.
  - It will also allow this to be varied with factors such as the economy if the company wants to model it.
- The risk discount rate can take account of the term structure of interest rates.
- Tax and reinsurance will be easier to allow for.

ii Setting model points:

- The data from Country X may not be useful for the model point data and the company may need to use risk factors to determine model points.
- They may approach the government /reinsurer /census bureau in Country A to determine birthrates and family dynamics to estimate the likely spread of the number of children to be covered.
- For the areas which do not have high child mortality in Country A the experience from Country X may be useful to set model points with appropriate adjustments.

- For mortality the company could use groupings by:
  - number of children ;
  - age of children,
  - sex of children;
  - policyholder's ages;
  - region.
- Allow for likely volumes of sales and expected birth rates.

Examiner Comments

Overall candidates did not score well on this question.

For part (i) some candidates described the kind of assumptions needed for a cashflow model rather than why the company should use a cashflow method. Some candidates wasted time explaining how to build a cashflow model which did not score marks.

For part (ii) many candidates followed a standard bookwork approach which generated some points (e.g. the grouping by rating factors) but then failed to address issues like how to get data for the model points. Some candidates wasted time explaining the characteristics of model points.

QUESTION 8

i. The basic equity principle of unit pricing for an internal fund is that the interests of unit holders not involved should not be impacted by the transaction.

Rationale:

- For unit holders the only prices relevant are those at which they buy units in the fund
  - and those at which they redeem their units.
- In theory, the movement in price between those two events should only reflect the performance of the assets backing the unit
  - and charges deductible under the policy provisions.
- Price should not be affected by creation or cancellation of other units,
  - otherwise, cross-subsidies between unit holders will arise.

ii. Application of the basic equity principle:

- The basic equity principle is only achievable if the amount of money put into the fund, or taken out of the fund, is such that the net asset value per unit is the same before or after appropriation.
- Appropriation price is this amount of money when creating a unit.
  - It preserves the interests of existing policyholders.
- Expropriation price is this amount of money when cancelling a unit.
  - It preserves the interests of continuing policyholders.

iii. a. Appropriation price:

MV of assets (excluding cash) = R50 000
Cash balance = R1 000
Total fund value = Market value of assets + Purchasing costs of assets
= 51 000 + 1 100 = R52 100
Appropriation Price = R52100/10000 = R5.21 per unit

b. Expropriation price:

Deduct sales costs from appropriation price total fund value
Fund value = 51 000 – 1 500 = 49 500
Expropriation Price = R4.95 per unit

c. Offer price:

Assumes continuing on an offer basis
Offer price = appropriation price plus initial charge
Offer price = R5.21/0.97 = R5.371 (rounded) per unit

Examiner Comments

For part (i), the majority of candidatesknew the basic equity principle. However they did not score well on the rationale and how to apply it to the question.

Similarly on part (ii), the majority of the candidates struggled to apply the principle and instead just stated the definitions of the expropriation and appropriation prices (which was not what the question asked).

For part (iii), candidates struggled with the calculation of the different prices. Candidates who scored well showed the detail of their calculations. There was some confusion regarding the selling costs and the purchasing costs and when to use which. Some candidates only wrote down final values, which meant they did not score well due to not being able to obtain method marks.

END OF EXAMINERS' REPORT