EXAMINERS' REPORT

November 2023 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. The cost of the guarantee can be determined as follows:

- The company would project the asset shares of the endowment portfolio, and the level of future bonuses given the company's bonus philosophy.
- The company would also project the accumulated value of premiums at 10% p.a. as the minimum level of benefits guaranteed.
- While the guarantee is based on sum assured and bonuses, market-traded options are based on the price of assets, which in this case could be taken as the level or price of the assets backing the asset shares.
- The cost of the minimum guarantees could be determined using the cost of market-traded put options applied to the projection of asset shares:
  - The cost of the minimum maturity value could be determined by referencing the cost of European style put options to sell the assets underlying the assets shares at the maturity date, at the required strike price to match the minimum guaranteed benefit.
  - The cost of the minimum surrender value could be determined by referencing the cost of American style put options to sell the underlying assets at the required price to match the guarantee, at any time during the term of the policy.

ii. Difficulties:

- Given the limited set of stocks and bonds available, there may not be options available for the full range of instruments required.
- The limited markets may lead to liquidity issues for the assets.
  - This will increase the cost of the relevant option and make the insurance product pricing uncompetitive.
- Given the market limitations, the pricing of options may not yet be accurate.
  - This may lead to mispricing of the insurance policies.
- There could be difficulty in deciding on the extent to which any margins included in option prices should be reflected in the insurer's pricing.
- Option prices may be volatile or experience short-term anomalies in a developing market.
  - This may result in the pricing of the insurance contracts being volatile.

iii. Main considerations

- The main considerations for the company would be to understand how the taxation basis of the new country and market works and how this compares to the current country of operation as this could influence various aspects of their strategy.
- This affects both the company tax and tax in the hands of the policyholders.
- Company tax may be levied on:
  - annual profits;
  - investment income less expenses in policyholders' funds; or
  - both of the above.
- How overseas profits are taxed at home should be considered.

- Taxation can lead to advantages (or restrictions) during the different stages of the policy.
  - If premiums are fully or partially deductible from the individual's taxable income, or other tax incentives are offered, it can create a strong selling point for the insurer. Conversely, a premium tax may add an extra cost layer, affecting both pricing strategy and consumer appeal.
  - Understanding how funds are taxed during the contract's term is crucial and it can impact the investment strategy of the insurer.
  - The eventual taxation of policy benefits may influence the attractiveness too. If the benefits are subject to heavy taxation, it could deter potential policyholders, while favourable tax treatment could be marketed as a key advantage.
- The taxation basis would also affect pricing.
- Restrictive tax laws might limit innovation and flexibility in contract design.

This question was not well answered by most candidates.

Many candidates did not know their bookwork on option pricing techniques well enough.

Candidates who were able to think through the product cycle and the tax considerations at each stage were able to score well in part (iii).

QUESTION 2

Considerations:

- It is unlikely that there is a significant risk of anti-selection for this type of alteration.
- Offering the alteration protects the company against the risk of lapse-and-reentry and therefore incurring new business costs again.
- Boundary conditions:
  - Surrendering the existing policy and buying a new term assurance policy is a boundary condition.
  - Using the current pricing basis ensures that premiums are consistent with new business premiums.
  - However, consistency of the premiums is dependent on the surrender value that is available for the whole life policy (under the boundary condition alternative above).
- Policyholder’s reasonable expectations:
  - If the alteration is consistent with the boundary condition, it is likely that policyholder’s expectations are likely to be met.
- Affordability:
  - Using 90% of the asset share for the policy value before alteration ensures that the alteration is affordable (and some profit will be extracted).

- If the policy value before alteration is larger than the prospective reserve on the original pricing basis, the company will not retain all of the historic margins included in the original pricing basis.
- If the policy value before alteration is less than the prospective reserve on the original pricing basis, then the company will also extract some of the future profit it would have made on the original policy (in addition to the historic margins).
- If the policy value before alteration is equal to the prospective reserve on a realistic basis, then the company will extract the full profit it would have made on the original policy.
- Using the current pricing basis for the policy value after alteration ensures that the company will make future profit that is consistent with the current new business margins.
- This proposal does not make any allowance for the cost of the alteration, which could be deducted from the policy value before alteration.
- The initial expenses included in the current pricing basis should be removed to avoid charging the policyholder again.
  - At very early durations the asset share is likely to be negative. Including a negative value in the alteration is appropriate because it means that the initial costs of the original policy have not been recovered.
  - However, using only 90% of the asset share when it is negative, means that the company would not be recovering some of the initial costs incurred on the original policy.

- Fairness – the company needs to consider:
  - Fairness to the policyholders that alter their policies and those that don't.
  - Fairness to shareholders.
  - If the policy value before alteration broadly extracts historic margins (only), then it could be argued that this alteration is fair to the three parties.
  - For very short policy terms under the new Term Assurance policy, the policy value before alteration may be in excess of what is required to cover benefits and expenses (without any further premiums being paid).
  - It would thus be sensible for the company to specify a minimum term for the term assurance policy in order to ensure reasonable value for money for the policyholder.
- The surrender value before the alteration will not be consistent with that after the alteration, as the term assurance is not likely to offer a surrender value.
- Stability over time and duration:
  - Even though the new business pricing basis should not change frequently, this method is unlikely to be stable over time as the asset share is dependent on the actual experience (which may be volatile).
- Competition:
  - The company needs to consider whether this alteration is consistent with similar alterations offered by competitors.
- Legislative/professional requirements:
  - This alteration would almost certainly be allowed in terms of regulation or professional guidance.
- Small changes in term:

- If the term of the new term assurance policy is very long, then the premium should be consistent with (and slightly lower than) the premium under the whole life assurance policy

- Easy to explain:
  - Equating policy values will be difficult to explain to policyholders, who are unlikely to be familiar with present value calculations or asset share calculations.
- Easy to document and administer:
  - Calculating asset shares could be challenging to document and administer as the historical experience must be captured.
  - New business terms are readily available

This, fairly straightforward, question was generally poorly answered. Answers were too generic, with generally insufficient application.

Most candidates knew the theory reasonably well and scored marks for the various headings (boundary conditions, affordability, etc.), but few candidates could apply these to the question scenario and make specific comments under these headings.

Very few candidates commented on the relationship between the policy value before alteration and the reserve on the original pricing basis and the impact thereof on profit extraction.

Many candidates incorrectly indicated that using the asset share as basis for the policy value before alteration would mean that the insurer made no profit at the date of the alteration – seeming to ignore the fact that only 90% of the asset share was used as the policy value before the alteration..

Many candidates incorrectly indicated that the amendment would cause selection against the insurer and recommended underwriting to avoid this happening.

The following principles were not relevant to the scenario in the question and therefore did not gain any credit: Consistency with premium at start; consistency with maturity values at end; consistency with auction values.

QUESTION 3

i. Target market:

- Need to analyse which demographics are reached by the current model and how to target them directly.
- How to implement new advertising and promotional strategies tailored to reach the same audience without intermediaries.
- Opportunity to target a bigger and younger market and consequences for business volumes and profitability.

Technology infrastructure:

- Need to build or upgrade an online platform to facilitate direct sales and customer service.
- Need to Implement robust cybersecurity protocols to protect customer information and financial transactions.

Regulatory compliance:

- Careful review of existing regulations related to direct sales and ensure compliance.
- Engage legal expertise to monitor and adapt to potential changes in regulation that might affect the new model.

Product complexity:

- Assess current product offerings to determine necessary simplifications for direct sales.
- Balance simplicity with a diverse product range to meet various customer needs and preferences.

Brand perception:

- Craft communication strategies to mitigate any perception of reduced personal touch.
- Establish strong brand guidelines and customer service protocols to maintain brand reputation.

Training and development:

- Develop a comprehensive training program for sales and support staff to adapt to the direct sales model.
- Offer continuous development opportunities to ensure the team stays up-to-date with relevant skills.

Competition analysis:

- Research competitors' strategies in direct sales to identify opportunities and threats.
- Tailor the direct sales approach to maintain or enhance competitive positioning.

Transition costs:

- Plan the financial aspects of the transition, including potential one-time costs and ongoing investments.
- Implement project management practices to oversee the transition smoothly.

Risk management:

- Create detailed risk assessments for new vulnerabilities introduced by direct interactions with customers.
- Establish controls and continuous monitoring to minimize exposure to identified risks.

Customer service:

- Design customer service protocols that ensure quick and personalised responses in the absence of intermediaries.
- Leverage technology such as chatbots or AI-based support systems, while maintaining human interaction where needed.

Pricing strategy:

- Analyse the impact of removing intermediary commissions on pricing.
- Revise pricing strategies to ensure competitiveness while maintaining profitability.

Data management:

- Employ advanced analytics to make informed decisions using collected customer data.
- Ensure compliance with data protection regulations and ethical standards.

Market research:

- Conduct in-depth research to understand the preferences of the target market segment for direct sales.
- Adapt products, marketing, and overall strategy based on research insights.

Communication Strategy:

- Plan clear and transparent communication with existing policyholders, intermediaries and other stakeholders about the changes.
- Create a feedback mechanism to address concerns and build trust.

Sales targets and performance metrics:

- Set realistic sales targets that reflect the changes in the distribution model.
- Monitor performance regularly and adapt strategies as needed for continuous improvement.

Channel integration:

- Design a seamless experience for customers who may engage with both traditional and direct channels.

- Invest in technology that ensures consistent information and service across channels.

Strategic partnerships:

- Identify potential partnerships with tech companies to enhance the direct sales model.
- Manage the transition with existing intermediaries to mitigate conflicts or legal challenges.

Reputational risk:

- Identify potential reputational risks associated with the change and craft strategies to mitigate them.
- Implement crisis communication plans to respond quickly if issues arise.

Long-term strategy alignment:

- Evaluate how the change aligns with long-term business goals and market trends.
- Periodically review the approach to ensure it stays aligned with the evolving business landscape.

Impact on existing policyholders:

- Carefully assess the potential effects of the shift on existing policyholders and tailor strategies to ensure a smooth transition.
- Maintain open communication with existing policyholders and offer incentives or assurances to foster retention.

ii. Reasons why selling term assurances would be preferable:

- Term assurance contracts are generally simpler and easier to understand.
  - This could appeal to a broader customer base than whole life assurance.
  - A lower risk of misunderstanding leads to a lower risk of mis-selling and reputational damage.
- Term assurances would have lower costs.
  - There should be lower underwriting costs than with whole life.
  - Administration expenses should also be lower due, for example, to there being no surrender values.
  - This aligns well with the direct sales model, where cost reduction is often a primary goal.
- Selling a simple and low-cost term assurance (rather than potentially more complex and costly whole life) can foster transparency and trust, contributing to customer retention.
- Term assurance contracts may present a more predictable risk profile.
- The term assurance contract will require lower levels of capital compared to the whole life contract which could assist with cashflow.

- Term assurance can be more easily tailored to specific customer needs, such as young families.
- Term assurance premiums are generally lower, potentially leading to higher sales volumes.
- As the end of the term of cover approaches, there will be opportunities to cross-sell other products to policyholders.
- Term assurance contracts can align well with the direct sales model, where efficiency and streamlined processes are key.
  - This strategic fit can enhance the overall success of the new distribution strategy.

Candidates performed well in part (i). Those that underperformed generally did not cover a broad enough spectrum of considerations.

Part (ii) was generally not well answered. Many candidates focussed on generic reasons why a direct sales strategy has benefits and thus did not answer the question, which related to why it would be preferable for the company to sell term assurances rather than whole life assurances using a direct sales approach.

QUESTION 4

i. Data checks:

- Reconciliation check on sums assured (SA):
  - SA (end of the year) = SA (start of year) + SA (new business) – SA (lapsed) – SA (paid)
  - For 2022 (R m): 2300 = 2200 +550 – 150 – 300
  - For 2023 (Rm): 2500 ≠ 2300 +600 – 75 – 250
- Lapses:
  - Lapse rate = lapsed SA / start of year SA
  - For 2022: R 150m / R2200m =6.8%
  - For 2023: R 75m / R2300m = 3.3%
- Benefits:
  - Benefits paid rate = paid SA / start of year SA
  - For 2022: R 300m / R2200m =13.6%
  - For 2023: R 250m / R2300m = 10.9%
- New business:
  - New business rate = new business SA / start of year SA
  - For 2022: R 550m / R2200m =25.0%
  - For 2023: R 600m / R2300m = 26.1%

ii. Comments on data checks:

- The reconciliation check suggests either missing 2023 policy off-movements, over-count of new business, or missing in-force SA at the end of the year (movements suggest in-force of R2 575m at 31/12/2023).

- Lapses:
  - The large year-on-year drop in lapse rate could suggest missing lapses in the movements.
  - Lapse rates should be compared to those expected (based on assumptions or recent lapse experience investigation).
- Benefits:
  - The year-on-year drop should be investigated, but may be reasonable and should be compared to expected benefit payments (based on assumptions or recent critical illness experience investigations).
- New business:
  - The new business data does not seem unreasonable, but it should be compared to new business plans, commission paid and new business premiums.
- The above checks should be supplemented with other checks (e.g. on number of policies, premiums) and other data sources (e.g. accounts).

iii. a. Impact of an increase in claim administration expenses:

Liabilities:

- The impact will depend on how the experience will affect valuation assumptions at 31/12/2023.
- Market-consistent expense assumptions are likely to be best estimates for the company.
- If the change in experience is of a temporary nature, it may have no impact as it does not impact valuation assumptions.
- If the change in experience is expected to be permanent, claim handling valuation expenses should be increased, which will increase the value of liabilities.

Capital requirements:

- If valuation assumptions are increased, risk-based capital requirements are likely to increase as well.
- If valuation assumptions were not impacted, capital requirements will not be impacted.

Free capital:

- Market-consistent value of assets is at market value.
- Free capital will likely reduce if valuation expenses are increased.
- Claim handling expenses are unlikely to make a significant impact on free capital.

b. Decrease in claims:

Liabilities:

- Market-consistent assumptions are likely to be best estimates for the company.
- As the change in experience is expected to be permanent, valuation claim rates from the condition should be decreased, which will reduce the value of liabilities.
- The extent of the impact depends on how prevalent the condition is and the impact of the new drug.

Capital requirements:

- The reduction in valuation claim assumptions is likely to reduce risk-based capital requirements.
- The extent of reduction depends on the reduction in the level of uncertainty in claims experience from this condition.

Free capital:

- Free capital will increase if valuation claim rates are decreased.
- The impact on free capital will depend on the prevalence of this condition.

In part (i) many candidates did not perform any checks as the question required. Explanations of what types of checks should be performed, did not score any marks. The question asked for quantitative checks not qualitative checks.

In part (ii) candidates who performed calculations in the previous question, scored well here. However, those that didn't perform any calculations couldn't comment on the findings.

Part (iii) was generally well answered. Candidates who structured their questions as asked (liabilities, capital requirements and free capital) generally scored well. A few commented on the premiums, which was not asked (and thus did not score marks).

QUESTION 5

i. Design considerations:

Meeting customers' needs

- The insurer should consider how the product would meet customers' needs differently to the without-profits annuity.
- For example, the with-profits annuity may satisfy a need for increases based on the performance of underlying investments, as opposed to fixed increases.
  - This may provide higher increases but with greater risk and an associated cost.

Profitability

- A company will want to ensure that the rates charged will be sufficient to cover the benefits to be provided and the expenses in most foreseeable circumstances, as well as providing a profit margin.
- The profitability of the with-profits annuity should be similar to that of the without-profits annuity, or material differences should be justifiable.
- Consideration should be given to the key influences on the sensitivity of profit to changes in experience.

Marketability and competitiveness

- The benefits offered need to be attractive to the market in which the contract will be sold. The with-profits feature may make the contracts more attractive.
- This needs to be balanced against the complexity of with-profits business and how well customers will understand this product.
- The annuity market is typically very competitive and so the design, price and bonus rates of competitors are key influences.
- Consider marketing material in terms of projections of bonus distributions and whether this may result in unmet policyholder expectations in the future.
- Consider whether any guarantees should be offered to improve marketability.

Financing requirement and guarantees.

- With-profits annuity business should have low financing requirements.
- However, the design and communication need to consider how the insurer will manage the bonuses and guarantees.
- The level of any regulatory or internal solvency capital required should be considered.
- Consider how the bonus philosophy chosen will impact on the capital requirements of the insurer.

Risk characteristics

- Consideration will need to be given to the acceptability of the level of risk associated with the proposed product.
- The level of risk that may be acceptable will depend upon the company's risk appetite and risk management approach.
- A key risk is that bonus declarations do not meet PRE resulting in reputational risk.

Extent of cross-subsidies

- The insurer needs to decide on the extent of any cross-subsidies between for example large and small contracts.
  - The marketing advantage of a simple premium structure may conflict with a desire to avoid cross-subsidies.

Administration systems

- Some development of administration systems and other processes (such as bonus declarations) may be required.
- Any development costs will need to be recouped in some way.

Consistency with other products

- Differences to the existing without-profits annuity should be justifiable and marketable.

Meeting regulatory requirements

- The design should consider the need to adhere to any regulatory requirements.
  - E.g. such as treating customers fairly.

Sustainability of investment options

- A company needs to consider Environmental, Social and Governance (ESG) issues and the sustainability of the investment options.
- This may be constrained by the availability of suitable assets.

Distribution channel

- The insurer should consider the distribution channel that it will use to sell the new with-profits policies.
- Sales representatives need to be trained in selling with-profits annuities so as to avoid mis-selling.

Bonus distribution philosophy

- The insurer should consider what types of bonuses will be awarded.
- It will need to consider how profit deferral might be allowed for – if at all.
- It will need to determine how frequently bonus declarations will take place.
- It will need to consider how profits will be split between policyholders and shareholders.
- It will need to consider its bonus smoothing philosophy.

Investment strategy

- The insurer should consider its investment strategy to enable it to provide a reasonable level of bonuses in future.
- The level of free assets will determine to what extent the insurer is able to invest in riskier asset classes in search of high returns.
- The investment strategy will also be impacted by any guarantees offered.

ii. Determining mortality assumption:

- An assumption is required for both the base mortality and the mortality trend.
- For base mortality, the company's recent experience of the without-profits annuity would be a starting point.
  - Since the insurer is large, and the market developed, this experience should be credible.
  - However, this should be compared to any relevant industry or possibly reinsurer tables.
- Adjustments will be required to allow for differences between the lives for which the assumptions are being set and the lives from which the data is obtained.
  - There may be differences in the target market or distribution channel for example.
- An allowance should also be made for expected changes in mortality rates over time, that is the mortality trend, using a combination of:
  - Expectation approaches, involving expert opinion and subjective judgment to specify a range of future scenarios;
  - Extrapolation approaches based on projecting historical trends in mortality into the future; and
  - Explanatory approaches which attempt to model trends in mortality rates from a bio-medical perspective.
- Deterministic projections might allow for different mortality improvement rates according to year of birth cohort (as well as by age and gender).
- Alternatively, stochastic mortality projections can be used, such as the Lee-Carter or P-spline method, although these may be challenging to calibrate.
- The assumptions should consider any applicable actuarial professional guidance.

Candidates typically performed fairly well in part (i). Strong candidates were able to consider a wide range of product design considerations applicable to the scenario presented.

In part (ii) the candidates who clearly presented how the company would set both the base mortality assumption as well as the mortality trend assumption performed well.

QUESTION 6

i. Customer needs met:

- Can provide a savings benefit, with exposure to the overseas equity market which may provide attractive returns.
- The overseas investment can offer diversification from local investments.
- The guaranteed maturity value, albeit only a return of premiums, can protect against poor investment performance at maturity .
- The surrender value can provide access to funds for other purposes during the policy term.

- The guaranteed minimum surrender values can protect against poor investment returns during the term of the contract and may allow surrender on financially favourable terms at those points.
- Although the benefit may vary depending on market returns, it allows for a benefit on death of the policyholder that may be more than the sum of the premiums.

ii. a. Investment performance:

- The office will need to be able to meet the investment guarantees if overseas equities perform poorly in local currency terms.
  - As this risk will be difficult to match, the insurer may hold a provision for the investment guarantee, but the risk is that this provision is inadequate.
- The risk is significant as the guarantees apply during the policy term in addition to applying at maturity.
- There is an indirect impact on profitability as poor returns will lead to lower management charges than anticipated, possibly resulting in expenses not being recouped.
- As all charges are unit related, the risk could be significant (as the charges may be vital for profitability).
- Poor investment performance will lead to unhappy policyholders and bad publicity and a competitive disadvantage.

b. Expenses:

- The risk is that the expenses are higher than anticipated and not covered by the management charge.
- The risk is exacerbated by the fact that there is a mismatch in nature, timing and currency between the charges and the expenses.
  - There is a risk that initial expenses might not be recouped if fund growth is not as expected.
- This is exacerbated due to the fact that the level of charges is fixed and not variable at the discretion of the insurer.
- The company is also exposed to the risk of inflation being higher than expected on the administration and overhead expenses over the term of the policies:
  - The extent of this risk will depend on how closely matched investment growth is to expense inflation.
  - Charges are fund-related and so might be expected to produce amounts which beat inflation.
- The level of expenses will be uncertain because the office is launching a new product (admin. costs, development costs, investment costs, marketing campaign costs).
  - In particular, the costs relating to overseas investment may be difficult for the insurer to estimate, never having invested overseas before.
- Changes in the mix of business from that anticipated is also a problem as there are likely to be cross-subsidies involved in the expense recoupment (between policies with large & small unit funds).

- Lower than expected new business volumes, which is a significant risk with this new product unfamiliar to the market, may mean fixed expenses may not be adequately recouped.
- More withdrawals than expected may result in overhead expenses not being covered.
  - However, the surrender penalty may reduce this risk.

c. Withdrawals:

- There is a risk of higher withdrawals than expected at early durations, before initial expenses have been recouped.
- Other than at the guaranteed surrender value points, the surrender penalties should provide the insurer with some protection against withdrawals being higher than expected.
- There may be financial selection against the company at the guaranteed surrender value dates if unit performance has been poor.

Part (i) was generally well answered, with better solutions outlining needs met by each of the key features of the product.

Part (ii) was not as well answered. Only stronger candidates provided well-structured points for each of (a),(b) and (c), taking account of the context and the specifics of the product benefits. Aside from a shortage of distinct points, weaker candidates made several errors, often writing much content for little marks. Some of the content not scoring marks included listing generic risks not relevant to the product (such as high guaranteed death benefits, or mismatching assets and liabilities), giving mitigations (which were not asked for in the question), rewriting the same points in different ways, providing generic difficulties with offshore investment, or providing aspects they believed were not risks for the given product.

QUESTION 7

i. Forms of underwriting:

- Medical underwriting
- Financial underwriting
- Lifestyle underwriting
- Claims underwriting

ii. Reasons why the company may accept non-standard risks:

- Since the company has a well-established book of risk business, the company might have the experience and appetite to take on the additional risk.
- If no other companies in the industry are accepting non-standard risks, the company can provide cover to policyholders that might have been declined otherwise.
  - This will help the company to gain market share and broaden its offering to the market.

- This could be based on a gap in the market that the company identified and decided to target this market.
- It may create bad publicity were the company not to accept such risks.
- The company will allow for the additional risk in the premium it charges to policyholders that are considered non-standard. If the charges are appropriate, the company is likely to make a profit from these policyholders.
- This will be in line with the objectives of the company which would be to make profits for the shareholders.

iii. The company could manage the risk through:

Experience investigations:

- The experience investigation will be a key control to ensure that the experience is tracking in line with expectation.
- This will be used as part of the pricing basis as well as the valuation basis.
- If the experience is not tracking in line with expectation, the company can change the rates to ensure that the loadings are still appropriate.

Analysis of Surplus

- This will identify sources of profits or losses over a reporting period from these non-standard policies.
- Certain risks might have volatile experience or continuously result in losses. This will help the company identify which non-standard risk might not be worth selling.
- This will also link back to the experience investigation and might provide areas where the company needs to place more focus on assessing experience.

Reinsurance

- Reinsurance will also be a useful tool in managing the risks associated with the non-standard policies.
- Since the company is large and well established, it might not want to share the parameter risk with the reinsurer through a quota share arrangement.
- However, the insurer might provide cover for large sums assured and therefore, a surplus / excess of loss arrangement might be quite useful.
- Some form of aggregate or catastrophe cover may be suitable, for example to protect against adverse experience caused by a pandemic (as non-standard lives may be more susceptible than standard lives).
- Reinsurance rates may also provide an indication of the adequacy of the insurer's pricing in combination with its underwriting practices. If reinsurers are not willing to provide cover at reasonable rates this may indicate that the insurer is not adequately pricing for these non-standard risks.

Other

- It would be important to continuously feedback the results from the above items into the actuarial control cycle.
- The company would need to continuously monitor the experience and the financial impacts from offering these non-standard policies.

- If experience turns out to deviate, the company should take proactive action to correct this.

iv. Impact on the valuation:

- The loadings are used to determine the premium rates and the mortality rates.
- This would have resulted in the present value (PV) of premiums being understated (the modelled premiums would have been lower than the premiums actually charged).
- The PV of mortality payments would have also been understated (the expected number of deaths would have been understated due to a lower modelled mortality assumption).
- The net impact would depend on how the loadings on premiums compare to those used in the modelling.
- The impact on profits emerging between valuation dates depends on whether the same error was made in the valuation at the start of the period.
- There would have also been second order impacts on expense, reinsurance and capital modelling, which would have mainly been a function of the number of policies in-force and the mortality outgo.

Parts (i) and (ii) were generally well answered. Some candidates made generic points such as "regulation", which did not score many marks.

The quality of answers for (iii) varied significantly. Stronger candidates managed to generate more valid points, and also considered the context in which the company was operating. Many candidates simply listed the general underwriting decisions from the notes, which did not score any marks.

Part (iv) also had a broad range of answers. Many candidates did not read the question or did not answer how the valuation results were impacted. Candidates that considered the present value of premiums and benefits scored well.

QUESTION 8

i. Why the new legislation might have been introduced:

- Policyholders could previously only access their money on retirement, unemployment or death.
- If policyholders experienced financial distress, they would not have been able to access the assets in their investment fund. This was a very inflexible savings structure.
  - The withdrawal benefit was only available once.
  - They would have had to be unemployed for 3 months to get their unemployment benefit which may have caused hardship.
  - Furthermore, the legislated cap on withdrawals may have been inadequate.

- Unless they had other savings or access to social security/social insurance/state provided unemployment they could experience hardship.
- If there was an economic shock, the government may have been faced with significant levels of destitution.
  - This could lead to political instability.
- Policyholders may have been encouraged to resign from their employment to access their unemployment benefit.
- Paying only a third of the contributions into the AF further ensures that policyholders are not left vulnerable at retirement as two-thirds of the contributions (and funds accumulated prior to implementation date) would have accumulated in the RF and cannot be touched before retirement.

Annuitisation issue:

- Being able to access a part of their pension as a lump sum at retirement might also be useful and meet policyholders needs and increases policyholder options at retirement.
  - As an example, they could use this money to pay off any outstanding debts.
- The government can still promote annuities through beneficial tax treatment.

Other:

- The government has most likely introduced the new legislation as it expects it to result in a long-term increase in the level of pensions that people will have for retirement and hence reduce potential burdens on the state.
- International pressure and research could have also indicated that this approach would work better in the long-term.

ii. Possible impact:

- The new legislation will be positive for policyholders if they have more flexibility and can access their funds if they need them.
  - This may lead to increased demand for this product.
- The transfer of accumulated funds to the RF may result in policyholders losing access to their funds due to unemployment and this may lead to unhappiness directed at the insurer and a loss of trust by policyholders.
  - However, the impact is limited to those that have not made use of the once-off allowance under the old rules.
- The insurer will need to be able to administer on the new basis.
  - The admin systems would need to keep track of the contributions to the AF and RF
  - There may also be tax implications with the change.
- Companies will need to train their employees and educate policyholders on the changes made to the current system.
  - This will result in additional costs incurred by the company, which will be passed back to policyholders.

- The company would need to amend its charges for the product to ensure that its charges are adequate for the greater complexity of the new product.
- There are significant investment issues: The duration of the RF assets can be expected to be longer than the status quo and the duration of the AF assets shorter.
  - Given the policyholder investment choice, the range of options provided in each fund would need to be considered in light of duration and liquidity needs.
- Total demand for the insurer's annuity products may drop now that compulsory annuitisation only applies to the RF and not the AF.
  - But demand for alternative products for older savers may increase E.g. prefunded LTCI policies.

iii. Advantages:

- Introducing the guarantee will make the retirement products more marketable to potential policyholders.
  - This could potentially meet a real need of customers who might want certainty regarding their retirement income.
- This may help the company to obtain a competitive advantage in the market and the company might gain more market share.
- This may result in more profitability to shareholders, which would be one of the objectives of the company.

Disadvantages:

- The guarantee is complex for policyholders who might not understand the benefit.
  - For example, their needs may change between locking in the rate and taking out the annuity.
  - Such as gaining or losing a spouse.
- Advisors and sales staff would need to be trained to ensure that they are able to properly assist potential policyholders.
- Managing the investment risk associated with the guarantee will be complex and if not properly managed it will increase the risk of substantial losses and possible insolvency for the insurer.
  - It could add significant additional capital requirements.
- The company will have to charge for the guarantee. If the charge is too high, there might be a low take-up.
  - The company would have then invested a lot of time and money into a feature that might not do well in the market.

In part (i), candidates who did well were able to provide a broad set of reasons as well as explain why the solution being proposed addresses those reasons. Candidates who performed poorly generally struggled to generate enough diverse points.

In part (ii), stronger candidates were able to touch on an array of considerations and how this would impact the insurer rather than just mentioning the more obvious points.

Part (iii) was generally well answered and most candidates answered the question asked and focused on the advantages and disadvantages of the guaranteed annuity option (GAO). Candidates who performed better took account of the specifics in the question, e.g. "'developing country" potentially meaning it may be difficult to hedge the GAO or price if using option pricing techniques

END OF EXAMINERS' REPORT