EXAMINER'S REPORT

May 2025

Subject F202 — Life Insurance Specialist Applications

QUESTION 1

A South African life reinsurance company ("Company R") currently has a financing arrangement in place with a direct writing life insurance company ("Company D") where no reinsurance premium is paid for the first year and then Company D pays a higher reinsurance premium in later years.

Part (i) was well answered by most candidates, however, some candidates provided generic reasons for reinsurance without looking at financial reinsurance and therefore didn't score highly.

i. **Outline the reasons why a direct writing life insurance company would want to use financial reinsurance.**

Reasons why an insurer would want to use financial reinsurance

- Need for capital to write new business
- Need for capital to reduce new business strain
- Need for technical expertise from reinsurer to develop and write new lines of business
- Need for capital to improve statutory solvency levels
- Early profit recognition
- Free capital tied in "inadmissible" or "virtual" assets
- Increase the internal rate of return on capital employed and/or the economic value of the company
- To help improve cash flow
- Not able to raise additional capital through sale of new shares
- Better source of financing compared to contingent loads or subordinate debt

Company D has just launched a new funeral product where premiums are collected through debit order or stop order. Company D has also approached other (non-insurance) companies to allow their staff to add the funeral policy as a voluntary benefit where the premiums for the policy are deducted directly from their salary.

Rather than using the existing financing arrangement for the new product, Company R has offered Company D an option where the financing is effected by an upfront reinsurance commission payment in return for an additional proportion of each future insurance premium. In addition, if the policy holder lapses the policy within the first year, then a portion of the financing is repaid to Company R.

ii. Outline the reasons why the new arrangement would be more favourable to Company D.

Part (ii) was generally not answered well with most candidates not understanding the differences between the two structures.

Reasons why the new arrangement would be more favourable

- The original financing arrangement effectively results in a reinsurance premium rebate in the first year to help cover any commission payments and upfront costs (new business strain). These are then recouped by the Company R through higher premiums later.

- By moving to the new arrangement, Company D would unlock a larger portion of the future profits now thereby obtaining more capital to help with new business strain but also free up capital to help improve their solvency position
- Company D would transfer a larger portion of lapse risk to the Company R and therefore be able to better manage their capital and their risk appetite
- Given that the repayment of initial financing is longer than one year, this makes it more difficult for Company R to change risk rates without directly impacting lapses and the repayment of the financing and therefore there will be few changes in risk rates for Company D resulting in more stable estimates for future reinsurance costs
- The arrangement creates a long-term partnership between Company D and Company R where both parties are invested in managing the risk resulting in more co-operation and support from Company R

iii. Discuss the factors Company R would consider when pricing the new financial reinsurance deal.

Whilst candidates performed reasonably well on part (iii) candidates didn't generate enough points and seem to miss the obvious points.

- Given that this is a new product the reinsurer needs to consider whether the existing data is appropriate to price the new deal and whether the changes in premium collection and financing will impact the pricing. Company R should also look at whether they have other reinsurance data they can use to help adjust lapse curve for these new features.
- Considerations in terms of target market, distribution, underwriting, claims handling and product design will need to be considered (especially if these are different).
- The past experience would only include payments from debit or stop orders. The impact of a new feature where premiums are deducted directly from salary on payment needs to be considered. Given that premiums will be deducted off salary, then this will most likely reduce non-payment or likelihood of stop orders or debit orders being rejected.
- The primary risks to consider would be lapse and mortality as these will directly impact the repayment of financing. The insurer should carry out a lapse and mortality investigation to ensure that the current lapse and mortality rates used are appropriate.
- Lapse risk would differ by payment method and distribution channel. These would need to be considered. The option to have premiums deducted directly from a policy holders' salary will most likely improve lapse rates given that stop orders and debit orders can be rejected if there aren't sufficient funds in the account. However, impacts on policy holders moving companies could also result in additional lapses when a policy holder changes jobs and therefore there could be a change in the lapse curve that will need to be investigated.
- Company R would also look at the credit risk of the insurer and determine the likelihood of Company D defaulting. Factors to mitigate this risk would involve a review of the financial statements to get a better understanding of the credit rating of the company, the solvency position and the level of free assets.
- Company D might choose to implement additional credit risk mitigation steps e.g. providing a bank guarantee. Depending on the level of the credit risk, additional margins might be applied to compensate for the additional risk.

- Given that the business will be priced with the risk business, the level of expenses included will need to be considered. Whilst there will be no claim handling expenses there will be expenses for administration on monitoring.
- The type of interest rate used to discount cashflow would need to be considered. Will a yield curve be used or a flat rate and will margins be incorporated into the yield curve or explicitly in the cashflows.
- The total profit margin will also need to be considered and the level of this relative to Company D taking out debt financing would need to be considered.
- Company R would also need to consider the cost of capital. There will be two components: firstly the cost for the use of the physical cash and then the cost of the additional capital that will need to be held due to the increase in lapse risk in the SCR.
- Company R will need to consider the type of model they will be using to price the deal. Will this be a simple cashflow model or will they apply a more complicated model that provides more information and scenarios
- The terms for the financing also need to be considered especially if there are clawbacks or the deal is structured to be lapse neutral.
- Given that both risk and financing is being provided, the cross subsidies between these two rates need to be considered.
- After finalizing the risk rates, Company R would also need to consider the affordability of the future financing premiums and also look at what competitors are charging to ensure that the final price is reasonable.

Company R has just received an updated lapse investigation from Company D highlighting that the actual versus expected lapses experience for 2024 has worsened and is running above 100%.

iv. Describe the investigations that could be conducted in response to this finding, and the actions which might be taken related to the pricing and valuation bases following the investigations.
[8]

Part (iv) was poorly answered with candidates not generating enough points around the data investigations and methodology checks.

Data investigations and checks

- The first step would be to understand the data used in the investigation and carry out checks on the data to ensure that there is no double counting of lapses and ensure that there are no issues where an individual is still on risk and paying premiums, but they also appear on the lapse list.
- An investigation would need to be carried out to understand how the lapse investigation was carried out. Was this based on a numbers or amounts basis and what other factors were used to determine the experience. If the experience is only poor at specific durations or for a specific payment method, further investigations into those areas should be carried out.
- Checks would also need to be carried out to see if there were any changes in IT systems or processes that could have caused a spike in lapses for one month e.g. debit order instructions not being sent out in time or a change in how data is extracted from the system could cause inconsistencies in the data

- Checks can be carried out to see if risk premiums are being received if financing payments have stopped. Both risk and financing premiums should stop at the same time.
- If there are issues with the data used, then the data needs to be fixed, and the lapse investigation will need to be re-done.

Methodology checks

- An investigation needs to be carried out to check that lapses are being calculated correctly and allocated to the correct duration. For example, if lapses are determined based on the first premium missed – this could result in overestimating the lapses especially if the policy holder continues paying premiums later. If a policy holder lapsed in month 13 but only paid 11 premiums, then the lapse should be allocated to month 12.
- Checks will need to be carried out on clawbacks to ensure that these are handled correctly in both actuals and expected. If the insurer has not accounted for the clawbacks this could explain why the lapse experience appears to have worsened. Especially if the poorer experience is in duration 0-1 years.
- If there are issues with the calculations, these need to be fixed and the investigation will need to be re-done.

Experience investigation checks

- The actual vs expected cashflows on both a numbers and amounts basis should split by product, payment method, distribution channel and year.
- If the worse experience was once off e.g. in a particular month, then no changes need to be made to the valuation or pricing basis. Further checks can be carried out by calculating the IRR to ensure that the group of policies is still profitable overall.
- If lapses have been underestimated for a product and this appears to be a trend or evident at specific durations, then new best estimate lapse curves should be determined.
    - For the pricing basis, further investigations should be calculated using a new best estimate lapses curve to check the IRR. If the IRR has fallen below target IRR, then the pricing basis should be updated to reflect the experience and new rates changed to new policy holders.
    - If the updated IRR still meets the minimum margins required, then a decision could be made to make no changes to the current basis.
    - The valuation basis should be updated to reflect the new best estimate basis to allow for the changes.

Other factors to consider if changes to the pricing and valuation basis are required:

- Changing Pricing rates
    - Will the change in rates impact both new and existing business? Also need to consider any cross subsidies between risk and financing business.
    - Are there any guarantees on the business? Financing rates on existing business are most likely to be guaranteed and only changes on new business could be implemented. However, risk-rates on funeral business are unlikely to include guarantees and therefore these rates could be change.
    - If risk rates are increased on existing business, there could be a chance of increased lapses resulting in further losses. Therefore, the Company R needs to work out the trade-off between increasing rates and potential losses due to lapses.
    - Changes to the pricing basis could be implemented on new business subject to any guarantees or notice periods. Normally a there will be a 3-month notice period or guarantee on new business

rates. However, this will also require discussions with Company D and this could take longer. Therefore, business considerations and relationships with Company D will need to be factored in and whether these changes can be implemented in the system.

- Changing Valuation Rates
    - Valuation rates can in theory be updated immediately. However, before the new rates can be implemented a review by the Head of the Actuarial will need to be carried out and the new rates for the valuation will need to go through the appropriate sign-off process and be document appropriately for audit purposes. This might require a more in-depth analysis.

QUESTION 2

A medium sized life insurance company operating in the South African market sells a range of annuity and investment products. The company uses a combination of retail and corporate bonds as well as swaps to hedge their liabilities on the IFRS 17 basis. The company also has approval from the Prudential Authority to use the swap curve in the SAM valuation. The company further calculates an illiquidity premium on the SAM basis and the regulatory cap applies.

One of the Executives of the company is interested in the risk-profile of the company and has asked which risks make up the SCR and why.

i. Outline your response to the executive as to which risks make up the SCR and why.

Part (i) was generally well answered and candidates who explained the relevant components that would make up the SCR scored well.

The SCR of the company would be made up of the following:

- **Insurance Risk**
    - Since the company sells annuities, the company would be exposed to longevity risk on the annuity book of business.
    - The company would also be exposed to catastrophe lapses and lapse up risk on the investment book (assuming that these policies are profitable).
    - Both books of business would be exposed to expense risk.
    - There might be small exposure to mortality risk on the investment book, but this would be a second order impact.
- **Market Risk**
    - The company would be exposed to yield curve risk from the annuities and the extent to which there is a mismatch between the SAM liabilities and the assets backing the IFRS 17 liabilities.
    - The company would also be exposed to real curve risk on expenses and annuity payments that are linked to inflation.
    - The investment products would give rise to equity, property and currency risk. The unit reserves would likely be matched, but there could be a mismatch on the negative rand reserves.

- The company would hedge on an IFRS 17. The SAM shocks are quite severe, and the company may experience a mismatch on the assets and liabilities at the extreme shocks.

- **Credit Risk**
  - Seeing as the company invests in corporate bonds, the company would be exposed to credit risk. The extent of the credit risk will depend on the credit ratings of these companies.
  - If the company is significantly exposed to a certain counter party, there may be concentration risk capital requirements as well.
  - No credit risk would be attached to government bonds

- **Operational Risk**
  - The company would be exposed to operational risk. This would be a function of either AUM, expenses or the earned premium depending on which of the operational risk modules bite.

The Executive is also interested in the Loss Absorbing Capacity of Deferred Taxes and how this could reduce the SCR.

ii. Describe how the company would calculate how much of their losses could be absorbed by deferred taxes on SAM. You should also reference the relevant tax funds and tax rates.

The quality of answers on part (ii) were quite varied. Better prepared candidates explained the concept of deferred taxes on SAM and how the deferred tax liability would change if a 1-in-200-year loss event would happen. Plenty of candidates mentioned the I-E tax rates, which weren't relevant to the question. Some candidates also focused on the risk policyholder fund or corporate fund, which did not score any marks.

- The company would need to split the IFRS 17 and SAM liabilities by tax fund
- The annuity business would be in the UPF and the investment business would be in the IPF or CPF, depending on the policyholder
- The company would calculate the difference between the IFRS and SAM liabilities and tax it by the corporate tax rate (this is currently 27%)
- This represents the deferred tax liability on SAM
- The company would have to split the 1-in-200 year losses (SCR) by tax fund and multiply this by 27% to determine the DTA created in a 1-in-200 year event
- The company would need to compare the DTA against the DTL. If the DTA exceeds the DTL, the company would need to determine how much of the DTA it can recover in a 1-in-200 year event.
- If the DTA created is lower than the DTL, the DTA created in a 1-in-200 year event is the amount that can be absorbed by the deferred taxes.

Over the last few years, the company has consistently seen big investment variances in their Own Funds build-up that are submitted to the PA as part of the annual return process.

iii. Explain what could have caused these variances.

The answers in part (iii) were disappointing. Plenty of candidates made generic points, such as poor returns, economic cycles and errors, without focusing on the information provided in the question. The candidates that focused on the IFRS 17 hedging basis, corporate bonds earning more than risk-free and the cap on the illiquidity premium were able to score marks.

IFRS 17 vs SAM liabilities

- The company hedged on the IFRS 17 basis and not the SAM basis. To the extent that the liabilities differ, there will always be a mismatch on the SAM basis. For example, on IFRS 17 only directly attributed expenses is included in the liabilities and therefore, the reserves that are hedged would differ between IFRS 17 and SAM.
- For example, the annuity liabilities would be smaller on IFRS 17 than SAM.

Differences in curves

- The company would base their hedging of the curves used in IFRS 17. To the extent that these curves differ, there would be a further mismatch on SAM – the assets would move in line with the IFRS 17 curves and not the SAM curves.
    - There would be less noise coming through from the swap curve, seeing as the same curve is used on IFRS 17 and SAM as well.
    - However, to the extent that the IFRS 17 bond curve differs from the bond curve prescribed by PA, there will be further noise.
    - These curves might also not move consistently between years, so the assets based on IFRS 17 liabilities might not move in line with the SAM liabilities.

Illiquidity Premiums

- The illiquidity premiums on IFRS 17 would likely differ from the illiquidity premiums on SAM.
- The SAM illiquidity premium is based on an internal rate of return calculation and is capped at 50bps.
- There is no cap that is applied on the IFRS 17 illiquidity premium.
- Furthermore, SAM only allows an illiquidity premium on life annuities whereas IFRS 17 does not have this restriction.
- Therefore, SAM is very prudent on capitalizing illiquidity premiums on the valuation basis. However, these illiquidity premiums will still be earned and will emerge as positive variances on the SAM basis.
- This will contribute to a positive investment experience on the SAM basis.

Credit Risk

- It is stated that the company invests in corporate bonds. These corporate bonds would have credit risk attached to them and the company would likely earn a rate more than the risk-free rate of return.

- Seeing as SAM uses risk-free curves in the valuation, the potential return from assets that carry credit risk would be understated.
- This would also emerge as annual profits in the SAM Analysis of Surplus if there were no defaults.

Equities and other assets earning more than risk free.

- The company sells unit liabilities that would be invested in a range of asset classes. In the long term, equity and properties would earn more than risk free.
- This could result in positive investment experiences on these asset unit funds.
- This would impact on the non-unit reserve (NRR) - if returns are better than expected the value of the NRR would be higher than expected.
- Seeing as this would not be fully hedged on the SAM basis, there would be a contribution to a profit/loss observed in the AoS depending on how the markets move.

QUESTION 3

A large South African life insurance company writes a wide range of individual and group business. In the last year, the range of savings products has been through a round of benefit and pricing changes. The pricing criterion the company uses is the value of new business (VNB) margin on a representative set of model points. VNB is also one of the metrics used to measure company performance. The actual VNB margin has been calculated at the end of the reporting year and it is significantly lower than that seen in the pricing exercise.

i. Explain what could have led to the difference in the VNB margin. [10]

Part (i) was answered well by some candidates, however, many missed straightforward points in what was an analysis of change exercise. There's evidence of people not reading the question properly as they mentioned factors that would only apply to risk products, when the question specified savings products.

The EV/valuation basis for the end of period calculation will probably be different to that used in the pricing calculations.

AP07 requires VNB to be calculated on the same basis as for in-force business, so the pricing basis cannot be used if it differs from the EV basis.

For lapse and risk decrements, the experience used to derive the company's assumptions will be weighted towards the existing in force book; and any assumed improvements that were used in the pricing basis would not have materialised to be reflected in the experience analysis.

The economic assumptions (investment return, inflation, risk discount rate) will probably differ from those used in the pricing calculations; since these are usually set with reference to market rates on the valuation date.

The unit maintenance expense assumptions may be higher than in the pricing basis; due to expense overruns or a smaller in-force book. The unit acquisition expenses may also be higher than assumed in the pricing basis due to expense overruns, or lower than budgeted sales.

The Gross VNB margin (i.e. before acquisition expenses) may be similar to the pricing basis, but the interaction between volumes and acquisition expenses can have a 'gearing effect' on the Net VNB margin. Product mix could have quite a significant influence on the overall VNB margin.

There also may not be a consistent VNB margin for all policyholders within a product, so the difference in the policyholder profile used for pricing, and the actual profile can have quite a significant effect.

For Savings policies the effect of the mix of policyholder profiles can come from:

- Size of policy
- Mix of recurring and single premiums
- Term
- Investment portfolios selected by clients.
- Level of investment guarantee selected by clients.

Additional factors

- Consistency of the model used for pricing and for the valuation
- Changes in the required capital of the products
- Integrity of valuation data following product changes

Following the introduction of IFRS 17, it has been suggested that the company replace the Value of New Business (VNB) as a measurement of company performance with the Contractual Service Margin (CSM) added by new business.

ii. Explain the difference between the VNB and the CSM added by new business. [7]

Part (ii) was poorly answered, and candidates did not generate enough points on how the risk profile changed

VNB is the present value of expected future profits arising from the business sold within the reporting period.

CSM (for a profitable cohort of business) is also a calculation of expected future profits, as it is the reserve that needs to be set up to eliminate day 1 profit for the policies.

For CSM, future cash flows are discounted at market observable data, whereas for VNB cash flows are discounted at a rate that shareholders require as a return on investment.

The published VNB is calculated on the end of period valuation basis.

The CSM added by new business is calculated on the basis in force at point of sale.

VNB includes an allowance for the cost of required capital, but CSM does not.

VNB can be negative, but CSM cannot.

Instead of a negative CSM a separate Loss component is set up under IFRS 17.

VNB takes into account all expenses, whereas CSM is calculated using only attributable expenses.

VNB makes provision for the release of risk margins for non-financial risks, whereas CSM does not.

CSM is only calculated for products that fall into the scope of IFRS 17's General Method or Variable fee approach.

iii. **Discuss what should be considered when changing the company performance measurement metric from VNB to CSM added by new business.** [10]

Part (iii) was poorly answered by candidates and many candidates did not recognize that the VNB and CSM added by new business are measures for a reporting period, and wasted energy trying to explain how experience would affect these values in future years.

Continuing to use VNB would ensure consistency with previous reporting periods making trends over time easier to identify.

If, however, the company decides to switch to CSM, it could overcome the problem of comparability with previous periods by doing both calculations for a period of time.

The company will have to calculate the CSM from new business as part of its reporting process. There is no requirement that VNB be calculated and reported. The company could therefore save the effort and expense of calculating VNB.

VNB allows for the returns required by shareholders through the use of the risk discount rate used to discount future expected profits, and with sensitivities to RDR provided, may give stakeholders more information about the value added by new business.

VNB also measures the capital required to back the new business that has been sold through the Cost of Required Capital component of the VNB calculation.

However, it may be argued that the Risk Adjustment and Time Value of Guarantee components of the CSM are an adequate proxy for the CoRC.

CSM is only calculated for General Measurement Model (GMM) and Variable Fee Approach (VFA) products. The CSM from new business therefore does not take into account the value added by products that fall under the Premium Allocation Approach (PAA), or investment products that are measured under IFRS9.

For large South African life insurance companies, PAA and IFRS9 products can form a significant portion of the total business, which VNB would encapsulate, but CSM would not.

A group of policies could have a loss component yet still have a positive VNB, because the VNB includes the release of the risk margin.

By only looking at CSM, the company would underestimate the number of policies expected to add value over their lifetime.

For products that do have a CSM (i.e. GMM & VFA), there should be a correlation between the VNB and CSM from new business, so VNB could serve as a check on the CSM.

The decision whether to continue to calculate VNB would probably be part of an overall decision about the effectiveness of calculating Embedded Values in the IFRS 17 environment.

The calculation of and analysis of the change in Embedded Value provides additional information about the value and performance of the company. The company will need to evaluate whether that is worth the extra effort.

QUESTION 4

A large South African Life insurance company has historically sold Living Annuities and Guaranteed Life Annuities.

In recent years, market performance in equities has not been satisfactory, and inflation has been on the rise. In addition, the company has seen a significant increase in the sales of its Guaranteed Life annuities.

i. **Outline the reasons why the insurer would have seen an increase in these sales.**

[4]

Part (i) was generally well answered. Candidates that scored poorly did not use the information that was provided in the question and made generic comments such as competition, regulation and marketing.

- High inflation rates are usually associated with higher term structured yield curves which result in higher annuity rates for Guaranteed Life annuities, hence retirees might be more inclined to purchase Guaranteed Life annuities over living annuities due to receiving higher annualised annuity amounts for their specific pension.
- Is this a genuine increase in business for the company or a transfer of new business from Living Annuities to Guaranteed Life Annuities?
- Given the market conditions, the insurer might have been able to price their annuities at lower margins to increase sales volumes and take advantage of the market conditions
- The insurer might offer CPI-linked annuities which could be attractive to retirees in time of high inflation as the inflation risk is passed onto the insurer instead of being born by the retiree.
- Given the poor recent market performance, pensions might be concerned with the level of investment risk they are bearing in their living annuities and hence they might be converting their living annuities to Life annuities to negate the investment risk.
- In general, pensions might be more concerned with the longevity risk which they take on in a Living annuity and hence may wish to pass that risk onto insurers even if it means not being able to leave an inheritance.

The company has recently decided to launch a new with-profit annuity to enhance the range of retirement solutions available to pensioners.

A with-profit annuity provides a guaranteed income for life, whilst offering increases linked to market performance of the underlying funds. These increases can never be negative, even in poor market conditions and policyholders share in the mortality experience of other policyholders.

ii. **Compare and contrast the risks faced by a with-profit annuity compared to a living and guaranteed life annuity for the policyholder and the insurer.**

[8]

Part (ii) was well answered. Candidates missed some easy marks on the lapse risk on living annuities and the reputational risk on the living and with-profits annuities. Most candidates also missed that there was profit sharing on longevity on the with-profits annuity.

- Investment risk
    - Under the living annuity the policyholder bears the majority of the investment risk depending on the performance of the underlying assets. However, the insurer is also exposed to 2nd order investment risk as poor investment performance can lead to low growth in the underlying and hence insufficient fees to meet expenses.
    - For the guaranteed life annuity, the investment risk and asset-liability matching risk is borne by the insurer.
    - For the with-profit annuity, the component that is guaranteed and vested leads to investment risk to the insurer whilst the discretionary element linked to underlying market performance is borne by the policyholder.
- Inflation risk
    - Generally, inflation risk exists within all the different annuity types. However, who bears the inflation risk on a guaranteed life annuity depends on whether a CPI-linked annuity is elected or not.
    - The inflation risk on with-profits annuities is somewhat mitigated through the bonuses declared being based on the underlying market performance of the pool of assets which should exceed inflation in the long-term.
- Longevity risk
    - The longevity risk is borne by the policyholder in a living annuity, whilst it is borne by the insurer in the guaranteed life annuity.
    - Under a with-profit annuity where the mortality experience of other pensions is shared amongst the pensions, the longevity risk to the insurer is reduced, however it is not completely mitigated as there is still a guaranteed annuity payable by the insurer and the mortality experience of the other pensioners may be insufficient to assist in the funding of this.
- Counterparty risk
    - The policyholder generally takes on the counterparty default risk for their underlying investments in the living annuity and market-linked component of the with-profit annuity whilst the insurer will take on this risk for the life annuity and guaranteed portion of the with-profit annuity.
- Withdrawal risk

- This is not applicable under the life annuity and with-profit annuity as policyholders cannot surrender these annuities.
- However, under the living annuity, insurers are exposed to withdrawal risk in that they may have lower assets under management than projected which may lead to insufficient fees to cover their expenses.

- Reputational risk
  - Whilst the insurer is obliged to explain to the policyholders how living annuities work and what risks are borne by the policyholder, the insurer is still exposed to the risk of policyholders running out of money and blaming the insurer for poor market performance, high fees etc.
  - Within the with-profit annuity, the insurer is largely exposed to the reputational risk of poor bonuses being declared as a result of poor market performance.
- *Other examples acceptable e.g.*
  - *Expense risk*
  - *Fraud and operational risk*
  - *Etc.*

For a given series of investment returns, annuity increases will be declared based on the Post-Retirement Participation Rate (PRI) as shown in the simplified increase formula below:

Annuity increase = (Smoothed Average Return - PRI) - Charges + Profit experience

Where the smoothed average return is based on one of the following options (the policyholder has investment choice freedom within the regulations):

- **Option 1 - Six-year historical performance with higher weightings towards more recent years; or**
- **Option 2 - Two-year historical performance with equal weighting for each year**

The PRI acts as a hurdle-rate for net returns to beat before increases are granted and policyholders can choose between 2%, 3% or 4%.

iii. **Discuss the advantages and disadvantages of the different smoothed average return options and PRI selections for pensioners purchasing the with-profit annuity at retirement.**

[12]

Part (iii) was poorly answered. Many candidates missed the trade-off between smoothing of returns and equity between different generations of policyholders. Most candidates picked up that Option 1 would result in more smoothing, and Option 2 would be more volatile, but failed to link this back to equity between policyholders and how this would impact on the choice in investments strategy.

<u>Smoothed average return:</u>

- For smooth bonus business there is a trade-off between smoothing of investment return and complete equity between policyholders. However, this is exaggerated when the smoothing mechanism works over a longer period of time, such is the case in option 1.
- Option 1 is more suitable to a more risk averse policyholder who would prefer more stable and predictable bonuses being declared over-time since it is based on a smoothed-average return over a longer period of time one would expect less volatility.

- However, option 1 could also be more applicable to policyholders who wish to take on more investment risk and invest is risker, higher yielding, longer term assets in order to maximise their expected level of bonuses over their lifetime.
- The fact that option 1 has a greater level of smoothing can be an advantage or a disadvantage depending on when the policyholder enters the fund and what the historical asset returns have been as despite them only joining the fund now, their bonuses will be determined based on the historical 6-year market returns.
- Whilst option 2 has a lower level of smoothing than option 1, it still introduces some level of smoothing and reduces the cross-subsidy of returns from different years.
- However, given there is not a lot of smoothing, policyholders seeking stable bonuses may limit their investment strategy to lower risk investments which could lead to lower expected bonuses over the lifetime of the policy.
- In scenarios where there is particularly poor performance in one of the years, it is likely that option 2 will lead to no or low bonuses being declared (negative bonuses are not allowed) for a short period of time.
- However, under option 1, it is less likely that no or low bonuses will be declared, in the event of poor market performance the bonus rates might be subdued for longer periods of time.
- In scenarios where there is particularly good performance for a period of time, under option 1 the bonuses declared will still benefit from these higher returns for a prolonged period, thereby reducing the risk of poor bonuses being declared.
- Overall, policyholders will need to consider the two options in relation to their personal circumstances, desired level of investment risk and appetite for volatility in the bonuses being declared.

PRI selection

- The PRI acts as a hurdle rate for net returns to beat before increases are granted and hence, all things being equal, selecting a higher PRI means future increases will be lower, but your starting guaranteed pension will be higher. Whilst selecting a lower PRI means your starting pension will be lower but future increases will be higher.
- Hence, pensioners will need to balance their need for higher/lower pensions increases, together with their requirements in terms of their starting pensions to ensure they are able to maintain their standard of living.
- However, higher PRI will lead to lower pension increases in future which means there is less protection against elevated inflation levels.
- However, if policyholders believe they have a lower life-expectancy than the average person, they may want to elect a higher PRI in order to get a higher starting pension whilst accepting their pension increases might not be as high.
- Since pensions increases can't be negative this does provide some protection to policyholders and hence at a minimum the with-profit annuity will perform in line with what an equivalent level life annuity would have provided, albeit it with a likely lower starting pension.
- The choice of PRI is also likely to be influenced by the underlying investment strategy chosen by the pensioner as well as the smoothed average return option selected.

