

EXAMINERS' REPORT

June 2026 examinations

Subject F103 — *General 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. MIG insurance indemnifies the lender against the risk that the borrower defaults on the mortgage loan and a loss is made by the lender due to the sale of the property not covering the outstanding liability.

This cover is most relevant when the mortgage amount is a large percentage (e.g. above 75%) of the property value. This should decrease over time as the mortgage is repaid.

These policies will last for the duration of the mortgage, and so may have terms of many years.

- ii. An accumulation of risk occurs when a portfolio of business contains a concentration of risks that might give rise to exceptionally large losses from a single event.

- iii. Examples:

- A geographic accumulation, resulting from falling house prices in a particular area.
 - This would result in more, and larger losses, resulting from sale proceeds being insufficient to cover the liability particularly where situations of negative equity arise.
- Economic downturn leading to a general fall in house prices along with increased unemployment.
 - This would result in more, and larger losses, resulting from sale proceeds being insufficient to cover the liability.
- Rising interest rates.
 - This could result in an increase in defaults where mortgages are variable-rate.
- An occupational accumulation, resulting from an event such as the closure of a large factory in a small town.
 - Many home owners may lose their jobs, coupled with falling house prices due to reduced demand to live in the town.

- iv. a. $L/V = 10/15 < 0.75$ and thus a category 3 risk. Hence there is no surplus reinsurance.

- b. $L/V = 10/12$ and thus this is a category 2 risk. Hence retain as much as possible.

$$\text{EML} = \text{R}10\text{m} - 0.75(\text{R}12\text{m}) = \text{R}1\text{m}$$

$$\text{EML after QS} = 0.8(\text{R}1\text{m}) = \text{R}0.8\text{m}$$

Thus the insurer retains R0.6m and passes R0.2m (of the original R1m) to the surplus reinsurer.

$$\text{Surplus recovery} = (0.2/1)(\text{R}3\text{m}) = \text{R}0.6\text{m}$$

- c. $L/V = 15/16$ and thus this is a category 1 risk. Hence reinsure as much as possible.

$$\text{EML} = \text{R}15\text{m} - 0.75(\text{R}16\text{m}) = \text{R}3\text{m}$$

$$\text{EML after QS} = 0.8(\text{R}3\text{m}) = \text{R}2.4\text{m}$$

This is split in the ratio 1:7, with the insurer retaining R0.3m (which is acceptable) and passing the balance of R2.1m (of the original R3m) to the surplus reinsurer.

$$\text{Surplus recovery} = (2.1/3)(\text{R}2\text{m}) = \text{R}1.4\text{m}$$

- d. $L/V = 2.75/3$ and thus this is a category 1 risk. Hence reinsure as much as possible.
 $EML = R2.75m - 0.75(R3m) = R0.5m$
 $EML \text{ after QS} = 0.8(R0.5m) = R0.4m$
 This would ideally be split in the ratio 1:7, with the insurer retaining R50 000 and passing the balance of R350 000 to the surplus reinsurer.
 However, this is below the minimum retention and so the split of the EML becomes:
 $R0.1m(QS); R0.1m(\text{insurer}); R0.3m(\text{surplus})$
 $\text{Surplus recovery} = (0.3/0.5)(R1m) = R0.6m$

Part (i) was straight bookwork, yet many candidates did not seem to know that MIG insurance indemnifies the lender.

Part (ii) was a standard definition, yet few candidates got it completely correct.

Part (iii) was reasonably answered, at least by those who answered part (i) correctly.

Part (iv) involved reasonably straightforward calculations and was well answered by most candidates. Some candidates lost marks carelessly, by not showing all workings or not indicating monetary units in their answers (it is not sufficient to say something such as “all values in R millions”, as without a currency symbol it is impossible to know which figures are meant to be monetary amounts). A few candidates misinterpreted “V” as being 75% of the Assessed Value rather than the Assessed Value itself – this interpretation was accepted for marking purposes.

QUESTION 2

- i. The soft phase is the stage when there is more competition in the market, and so premium rates are generally low and therefore less profitable.
- ii. Reasons:
 - The cost of new business is higher than the cost of renewal business, given the lower level of costs associated with renewals.
 - For motor insurance, claims experience for new business can be significantly worse than for renewal business, resulting in higher theoretical premiums for new business.
 - In some cases, competition for new business may lead to the insurer charging renewing customers a higher premium than that charged to new customers, creating a cross-subsidy.
 - As a result, the insurer makes more profit from a renewal compared to a new policy.
 - The insurer may wish to retain a minimum volume of business to support overhead costs.
 - Increased competition in a soft market makes policyholders more likely to switch insurers, so requiring more attention to be placed on business retention.

- iii. An experience rating system is one in which the premium for each individual risk depends, at least in part, on the actual claims experience of that risk.

Advantages:

- Can help improve the accuracy of pricing, as past experience will provide an indication of future experience.
 - This in turn will reduce the risk of anti-selection.
- Can attract low-risk policyholders who believe they will benefit from such a system.
 - This will particularly be the case if past experience at a different insurer is given credit.
- Improves policyholder retention, as customers are reluctant to lose accumulated benefits.
 - This won't be effective in the case where NCDs are transferrable between insurers.
- Encourages safer driving behaviour.
- May reduce small or frivolous claims., which policyholders elect not to submit
 - This will lower administrative and claims costs.

Disadvantages:

- There is likely to be higher lapses among policyholders who are faced with increased premiums due to poor experience, reducing coverage of fixed expenses.
- It may introduce bonus hunger, a phenomenon where drivers avoid reporting claims to keep their discount, which may lead to unsafe practices, such as driving with damaged vehicles.
- Policyholders may not like the fact that they may lose discount following an accident which was not their fault.
- Will involve an increased administrative burden.
- May require higher initial premiums, with discounts applied later.
 - As insurers anticipate that most drivers will achieve some level of discount, base premiums are often higher, with NCDs acting as a partial return of that premium if no claim is made.

iv Differences:

- Prospective experience rating:
 - The premium at renewal depends on past experience up until renewal.
 - The insurer takes all the risk.
- Retrospective experience rating:
 - The premium for the current period is adjusted based on experience for the current period.
 - Consists of a deposit premium, followed by an adjustment premium or a refund at the end of the policy term.
 - It reduces underwriting risk for the insurer.

v. Number-based systems:

- Premium adjustments (whether prospective or retrospective) are based on the number of claims paid in respect of the policyholder (and not claim amounts).
- Appropriate for small individual risks with a relatively low expected number of claims but with variability in costs.
 - This is because the variability of the actual claim cost in any one policy year would be too great to judge the relative severity of the underlying risk.
- Examples of number-based systems are private motor NCD or bonus-malus (where premiums can increase or decrease).

The alternative would be cost-based systems:

- Adjustments are based on total amount of claims (accounting for severity and frequency).
- Appropriate for large risks or groups of risks with stable experience where experience is not too distorted by randomness.
- Examples include motor fleets or employers' liability.

A numbers-based system (e.g. NCD) is more appropriate for private motor insurance due to:

- A cost-based system would not be very practical due to the time it could take for claims to be settled.
- Due to having a low expected frequency, it is reasonable that those who claim more often should pay higher premiums.
- It is doubtful whether the additional information provided would improve the predictive value due to variability at an individual level.

This question was very poorly answered by most candidates. As it was largely bookwork, with a focus on the key concept of experience rating, this demonstrates that many candidates do not have a wide enough grasp of the syllabus.

Part (i) was bookwork and well done by most candidates.

Part (ii) was generally not answered well, with most candidates unable to provide more than one or two valid points.

In part (iii) an alarmingly high number of candidates did not know what an experience rating system is, assuming it simply meant that an insurer would rate using internal claims data for a book of business. This is clearly defined in the Principal Terms chapter of the course notes. Even those who did know what an experience rating system is generally gave too few advantages and disadvantages.

In part (iv), while many candidates could distinguish between a prospective and a retrospective approach several got them the wrong way round. Few gave sufficient detail to score well.

In part (v), most candidates could distinguish between number-based and cost-based systems, but few had a good understanding of when each would be most appropriate.

QUESTION 3

i. Contrast:

- Regulatory capital is the capital required under the supervisory framework (standard formula), based on prescribed methods and parameters.
- Regulatory capital is designed to support policyholder protection and comparability across insurers.
- Economic capital is an internal assessment of the capital needed to support the insurer's risks on an economic/realistic basis, reflecting the insurer's own risk profile.
- Economic capital may use insurer-specific assumptions about volatility, tail risk, dependencies and risk management, and therefore requires strong governance and validation.
- Regulatory capital may not fully reflect the insurer's true risk profile because of simplifications and standardised parameters/correlations.
- Regulators will require that insurer's hold regulatory capital at a minimum and that they disclose and explain any material differences between the two.

ii. a. $\text{Regulatory SCR} = (150^2 + 100^2 + 2 \times 0.5 \times 150 \times 100)$
 $= \sqrt{22500 + 10000 + 15000} = \sqrt{47500} \approx \text{R218m}$

b. $\text{Regulatory Coverage_Ratio} = \text{Own Funds} / \text{SCR_Reg} = 280 / 218 \approx 1.28 (\approx 128\%)$

c. Economic capital requirement (using economic IUR):
 $\text{SCR_Econ} = \sqrt{150^2 + 170^2 + 2 \times 0.5 \times 150 \times 170}$
 $= \sqrt{22500 + 28900 + 25500} = \sqrt{76900} \approx \text{R277m}$

d. $\text{Economic Coverage Ratio} = \text{Own Funds} / \text{SCR_Econ} = 280 / 277 \approx 1.01 (\approx 101\%)$

iii. Comments:

- Regulatory view: 128% coverage meets the insurer's 120% risk appetite threshold.
- Economic view: 101% coverage is below the 120% risk appetite threshold and indicates limited headroom for adverse experience.

Recommended actions could include:

- Increase Own Funds (retain earnings or raise capital) and/or
- Reduce risk (tighten underwriting, reduce concentrations, reprice, or purchase reinsurance).

Candidates surprisingly struggled with part (i), with many explaining each type of capital without contrasting the two, why they are held, and how they are calculated.

Most candidates scored highly in part (ii), with calculation errors being the cause of lost marks.

In part (iii), candidates scored well if they identified the primary driver of the low economic coverage ratio being the underwriting risk and identifying actions that would reduce that as well as identifying ways in which own funds could be improved. Some candidates believed that the insurer could just adjust its assumption in the economic model to reduce the capital requirement without considering the underlying risks.

QUESTION 4

- i. Liquidity risk is the risk that the insurer is unable to meet its obligations as they fall due as a consequence of having a timing mismatch or a mismatch between assets and liabilities.

Stress testing:

- This involves investigating how UI's liquidity is affected by an extreme event.
- The company will have to identify possible extreme events e.g. a natural catastrophe, and estimate the number of claims and total outgo as a result.
- It should include any possible reinsurance recoveries that will reduce its cash outflow.
- It can then assess whether it has sufficient cash and money market assets available to meet claims outgo for this event given its 7-day standard.
- If cash is insufficient, it assesses whether it has sufficient other liquid assets needing to be realised (its long bonds), and the impact on asset values of the event and subsequent forced asset sales.
- This approach allows UI to assess its cash shortfall from an extreme event, its ability to meet its claims outgo given the 7-day standard and other assets, and impact on solvency if assets have to be sold at lower than market value to meet its obligations.
- This assessment may reveal that for some extreme events UI will not be able to meet its claims outgo within a reasonable period, and that a review of investments is required.

- ii. Why the storm event may create liquidity risk:

- The storm creates an accumulation of claims (one event triggers many claims), causing a large cash outflow over a short time period.
- Even with a fixed benefit per policy, the total cash required is uncertain because the number of valid claims is uncertain until assessment and validation are complete.
- UI's "fast payment" promise and past experience (70% paid within 7 days) compresses the timing of cash outflows, increasing liquidity pressure.

- Liquidity risk arises because claim payments fall due quickly, but not all assets can be converted to cash quickly without losses (asset–liability timing mismatch).
 - Domestic fixed-interest bonds may be liquid if government-issued, but corporate bonds are less liquid and may need to be sold at a loss if large amounts need to be sold over a short period;
 - The direct property is highly illiquid.
- UI may be solvent on a balance sheet basis (i.e. it has the assets), but still unable to pay claims on time if liquid resources are insufficient.

iii. Evaluation:

Liquidity considerations:

- A 40% QS reduces UI's net claim payments proportionally (UI retains 60%), lowering the peak cash outflow following a catastrophe event.
- However, the QS does not eliminate liquidity risk: a large event may still overwhelm UI's liquid assets because UI retains 60% of claims.
- The liquidity benefit depends on how quickly recoveries are received; if recoveries are delayed, UI may still face short-term cash strain.
- QS provides liquidity relief across all claims, including catastrophe-driven accumulations.
- QS may provide commission which would increase the amount of cash on hand at any one time which may assist with improving liquidity.

Profitability considerations:

- UI cedes 40% of premium to the reinsurer and recovers 40% of claims from the reinsurer; this reduces expected underwriting profit in normal years (cost of risk transfer).
- If the reinsurer charges a margin or QS commission is insufficient to cover expenses, profitability may deteriorate.
- QS stabilises results and reduces earnings volatility, which may support business continuity and pricing discipline.

Solvency considerations:

- QS reduces net retained risk and volatility, which can reduce required capital and improve solvency resilience.
- It reduces the probability of an extreme underwriting loss from a catastrophe event resulting in reduced solvency risk.
- There is counterparty credit exposure to the reinsurer (recoverability risk), which must be managed through selection and security.

iv. Alternative reinsurance:

- A catastrophe excess-of-loss (event XL) treaty would be more appropriate because the key problem is a single event producing many claims (catastrophe accumulation).
- Aggregate (Event) XL targets tail events more efficiently than quota share, so UI would not have as much reinsurance “cost” in normal years to obtain protection against rare catastrophes.

Part (i) was well answered by many candidates, with the majority getting at least the definition correct. Poor scoring candidates were often vague as to how a stress test would be conducted or gave examples (in place of a description like the question asked for).

High-scoring candidates in (ii) were able to discuss both the issue of liabilities and assets being stressed as a result of claims being due all at once.

Poor-scoring candidates in (iii) struggled to structure their answers well which resulted in unclear points as to which (profitability/liquidity/solvency) was affected – these were not awarded marks.

Part (iv) was generally well answered, with few candidates incorrectly identifying an appropriate reinsurance product.

QUESTION 5

i. BCL method in the context of claims reserving:

- This is a statistical method of estimating outstanding claims, whereby the weighted average of past claim development is projected into the future.
- The projection is based on a ratio of cumulative past claims for successive years of development.
- The BCL makes no explicit allowance for inflation. Inflation is adjusted for implicitly within the development factors.
- The BCL assumes that past claims experience is a good indicator of future claims experience.
- The BCL assumes that the margin in case estimates and the processing of claims has been consistent within the data to which the BCL will be applied.
- The BCL requires large volumes of homogeneous data for stable results.

ii. Actuarial judgement should be applied:

- To decide how to group the claims data before applying the BCL method. This includes grouping data by claim type, cohorts and development periods.
- To decide how to adjust the claims data for unusual experience when selecting individual development factors. This will include outliers and trends which will distort the calculation of development factors.

- To decide whether a tail factor is required, and if so how the tail factor will be calculated.
- To decide whether the implicit allowance for inflation is reasonable, and how to make suitable adjustments if inflation has not been stable or if it is expected to be at a different level in future.
- Actuarial judgement should be applied when assessing the reasonableness of the results. The actuary will use their judgement to assess the reasonability of diagnostics, and whether the assumptions and methodologies need to be updated following an analysis of emerging experience. This can include a peer review where another actuary challenges assumptions and methodologies.
- To decide on the level of granularity for development and origin periods e.g. monthly, annual etc.
- To decide whether the volume of data is sufficient to use the BCL, and how much history should be included in the claim development triangles.
- To decide on whether to use paid or incurred claims triangles.
- To select individual claims development factors, which could include smoothing of factors through curve fitting.
- To allow for trends and seasonality.
- Decision made on how to treat large claims e.g. reserve for separately, and what constitutes a large claim i.e. deciding on the large claim threshold.
- To decide on the appropriate method to allow for reinsurance recoveries.
- Decision made on whether any adjustments to the development factors are required e.g. due to quicker claim settlement or changes to the policy terms and conditions etc.

iii. AI could be used to:

- Automate the data preparation process which is required prior to starting a reserving exercise. AI could automatically perform data checks and report any inconsistencies.
- To fit several different reserving models and select the best fitting model based on predefined criteria.
- To identify anomalies in the data or results or identify trends in the data. This will aid the actuary to make necessary adjustments to the data or development factors.
- To automatically test the fit of various claims reserving models, and identify the best fitting model to aid with the selection of a claims reserving model.
- Automate the claims reserve reporting process. AI could generate standardised reports on reserving results and assumptions.

iv. Advantages:

- Automating key reserving processes should significantly reduce the time taken to calculate reserves. The additional time saved could be spent on doing additional analyses which could improve the accuracy of the reserves.
- By fitting more models AI should reduce model risk, and assist the actuary to select the best model.

- AI may be able to identify non-linear or unusual trends which are missed by traditional actuarial reserving methods, and thus improve the accuracy of the reserves.

Disadvantages:

- The decision-making process used by AI may not be transparent, making it difficult to explain what the AI did.
- Actuaries may become over reliant on AI and fail to develop their expert judgement which will be needed in unusual situations where the AI fails.
- It may be difficult to integrate newer AI systems into existing systems. The integration of AI also requires a large upfront cost and upskilling of staff.
- There may be regulatory restrictions on the use of AI within claims reserving, which would limit the benefits obtained.
- The AI program may not have a holistic understanding of the business, required for reserving. For example, underwriter's judgment may not be available to the AI program.
- Given the newness of AI applications in claims reserving, there is likely a lack of established guidelines to ensure strong governance of AI.
- It will take time to train the AI on the company's data, and this will require the necessary expertise.

In part (i), a surprising number of candidates did not give the definition of the basic chain ladder method provided in the course notes. The key point is that the method projects historical cumulative claims into the future by applying a weighted average of cumulative claims development ratios, for successive years of development, to the latest cumulative claims development to date.

In part (ii) candidates generally performed well, providing a diverse range of decisions stemming from the application of expert judgment when using the BCL method. Some did not directly answer the question, however, as it was not clear that their answers provided a decision to be made that was reliant on expert judgement. For example, stating that judgment is needed to decide between using accident, underwriting and reporting cohorts which is driven by the data available or the basis on which the policy is written.

In part (iii), performance was mixed. Several candidates did not directly answer this application question and outlined benefits of using AI instead of areas within claims reserving where AI could be used.

In part (iv), performance was good. Candidates showed a good understanding of the advantages and disadvantages of using AI within claims reserving. The points provided in answers were generally diverse, detailed (required for a "discuss" question) and relevant.

QUESTION 6

i. Reasons:

- Size and age of company on data quantity.
 - BigCo will have much more data available than NewCo.
 - It is likely to make more use of its own data than having to rely largely on industry-wide data.
 - BigCo will also have data across various lines of business and locations.
 - It may also have insights from brokers who helped service the products over the last 20 years.
- Size and age of company on data quality.
 - The size of an organisation can have a direct influence on data quality. Thus BigCo may have better data systems in place than NewCo.
 - BigCo may have Legacy system issues.
 - Legacy systems are systems which, for a variety of reasons, have not been updated or upgraded. Legacy systems may affect the whole company or may be limited to particular product lines (or even generations of a particular class).
 - Integrity of the systems. In other words, checks are needed to ensure that all data are entered onto the system, entered once only, and entered correctly. Old entries may not have all the detail.
 - Alternatively, BigCo could have had the opportunity to build and develop systems with high integrity over time.
 - Data should also be backed up regularly and securely, and have safeguards against accidental corruption. Some of these safeguards will be built into the system itself while others will be part of administrative procedures. BigCo may have had the opportunity to develop secure systems with these safeguards.
- Management and staff.
 - BigCo may have data issues due to inconsistent staff understanding, weak appreciation of data importance, or legacy complacency.
 - BigCo's long tenure in the market also gives it the advantage of having accumulated deeper, richer datasets.
- Differences in the available data would also result from differences in:
 - Target market.
 - Products/Underwriting.
 - Claims handling processes.

ii. A loss leader strategy is one where a company sells a product at low or unprofitable rates in order to gain market share.

- NewCo would hope to make profits in the future when premium rates are increased to profitable levels.
- NewCo may, in addition to the sale of the loss-leader, be able to cross-sell more profitable policies to these policyholders (if it plans to expand its offering).

iii. Advantages:

- NewCo is not burdened by ageing, inflexible systems.
- This should allow quicker integration with new technology and quicker product launches.
- NewCo can react faster to changing market needs as it does not need to engage with intermediaries before product launches.
- NewCo should be able to offer attractive features such as self-help and fast claims filing done on the internet.
- More responsive service should help with business retention.
- NewCo could potentially create very personalised risk profiles, focusing on niche/specialised markets or products by offering lower rates.
- Embracing technology should allow NewCo to have lower overheads and a more cost-efficient structure.

Candidates generally did not score well on this question, with many straightforward bookwork marks being lost and applications not being handled well with insufficient distinct points being generated.

In part (i) candidates lost easy marks by not using the information provided in the question. Many candidates went on to explain marketing and pricing strategy differences between BigCo and NewCo, which was not asked. Very few candidates scored well.

Part (ii) was an easy bookwork question where candidates generally scored relatively well, with several scoring full marks

Most candidates failed to generate a sufficient number of distinct points in part (iii) to score well on this application question.

QUESTION 7

i. Benefits:

- The insured is indemnified against the legal liability to compensate third parties as a result of bodily injury/illness, death and damage to property as a result of unintentional pollution for which the insured is deemed responsible.
- The costs of cleaning up the pollution and regulatory fines may also be covered.
- Legal costs incurred by the insured may be covered.
- Gradual and sudden environmental pollution will generally both be covered.

ii. Suitability:

- Matching of assets and liabilities should be considered in terms of nature, term, currency, and uncertainty.

Nature of assets and liabilities

- Future benefits payments will be linked to various forms of inflation and hence are considered real in nature, e.g. medical cost inflation, earnings inflation for loss of earnings compensation, legal costs, cleanup costs etc.

- The syndicate's own expenses will be linked to inflation, probably earnings inflation for costs of the managing agent and any staff costs.
- Cash returns are loosely linked to CPI inflation, and hence may be suitable in terms of nature, however liability inflation is likely to exceed CPI.
- Fixed-interest bonds comprise nearly half of the total assets, and as these are nominal in nature, they are not a good match for real liabilities.
 - Short-dated, and to lesser extent medium-dated, fixed interest bonds incorporate an allowance for expected CPI inflation – to the extent that over shorter terms actual inflation may not differ much from unexpected inflation, these assets may be considered suitable, however liability inflation is likely to exceed CPI.
- Equity returns are expected to exceed CPI inflation over longer terms (5 years+) and these are thus suitable provided they can be held for long enough.

Term of assets and liabilities

- Some liabilities may be short term e.g. damage claims from accidents causing minimal pollution and no deaths or illnesses – these liabilities might extend over a few months only.
- Some liabilities may be longer term, especially those associated with significant pollution, illness and deaths:
 - The extent of damages may only emerge after a few years, after the cleanup is completed and all possible illnesses and deaths are known.
 - Legal processes, regulatory investigations will prolong claims settlement.
- Many liabilities in respect of 2025 business may still be unknown if the accident / trigger event has not yet occurred, making the term of these liabilities even longer.
- Business written on a claims-made basis should be shorter-tail than on a losses-occurring basis due to reduced reporting delays.
- 20% of assets are short-term, and 65% are medium dated (5-8 years to maturity but shorter modified duration) – most assets are thus short-term in duration.
- The short-term and liquid nature of most of the assets is suitable for meeting short-term payments e.g. immediate claims and expenses.
- Overall, the assets appear to be shorter-term than the liabilities, and hence possibly unsuitable.
 - However, if this syndicate intends to transfer its liabilities through reinsurance to close (RTC) to another insurer after a few years, the assets may be a suitable match for the RTC premium.

Currency of assets and liabilities

- It is likely that many claims will be in US\$ terms, and for those that are not, US\$ assets are easily and quickly converted to the required currency payments.

Uncertainty of the liabilities

- Accidents causing environmental damage, illness and deaths are highly unpredictable.
- Assets need to be sufficiently marketable and liquid to meet unexpected large claim payments, and most of the syndicate assets are likely to meet this requirement.

iii. Comment:

- The consultant is correct to the extent that:
 - Expected returns offered by catastrophe (CAT) bonds should be higher than on risk-free bonds to compensate investors for higher risk.
 - CAT bond returns are likely to be uncorrelated with the returns on traditional asset classes as they depend on occurrence or non-occurrence of trigger events, thus offering diversification benefits for an asset portfolio.
- However, these advantages apply for non-insurance investors. For an insurer such as this syndicate, there are other considerations that are likely to negate the advantages, specifically:
 - If the reinsurer is exposed to the same environmental risks as the syndicate, the diversification benefit is negated and there may even be an accumulation of risk for the syndicate where a large event leads to both large liabilities and non-payment from its asset.
 - The syndicate will probably be faced with higher risk-based capital requirements from Lloyd's due to the correlation between investment performance and claims experience.
- The suitability of the CAT bond therefore depends on the issuing reinsurer and its risk exposures.
- The CAT bond is unlikely to be very liquid, making it difficult for the insurer to meet claims within required timelines and it may be forced to sell other assets at depressed prices.
- The CAT bond term may not be suitable for the syndicate's liabilities.
- Investment expenses associated with the CAT bond are likely to be higher than for a traditional bond.

Overall this question was reasonably well answered, but with some divergence in performance.

Part (i) was bookwork and well answered by many, but there were several imprecise and ambiguous answers e.g. writing "this covers ..." instead of referring to indemnity.

In part (ii) performance was reasonable for many, but several candidates did not score well. Common issues included writing about asset characteristics without explaining their relevance for the liabilities, providing brief answers that did not conform with the "discuss" instruction, making imprecise or incomplete statements and writing about irrelevant issues that did not relate to matching. Some thought that liability insurance is fixed in nature, and some thought they could use acronyms without first defining them.

Part (iii) was answered poorly by most candidates. Many seemed confused between the syndicate issuing a catastrophe bond, and the syndicate investing in a catastrophe bond. Many did not answer the question asked and instead provided an explanation of how a catastrophe bond operates.

QUESTION 8

i. Possible sources:

- Variability in the size of claims at any one time, and from one period to another (relevant for both insurance types).
- Delays between the incidents giving rise to claims and the reporting and ultimate settlement of claims (relevant for travel insurance where there may be delays).
- Crime rates (relevant for overseas travel insurance).
- Faulty design, materials and/or manufacture (relevant for motor extended warranty)
- Economic conditions (relevant for travel insurance).
- Accumulations of risk (relevant for motor warranty due to the same manufacturer fault arising, and potentially travel insurance for accumulations to a particular location).
- Currency risks (relevant given the mismatch in claim payout vs exposure in foreign currency for both products).
- Catastrophes (relevant for travel insurance).
- Inflation and consequential rates of escalation of claims.

ii. Currency risk:

- Currency risk through mismatching of currency in which business is exposed to (e.g. US\$ costs) versus the currency in which premiums are collected and claims are settled (Rands). A weaker Rand increases the Rand costs of imported spare parts and foreign vehicles and hence claim costs, as well as increasing travel claim costs, while premiums don't increase.
- Currency risk through mismatch of assets (held in US\$) and liabilities (settled in Rands). While a weaker Rand vs US\$ increases the Rand value of the US\$ asset, thus partially offsetting higher US\$-linked claim costs, this does not match claims linked to other currencies (e.g. Euro, GBP, Yen, Yuan etc) creating an imperfect hedge and thus exposing HI to currency risk.

iii. Revised expected claims costs:

Item	Working	Result
US\$ increase factor	20/18	1.1111 ($\approx +11.11\%$)
US\$-linked motor parts	$70\% \times 55\% \times 120$	R46.2m
Motor US\$ increase	$46.2 \times 11.11\%$	R5.13m
Revised Motor claims	$120.00 + 5.13$	R125.13m
Travel US\$-linked	$60\% \times 30$	R18.0m
Travel US\$ increase	$18.0 \times 11.11\%$	R2.00m
Revised Travel claims	$30.00 + 2.00$	R32.00m
Baseline total claims	$120 + 30$	R150.0m
Revised total claims	$125.13 + 32.00$	R157.13m

Total increase	157.13 – 150.0	R7.13m
% increase	7.13 / 150.0	4.75%

iv. Change in value:

US\$ assets (before)	4 × 18	R72m
US\$ assets (after)	4 × 20	R80m
US\$ assets increase	80 – 72	R8m

Comment:

- US\$ assets provide a good hedge against US\$-linked claims cost increases.
- The hedge may be imperfect as:
 - some claims exposure is likely to be in other currencies and not matched by US\$ assets, or
 - there may be a timing and liquidity mismatch between claims payments and asset realisation and repatriation (although it should be a minor issue in this case).

v. Possible actions:

Pricing:

- Add explicit currency-linked severity loadings for motor (imported parts) and travel (foreign invoices).
- Segment motor pricing by manufacturer/make/model or imported-parts dependency to better reflect exposure.
- Apply earlier pricing changes to new business (even if the repricing cycle for renewals is annual).

Reserving:

- Strengthen reserves for outstanding claims where settlement costs are currency-sensitive. Include currency- stress scenarios in reserve adequacy assessments.
- Monitor severity trends and parts inflation against currency movements, with defined escalation triggers.

Operational:

- Negotiate preferred repairer/supplier agreements to stabilise parts pricing and manage cost inflation.
- Introduce procurement controls and claims management practices that reduce imported parts dependency where feasible.
- For travel, contract provider networks/assistance arrangements to reduce currency pass-through volatility.
- Review cover terms and settlement practices that drive parts costs (e.g. approved repairers or parts sourcing rules).

Investment:

- Increase foreign-currency assets to better match expected foreign-linked claims.
- Hold US\$- and other-denominated assets in proportions aligned to expected US\$ and other linked currency claim exposure.
- Maintain sufficient liquidity so foreign assets can support higher Rand claim settlements when required.

This question was generally answered disappointingly, mainly because many candidates did not use the specific facts in the question well enough. Stronger candidates linked the Rand-denominated premiums and claim settlements to foreign-currency-linked motor parts and travel costs, recognised that the US dollar deposit was only a partial hedge, and gave practical actions across pricing, reserving, operations and investments. Most candidates gave generic insurance-risk lists, repeated the same currency point in different words, or suggested broad actions such as reinsurance or currency hedging without tying them clearly to HI's motor warranty and travel insurance exposures.

Part (i) was often answered with a mechanical list of sources of uncertainty, with too little context; reinsurance and propensity to claim were commonly mentioned but were usually too remote.

Parts (iii) and, to a lesser extent, (iv) were the most accessible. Many candidates could calculate the exchange-rate impact, although some omitted the total percentage increase.

In part (iv), many candidates saw that the US dollar asset helped, but few explained the hedge limitations from non-US dollar claims or timing/liquidity mismatch.

Part (v) was the worst answered part. Candidates often identified pricing margins or more foreign-currency assets, but few covered all four requested areas with specific actions.

END OF EXAMINERS' REPORT