

EXAMINERS' REPORT

June 2022 examinations

Subject F103 — *General Insurance* Fellowship Principles

INTRODUCTION

The attached report has been prepared by the subject's Principle 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. a. Clash cover:

- Excess of loss reinsurance cover.
- Limits an insurers' exposure to the risk that one claim incidence gives rise to claims on more than one policy insured by the insurer.

b. Working layer:

- A layer of excess of loss reinsurance.
- Where the excess point/deductible is at a low enough level for it to be likely to experience a fairly regular flow of claims.

c. Reinsurance to close (RITC):

- An agreement under the Lloyd's system of three-year accounting.
- Underwriting members (the reinsured members) for one year of account (the closing year) of a syndicate agree with another party (the reinsuring party) that the reinsuring party will assume responsibility for handling and paying all known and unknown liabilities of the reinsured members arising out of insurance business underwritten by the syndicate and allocated to the closing year.
- The reinsuring party will usually be the subsequent open year of the same syndicate but could also be a later open year, an open year of another syndicate or a reinsurer outside Lloyd's.
- The term is also sometimes used to refer to the premium paid to the reinsuring party by the reinsured members for the above-mentioned transfer.

ii. The maximum recovery will be made when the maximum number of lines of cover is used.

If all 4 lines are used the insurer will retain:

$$(0.8 \times \$40\text{m})/5 = \$6.4\text{m of the EML}$$

As this is between the maximum and minimum retention limits it is acceptable.

Hence the maximum surplus recovery is:

$$0.8 \times \$50\text{m} (4/5) = \$32\text{m}$$

The minimum recovery will be made when the insurer retains the maximum amount possible, i.e. \$20m of the EML.

Hence the minimum recovery is:

$$\$50\text{m} \times (\$32\text{m} - \$20\text{m})/\$40\text{m} = \$15\text{m}$$

$$\text{(or equivalently, } 0.8 \times \$50\text{m} \times ((32 - 20)/32) = \$15\text{m)}$$

iii. The maximum recovery will be made when the maximum number of lines of cover is used.

If all 4 lines are used the insurer will retain:

$$(0.8 \times \$20\text{m})/5 = \$3.2\text{m of the EML}$$

As this is below the minimum retention the insurer will need to retain \$4m.

Hence the maximum recovery is:

$$0.8 \times \$10\text{m} \left(\frac{16 - 4}{16} \right) = \$6\text{m}$$

The minimum recovery will be made when the insurer retains the maximum amount possible, which in this case is $0.8 \times \$20\text{m} = \16m of the EML (which is below the maximum retention limit).

Hence the surplus reinsurance is not used and thus no surplus recovery is made.

iv. Let the retained EML be R , where $\$4\text{m} \leq R \leq \20m

Consider a policy with an EML of E on which there is a claim of C .

The surplus recovery will be equal to the retained amount when the retained amount of EML is equal to the reinsured amount of EML on the surplus reinsurance (net of the Quota Share), i.e. when:

$$R = E - 0.2E - R$$

$$\text{i.e. } E = 2.5R$$

So the surplus recovery would exceed the retained amount for any claim (>0) when:

$$E > 2.5R \text{ (for } \$4\text{m} \leq R \leq \$20\text{m)}$$

In part (i) definitions could have been known better by most candidates and thus easy marks were lost.

Parts (ii) and (iii) were reasonably handled by the better prepared candidates. Some lost marks by neglecting to show workings or omitting currency/units.

Very few serious attempts were made at (iv). It was not sufficient to say that at least one line of surplus cover needed to be used.

QUESTION 2

i. Group risk:

- The risk a firm experiences from being part of a group (*ie* being a subsidiary of the parent of the group) as opposed to being a standalone entity.
- The size of the group risk depends on the ownership structure of the firm and how it is funded by the parent.

ii. Types of group risks affecting Kingdom Group include:

- Capital risk:
 - Capital may need to be provided by Kingdom Group, if members of the group suffer losses.
- Reputational risk:
 - There could be reputational risk if Kingdom Group is associated with the companies it owns.

- Group reinsurance risk:
 - The risk of withdrawal of favourable group reinsurance structures (and prices associated with bulk arrangements).
- Political risk:
 - The risk of any political change that alters the expected outcome and value of a given economic action by changing the probability of achieving the business objectives. In this case specifically, Kingdom Group's objectives.

Credit was also given for descriptions of other types of group risk such as: risk of centralised functions; aggregate credit risk; and solvency risk (similar to capital risk);

iii. Policy record data items:

- Policy ID
- Client ID
- Client contact information
- Client address
- Risk insured
- Details of cover provided
- Risk factors used for pricing. For example:
 - Size of the house
 - Security measures around the property
 - Colour/age of the vehicle
- Status of the policy record
- Dates (on cover, endorsed)
- Amounts and currencies (Sum Insured, Premium, Excess)
- Client bank details (if settled via debit order)
- Payment dates
- Credit history of the client
- Admin details (notes made by sales, client care)

iv. Key risks:

- The two key group risks that Kingdom Group are exposed to as a result of the loss of data on Key Insurance are:
 - reputational risk; and
 - capital risk.
- Reputational risk can be suffered due to:
 - Key Insurance forming part of the Kingdom Group and there being an association between the two names.
 - The extent of the damage will depend on the public's knowledge of the relationship and how closely the two companies are related.
- Capital risk arises as:
 - Key Insurance might suffer a loss of business or financial losses from needing to reimburse policyholders for identity theft or other losses suffered due to the loss of their personal information, to the extent that these losses are not reinsured. If the losses are extensive enough they might require a capital injection.

- Additional expenditure may be required to strengthen Key Insurance’s systems against further cyber-attacks.
- This may lead to Kingdom Group having to unexpectedly advance capital to Key Insurance.
- There may also have been ransom payments made by Key Insurance which could have impacted the capital position of the group.

Candidates generally performed well on this question, despite the bookwork parts often being disappointing (and easy marks lost).

A wide range of answers was accepted in the application parts of the question, provided points were clearly explained.

In part (iv) some candidates described the risks to the insurer instead of to the group.

QUESTION 3

i. Funded (three-year) accounting:

- Funded (or underwriting year) accounting refers to the accounting for business by year written.
- For business written in a year the associated cashflows are paid to/from a ‘fund’ relating to that business for a number of years until the closure of that fund.
- At fund closure, the remaining liabilities are reinsured and assets remaining after the payment of the reinsurance to close premium are regarded as profit.
- “Three year accounting” refers to the practice of closing funds after three years.
- For longer tailed classes of business fund closure may occur beyond three years (e.g. four or five years).

Funded accounting is useful where:

- the underwriting year is fundamentally important (e.g. Lloyds).
- for longer-tailed businesses where there are delays in premium and claim settlement (e.g. inwards reinsurance and long-tail classes).

ii. Appropriateness of assets:

- The assets need to match the liabilities by nature, term, currency and uncertainty.
- Nature of the liabilities and assets:
 - Employers’ liability claims are inflation linked:
 - Claims related to deaths/impairments are linked to salary inflation.
 - Claims related to injuries needing medical care will be linked to medical inflation.
 - Claims related to damage to property will likely include a labour (salary inflation) component and a parts component.
 - Claims settled in courts will be linked to judicial inflation.
 - Claims inflation for all types is likely to exceed CPI inflation.

- The nature of fixed interest bonds is fixed, and hence there is a mismatch.
- However, the asset returns are loosely linked to CPI inflation:
 - Fixed interest bond gross redemption yields include an allowance for expected inflation.
 - As bonds held are short- and medium-dated, it is unlikely that inflation will differ materially from allowances in bond yields.
 - However the return earned may still be negative in real terms.
 - Even if the return is positive in real terms, it will not match the higher-than CPI inflation that claims are linked to.
- The assets are not a good match for the liabilities in terms of nature.
- Term of the liabilities and assets:
 - Property-type claims are likely settled within months at the most.
 - Death, impairment and injury claims may take years to be settled due to reporting and settlement delays.
 - Litigation can make settlement delays very long.
 - Assets appear to have a shorter duration than liabilities, suggesting a mismatch with underlying liabilities.
 - RITC is likely to occur at the end of the third year of writing the business, and as RITC is with another syndicate the RITC premium will most likely need to be in cash.
 - The RITC premium is a short/medium-dated liability and this appears to be suitably matched by the assets.
- More information is needed on the liabilities to determine whether assets and liabilities are matched by currency – non-UK pound liabilities (e.g. from non-UK clients or non-UK subsidiaries of UK clients) would not be correctly matched.
- Matching by liability uncertainty is suitable as assets held are very liquid if adverse claims experience materialises in the short term.
- Overall, the assets held are a reasonable match for the syndicate’s liabilities.

iii. Additional considerations:

- Regulations are likely to impose limits and other requirements on the investment strategy.
- Risk tolerance by names and capital availability will influence the degree of prudence in setting investment strategy.
- Return expectations for various assets and asset classes may result in greater weight in favoured assets.
- Liquidity and marketability of assets is key for general insurance business due to volatile claims experience, and in this case the need to pay a RITC premium.
- Portfolio diversification helps to reduce the volatility of returns.
- Risk of default for some assets (e.g. corporate bonds) may be higher than what the names may be comfortable with, despite the prospect for higher expected returns.
- Market price volatility of assets creates significant risk and uncertainty in addition to the existing risk of potentially volatile claims.
- Taxation of various investments may lead to a preference for some over others.
- Investment strategy of similar syndicates may be a starting point in setting investment strategy.

Overall this question was answered reasonably well, despite most candidates ignoring the key issue in part (ii) that the syndicate transfers its liabilities at the close of the underwriting year, which significantly shortens the liability term.

Part (i) was bookwork and not answered well by many candidates, who used the term “underwriting year” without defining what it represents. Often no explanations were given for the circumstances listed.

Part (ii) asked for the nature of the liabilities in the context of an investments question, yet many candidates produced product features without any attempt to make them relevant to the question asked about the suitability of specific investments.

Part (iii) was carelessly done by many candidates, treating this as a standard question on company (not syndicate) considerations.

QUESTION 4

i. Insurance cover which indemnifies the insured against financial losses arising from not being able to conduct business, e.g. following damage to business premises.

Also called loss of profits or consequential loss cover.

ii. Factors include:

- The underlying risk may differ in future compared to that suggested by historical data, e.g. due to a changing socio-economic environment (causing greater business disruptions), climate change leading to more (and more damaging) natural catastrophes, overpopulation leading to higher risk of pandemics, etc.
- The mix of business written may differ in future – business interruption cover risks vary significantly by industry and geographic factors.
- Policy acceptance/underwriting – the basis on which proposals are accepted, the scrutiny or “harshness” of underwriters. For example, the data may come from a period during which more stringent rules (such as exclusions or high excesses) applied. If the claims happened now, the cost to the insurer would be higher.
- Policy Coverage – the risk covered under the contracts in question relative to the period ahead. For example, a new peril or claim type may have been introduced or taken out of cover or excess levels may have changed.
- Method of distribution – the influence of the selling process on the nature of risk insured or policyholders’ cover. For example, the internet may be used for more sales in the future, leading to different claims experiences. If claims experience is lower through direct sales (possibly due to lower levels of anti-selection), then total claims will reduce if a greater portion of business is sold direct.
- Claims handling /settlement procedures – the internal practices that may affect the timing and possibly the amount of claims paid to policyholders.

- The level of reinsurance coverage – net of reinsurance claims data is impacted by any changes to the type and level of reinsurance cover, hence data should be analysed on a gross basis.
- Advances in technology – these can lead to safer measures and better practices e.g. rapid development of vaccines to mitigate future resurgences. Technology (e.g. in building techniques and materials) could also assist in making business interruption periods shorter following a fire, and reducing the extent of fire damage.

iii. Factors to consider:

- Consider what competitors are doing.
 - Do competitors offer this cover without exclusions?
 - Do competitors offer policyholders the choice of cover with or without the exclusion?
- Consider the impact on overall profit.
- What would the likely impact on sales be if the exclusion is introduced?
 - Could market share be gained if the exclusion is not introduced?
 - Following the pandemic, policyholders may be prepared to pay a high premium for such cover.
 - It could be very difficult to sell new business without the cover.
 - It may damage the company's image if it were not to provide such cover.
- What additional premium would be required if the exclusion is not introduced?
- What is the reinsurer's attitude to the exclusion?
 - Would reinsurance cover still be available if the exclusion is not introduced? If not, it may be necessary to introduce the exclusion.
 - What would the impact on reinsurance premiums be if the exclusion is not introduced?
- Adding the exclusion would result in a major change in the policy conditions.
 - The company should review what proportion of its current exposure would be affected by this.
 - If the company uses historical data to price the new products, all claims arising from perils no longer insured should be excluded from the base claims and adjustments would need to be made to both exposures and premiums.
 - If the company chooses not to introduce the exclusions, then the pricing will need to be adjusted for future pandemics to ensure that this cost is covered.
- The company will also need to review current legislation and any precedent set by current court rulings. This may influence what is possible.
- The company also needs to consider its reputation within the market and treating customers fairly.

Overall this question was reasonably well answered.

Part (i) was straightforward bookwork, that most candidates scored well on.

In parts (ii) and (iii) candidates generally made reasonable points, but made too few distinct points to score well.

QUESTION 5

- i. Regulatory capital is the amount of capital that an insurer must hold in order to comply with regulatory requirements. The fundamental purpose of regulatory capital from a regulators perspective is to protect policyholder's interests.

Economic capital is the amount of capital that an insurer determines is appropriate to hold given its assets, its liabilities and its business objectives.

The main differences between the two are:

- Regulatory capital is a requirement by the regulator and typically more prescriptive than the economic capital calculation.
- As regulatory capital requirements are more prescriptive, the prescribed factors are typically calibrated based on the "average" insurer in the market whereas economic capital takes into account the specific risks of the insurer.
- The regulatory capital requirements may incorporate a degree of prudence while economic capital may be calculated on a more realistic basis. However, this depends on the regulatory regime and company risk tolerance.
- Economic capital could be larger than regulatory capital for various reasons: To reduce the risk that the available capital falls below regulatory requirements, to give a degree of security to policyholders, to maintain its credit rating, to meet the requirements of other stakeholders, to maintain a level of working capital for investment in business development, or to allow a buffer between the actual profitability of the business and the dividend stream paid to shareholders.

- ii. Potential impacts:

- Gross underwriting risk:
 - As CommercialSure is an international insurer and one of the sanctions imposed is that no insurance can be purchased from Afriland-based insurers, we would expect a decrease in new business volumes from territories outside of Afriland and potentially cancellations of current unexpired risks with remaining coverage. This will likely result in lower capital requirements owing to reduced new business strain.
 - Another sanction is that exports to and imports from Afriland via aircraft have been suspended. This may result in local airlines reducing cover with CommercialSure. This will likely result in lower capital requirements owing to reduced new business strain.
 - As a consequence of the second sanction, there may be an increase in imports and exports via sea resulting in increased demand for Marine insurance from CommercialSure. This will likely result in higher capital requirements owing to increased new business strain.
 - The sanctions could result in higher inflation rates. For example, salary inflation could increase owing to an exit of scarce skills (such as claims assessors) following the sanctions being imposed. As such, higher expense

increases need to be allowed for in the capital calculation. Overall, this will increase the capital requirements.

- Claims for business that is still written by CommercialSure are expected to also see an increase. Repair costs are likely to increase owing to potential delays in receiving replacement parts that are not manufactured in Afriland. If the aircrafts are not manufactured in Afriland, there are further complications arising from write-off claims on aviation as exports to Afriland via aircraft have been suspended. This will increase the capital requirements.
- Gross reserving risk:
 - To the extent that marine and aviation craft may suffer losses from the war, additional reserves and hence additional capital will be needed.
- Reinsurance:
 - The recoveries from any reinsurance agreements will need to be accounted for. Having reinsurance in place will decrease the capital requirements.
- Other factors:
 - There may be certain management actions (e.g. importing repair parts from territories that have not imposed sanctions) that may be available to the insurer. which could help it decrease its capital requirement.
 - Correlations assumed in the capital model across lines of business and geographical regions etc. would need to be revised in light of the above.
 - Consideration would need to be given to the anticipated duration of the sanctions or possible further sanctions.
 - Given the economic climate, there may be an increased chance of fraudulent claims resulting in higher claim frequency and severity. This would increase the capital requirement

Part (i) was generally well answered, but several candidates failed to explain the difference between the two types of capital.

Part (ii) was generally poorly answered. Candidates struggled to generate sufficient points and lost out on marks by not adequately discussing the resulting impact on the economic capital calculation from the points they considered. Some candidates also included points related to other (non-insurance) risks such as liquidity and credit risk

QUESTION 6

i. Likely distribution channels:

- Direct marketing at the point of sale – by either car sales staff or staff dedicated to financial matters.
- Direct marketing to existing owners – e.g. by email/phone marketing.

ii. Information could include:

- Maximum speed driven.
- Average speed driven.

- A measure of acceleration.
- A measure of deceleration.
- Any collision impacts detected.
- Sensor identifier linked to car owner.
- Time of day the car is driven.
- Roads driven (if linked to a GPS tracker).
- Length of trip / distance travelled.
- Where the car is parked.
- Speed driving around corners.

iii. Potential sources of external data:

- Industry-wide data:
 - Given that the insurer is new to the market it may not be able to join associations which provide this aggregated data.
 - If it is available, it may be available at a cost, be out of date or may contain many mistakes.
 - Additional work would also have to be done to ensure that the aggregated data reflects the underlying book of business. (Otherwise there is a risk of mispricing policies.)
 - Since the insurer is selling to a very particular market – those buying a particular electric vehicle – the target customer may be significantly different to the average person buying motor insurance who is reflected in the aggregated industry data.
 - Future premium assumption revaluations could use this data to compare the pricing of the insurer to that of other insurers in the market.
- Reinsurers' data:
 - This may be more useful than aggregated industry data as the insurer can seek out data that aligns more closely to their specific line of business.
 - It may help to improve relationships with reinsurers which will help when getting reinsurance for this new product.

Most candidates did well on part (i), with the majority being able to identify that direct selling of insurance at the point of sale would be a main distribution channel. Common trip-ups were where candidates did not identify that existing customers could be sold this product and that only customers with this specific electric vehicle brand (not general consumers of electric vehicles) should be targeted.

Candidates performed well in part (ii). Many candidates, however, wasted time by giving more than the required number of points (which did not gain credit). Some suggestions were also beyond the current capabilities of sensors.

In part (iii) performance could have been better. Many candidates were unable to generate sufficient depth relating to benefits and drawbacks. The better structured answers provided the benefits of drawbacks of each data source separately.

QUESTION 7

i. a. Benefits:

- The benefit is of indemnity type.
- The benefit will be the amount required to fully reinstate (including the clearing away of debris, rebuilding, repairing etc.) the property, rather than the market value of the property.
- This is usually less than the market value of the property, since the value of the land itself is not normally impaired by the destruction of the building.
- The benefit would be dependent on any limits, deductibles or excesses in place.
- The benefit is real in nature and will increase with inflation (which could be different from CPI as it could include building costs and workers' wages).
- The benefit will likely be a lump sum payment but could be provided in instalments if a property needs to be rebuilt in stages.

b. Perils cover damage to the building do to:

- Fire
- Flood
- Storm
- Theft
- Vandalism
- Lightning
- Subsistence
- Earthquake
- Impact – such as falling branches etc.

c. Claim characteristics

- The event giving rise to a claim is usually easy to determine and so reporting delays are usually short.
- Settlement delays are usually short.
 - However, there can be some delays with larger claims which may be settled with intermediate payments as the building project to repair or rebuild the property proceeds.
- Prone to geographical accumulations of risk.
 - Catastrophe claims are possible for this type of product.
- Some reopened claims may arise.
- Frequency and severity of the claim depends on the peril.

ii. Insurable risk:

- Independence of risks:
 - The risk events that would be insured are not independent of each other. Geographical concentrations exist. Hence risks such as water damage are likely to affect multiple properties.
 - The insurer may be able to purchase reinsurance to protect against accumulations of risk.
- Probability of the event occurring:
 - Given that it is known that water levels may be rising, the probability of a water damage event occurring may not be small.
 - While water levels may be rising, the extent of the damage may not be as significant or may take many years before increasing water levels result in a claim. Should the insurer believe they can price accurately for this risk, an insurable interest may still exist.
- Policyholder must have an interest in the risk being insured and an interest in its consequences being minimized:
 - The insured will not want to have their house damaged.
- A risk must be of a financial and reasonably quantifiable nature:
 - The ability to model frequency and severity will depend on the data available. Severity is easily determined in the case of severe flooding as it could just be the amount needed to reinstate the house back to pre-flooding. The likelihood would be more difficult to determine.
- The claim amount must be commensurate with the size of the loss:
 - Policyholders claims will be related to the extent of damage especially for large losses where verification of the size of the loss is done.
 - However, given the product design, the size of the small losses may be overstated due to fraud.
- Pooling of risks:
 - As this is a newly established insurer and the opportunity considered gives risk to geographical accumulations, variance of claims arising from water damage perils may not necessarily be reduced.
 - However, variance from other perils may be reduced.
- Limit of liability:
 - There is theoretically a limit to the liability undertaken by the insurer, i.e. the market value of the properties insured (and sums insured).
- Moral hazard and anti-selection:
 - Insured individuals may act differently (less carefully) and reduce the risk mitigation procedures that they take to reduce water damage from the marsh if they know they are insured.
 - There is a risk that people with properties closer to the marsh are the only ones that choose to purchase this product.
- Availability of data
 - Due to the niche target market of this product, it is also unlikely that sufficient external data exists.
 - Additionally, as the insurer is new, they are also unlikely to have sufficient internal data.
 - Information such as surveys of the marsh land etc. will need to be gathered to accurately price this risk

iii. Key risks include:

- Fraud:
 - The limited verification procedures for minor claims, may result in increased fraudulent claims emerging.
 - The insurer may incorporate excesses or no claim bonuses into the product to help discourage many minor claims.
- Reputational damage:
 - There may be reputational damage for the insurer if there appears to be biases in the AI algorithm that is used to assess valid claims. This could be quite costly.
 - The insurer should have the algorithm checked and signed off by a suitable independent expert.
- Liquidity:
 - There is a risk that a large number of small claims leads to liquidity issues.
 - The insurer could hold more in liquid assets (e.g. cash).

Part (i), which was straightforward bookwork, was generally well answered.

Part (ii), a straightforward application, was generally well answered. Candidates that scored best in this part carefully considered the insurability criteria related to the product in question. Common mistakes included confusing household contents insurance and property insurance, confusing moral hazard and fraud, and just listing the criteria for a risk to be insurable without discussing the applicability to the question posed.

Part (iii) was also generally well answered. Common mistakes included providing the risk without giving a viable solution, not providing enough detail as to why something constituted a risk and repeating the same risk with different wording.

QUESTION 8

- i. A diagnostic is a measure used to assist with interpretation of data or results, and to help us verify underlying methodologies and assumptions.

Diagnostics can indicate that experience is inconsistent with the underlying assumptions. Some diagnostics are a test of results e.g., IBNR divided by premium and others test data e.g., paid claims divided by RBNS claims, and some test both e.g., ultimate loss ratios

Diagnostics can also be used to identify trends, perform comparisons over time or across different insurance classes or against benchmarks.

- ii. Possible diagnostics and how they can be used include::

IBNR/earned premium:

Consider the progression of this ratio across accident years for the same class.

These should reduce monotonically with the age of the cohort.

Compare this ratio across different classes of business and assess whether this makes sense in relation to the reporting delay. For example, liability will generally have a higher ratio than property since liability claims take longer to report.

Allow for any distorting effects e.g., large claims or catastrophes.

Ultimate claims/earned premium:

Calculate the ultimate loss ratios per accident year. Compare these by accident year and to the previous year's reserving exercise.

Discuss any anomalies or trends with the reserving actuary.

IBNR/case estimates:

Calculate the IBNR as a percentage of case estimates. For mature cohorts this ratio will provide an indication of the level of IBNER contained in the case estimates as the level of pure IBNR will be a smaller percentage of the total IBNR compared to more recent cohorts.

Net/Gross IBNR :

Calculate the net to gross IBNR for each accident year and compare it to the ratio calculated as at the previous year-end.

Also compare the calculated ratios to the portion ceded as per the applicable reinsurance contracts.

Case estimates/incurred claims:

The settlement delay will affect this ratio. Compare across classes and to previous reserving exercises, if available, to assess the reasonability of the case estimates.

The above analysis could be supported by discussions with the claims team.

iii. Nature of bodily injury claims:

- Employers' liability claims are long-term in nature due to significant reporting and settlement delays.
- They are affected by various types of inflation, e.g. court awards, earnings and medical inflation.
- They are also affected by judicial decisions that may impact the compensation amounts.
- There is the possibility of accumulation of risk if many employees are affected by the same event.

Impact on reserving methodology:

- The selected methodology should recognise the lack of data in less developed cohorts by using suitable methodologies.
- The assumptions should make appropriate allowance for the various types of inflation and be consistent with any economic expectations.
- The impact of any pending judicial decisions should be considered.
- It may be necessary to adjust data or results for any once-off events.
- It will be necessary to apply a tail factor when using the chain ladder if historical years are not fully run-off.

iv. Reasons for performing an analysis of emerging experience:

- It provides insight into the reasons for experience developing differently than expected and highlights which assumptions and methodologies may need to be revised.
- It allows you to communicate key changes to various stakeholders who may identify further issues or take action to address any issues identified.
- It is essential to monitor emerging experience to effectively implement the actuarial control cycle.

v. How to perform an analysis of emerging experience in order to review the employers liability claims reserve:

Analyse the movement in ultimate claims from the previous to the current valuation for each accident year. The movement should be analysed according to the following areas that drive the change in ultimate claim estimates:

Actual versus expected experience.

Compare the actual claims incurred in 2021 to the projected figure based on the previous valuation.

Remove the impact of any outliers e.g., large or catastrophic claims that could distort the actual versus expected analysis.

Changes in methodology.

Analyse the impact of the new incurred claims development pattern calculated in the latest reserving exercise.

Assess whether the new development patterns correct any potential deficiencies based on the actual versus expected analysis.

Analyse the impact of the change in methodology for the 2020 accident year i.e. changing from a loss ratio method to an inflation adjusted chain ladder method.

Assess whether the selected loss ratio used for the 2021 accident year is reasonable based on any deviations highlighted above.

Changes in assumptions.

Analyse the impact of any changes in inflation assumptions.

Assess whether these make sense in light of the emerging experience and external factors e.g., wage inflation, economy etc.

Reperform analysis using alternative reserving methodologies to compare to current methodology. If another methodology consistently provides a better reflection of the emerging experience consider using this methodology.

Candidates generally performed well on part (i), a book work question. However, few candidates mentioned that diagnostics could be used to interpret data with most candidates mentioning the use of diagnostics to assess the reasonability of reserving results.

In part (ii) most candidates performed well. Some candidates listed more than the required four diagnostics, although only the first four listed were marked. Candidates could have done better explaining how diagnostics could be used to review the claims reserves.

Candidates generally understood the key characteristics of bodily injury claims in part (iii). Some candidates gave too much detail without considering how the nature of bodily injury claims impact the selected claims reserving methodology as asked for in the question.

Performance on part (iv) was quite varied. One of the key reasons for performing an analysis of emerging experience is to assess the appropriateness of prior assumptions and methodologies and whether these remain appropriate. It also helps with identifying the reasons for any changes to reserves which need to be communicated to the relevant stakeholders. Very few candidates mentioned both these points.

Part (v) was very poorly answered by almost all candidates even though it is a syllabus objective with a high-level approach detailed in the course notes. Candidates are expected to be familiar with the book work and know how to apply it in the given scenario. Candidates should also ensure that they have sufficient knowledge and understanding to meet the syllabus objectives.

END OF EXAMINERS' REPORT