

# **EXAMINERS' REPORT**

*June 2017 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. Commutation:  
The process of prematurely terminating a reinsurance contract by agreeing an amount to settle all current and future claims.  
Applicable to: All types of reinsurance
- b. Reinstatement premium:  
The premium paid to the reinsurer to restore full cover following a claim.  
The number of reinstatements, and the terms upon which they are made (some may be free), will be agreed at the outset.  
Applicable to: Non-proportional (XL) reinsurance
- ii. a. Proportion reinsured =  $(100 - 75)/100 = 1/4$   
Hence (a) =  $1/4 \times R2m = R0.5m$
- b. Sum Insured left after A =  $0.75 \times R160m = R120m$   
Hence (b) =  $0.01 \times 80\% (R120m - R70m)$   
=  $R0.4m$
- c. As X retains the minimum permitted, all 4 lines will be used.  
Thus 80% is reinsured.  
Hence (c) =  $80\% \times R15m = R12m$
- d. Let x be the sum insured left after A.  
Then  $0.01 \times 80\% (x - R70m) = R1m$   
 $x = R100m / 0.8 + R70m = R195m$   
Hence (d) =  $5 \times R195m = R975m$

*Part (i) was straight bookwork. Many candidates, however, showed they had no idea of what commutation was, with many defining it as a loss portfolio transfer. Although not an unrelated concept, no credit was given for this.*

*Part (ii) was answered fairly well by the better prepared candidates. The weaker candidates demonstrated very little understanding of the basic operation of reinsurance contracts.*

## QUESTION 2

- i. Credit insurance covers a creditor against the risk that debtors will not pay their obligations. The principal types are trade credit and mortgage indemnity. Trade credit may cover uncollectible debts. Mortgage indemnity covers the lender against the borrower defaulting and the value of the property on which the loan is secured not being sufficient to repay the loan.

Creditor insurance provides cover to insureds who are unable (usually due to disability and unemployment) to meet their obligations to repay credit advances or debt. Most policies are issued to individuals to cover personal loans, mortgage loans or credit card debts. The policy will pay the regular loan payments until the borrower is recovered or obtains new work or until the loan is fully repaid or a maximum number of payments are made.

- ii. Investment characteristics and matching assets:

Nature of liabilities:

In most cases the benefit is fixed:

- Payments on personal loan policies will be the monthly repayment specified in the loan agreement; such loans are usually issued at a fixed interest rate.
- Payments on credit card policies are usually the minimum monthly payments on the balance prior to claiming.
- Payments on mortgage policies are normally a set amount selected by the insured at policy inception, and linked to the monthly repayment.

Occasionally the benefit may be variable and linked to interest rates. To the extent that interest rates reflect inflationary expectations, these benefit payments may be regarded as real in nature.

Term of liabilities:

There is usually a maximum number of benefit payments, and this will determine the maximum term of the liabilities. This term could be several months or years.

However, the policyholder may in most cases claim for a shorter period than the maximum term, in the event of earlier recovery or employment.

Currency of liabilities:

Benefits paid and premiums received will be in the currency of the country that the insurer operates in.

Uncertainty of liabilities:

This could be substantial as it depends on:

- Economic circumstances: Recessions leading to higher unemployment will increase claims.

- Economic recessions may also lead to higher (fraudulent) disability-related claims.
- Interest rates: if the benefit payment is linked to this, higher interest rates increase benefit amounts.
- Access to healthcare and medical advances: this could reduce disability recovery time and hence benefit payments.
- Moral hazard: Borrowers whose loans are covered by creditor insurance are not incentivised to return to employment. Borrowers may even request or increase loans (with attaching creditor insurance) knowing of impending job losses.

Suitable matching assets would then include:

- Government fixed interest bonds of suitable term; these are highly liquid (hence suitable given the high level of uncertainty) and match fixed benefits.
- Corporate bonds offer enhanced returns, but this comes at higher risk (default and liquidity).
- Money market instruments (cash): this investment offers a link to inflation, and so might be suitable for liabilities linked to variable interest rates. Cash is the most liquid asset class.

iii. Other considerations include:

- Free Assets: the higher these are, the less matching is required which allows the company to pursue more aggressive strategies to enhance returns.
- Company risk appetite and any ethical or other voluntary restrictions (e.g. on self-investment).
- Tax, Legal and regulatory requirements (e.g. asset class limits, exclusions, valuation requirements etc.).
- Extent to which new business may be relied upon for cashflows, permitting existing assets to be invested longer.
- Diversification permits higher return per unit of risk (but is dependent on asset size).
- Existing assets – changing assets is costly, so consider the appropriateness of existing assets.
- Level of non-investible funds influences the level of liquidity required from investible assets.
- Economic outlook may influence some of the asset decisions;
- Rating agency constraints on free assets required to maintain credit ratings.
- Competitor strategies might be useful as a benchmark (consider the risk of pursuing a different strategy).

*While overall this question was not too badly answered, this was the result of low marks for parts (i) and (ii) and high marks for part (iii).*

*While part (i) was straightforward bookwork, many candidates did not know the difference between Credit and Creditor Insurance (or got them mixed up).*

*Part (ii) was very badly answered by most candidates, with most demonstrating a fundamental lack of understanding of asset-liability matching. Most candidates did not appreciate the fact that a claims liability arises when a default occurs, and that the nature of the liability depends on the interest rate that applies to the loan. Many candidates did not know the difference between credit and creditor insurance, and thus discussed matching the incorrect product (and almost all such candidates seemed to have no idea of the complex nature of mortgage indemnity insurance – the claim is a function of the difference between the outstanding loan and the property value, and each of these components will be subject to different increases prior to settlement).*

*Part (iii) was well answered by most candidates.*

### **QUESTION 3**

- i. Since the pricing exercise involves using past claims experience related to past exposure to set future premium rates, we need to make sure that the past experience is indicative of what may happen in the future period for which premium rates are being set.

Many different factors may cause the base experience to be different from that expected during the new rating period e.g. changes in risk and/or cover provided, environmental changes and general trends. In each case, we will need to make a suitable adjustment to both the exposure and the claims data.

- ii. Time delays that may result in adjustments having to be made to the data may occur because of:

- time taken for sufficient claims experience to develop from the historical data;
- time taken to analyse the claims experience;
- time taken to reach and agree the new premium rates and premium structure;
- time taken to administer and implement the new rates;
- time delay between the risk period and the payment of claims due to reporting and settlement delays;
- time taken for any approval needed from a regulatory body to introduce rates;
- time taken due to communication delays between the insurer and reinsurer.

- iii. Changes in the risk may arise because of changes in:

- the mix of underlying risks;
- cover / policy conditions;
- claims handling / underwriting strategy;
- the level of reinsurance cover;
- the method of distribution.

The changes in risk over time may show up as trends in the overall claims experience. We could project the total trend forward. Alternatively, we may try to separate the major

elements of risk in the base data, project them separately, and then combine them with explicit assumptions about the future mix of these risks. We may also do this for significantly different types of claim if the relative mix of claims arising is changing.

The policy conditions under which insurance or reinsurance is written will have implications for the premium rates to be charged. For example, the premium rate for a policy that excludes particular risks should, all other things being equal, be lower than that for a policy that covers those risks.

If an insurer tightens up underwriting or claim settlement procedures, this will also have implications for the premium rates. Earlier data may be excluded or data sold in a particular year(s) may be excluded to minimize the impact of the changes.

The major changes in the policy conditions are likely to be in the perils covered and limits or excesses applied to any claim.

In the case of perils that are no longer insured, we may be able to exclude from the base data all types of claim that would not be covered under the new rating series. However, if a new peril (or indeed any new aspect of cover) is to be introduced, we will need to use external data such as market statistics, consumer or manufacturers' statistics, scientific data or government statistics to approximate the likely cost of the claims for this additional cover.

If there are limits on the amount of cover provided by a policy – for example, a policy excess or a maximum sum insured – then the required premium should be lower than that for a policy without any such limitations.

If the limit has been reduced or the excess point has been increased, we can normally truncate the past claims experience to approximate the future costs. However the insurer would need a detailed database, identifying each individual claim separately so that the adjustment can be applied to each claim.

However, it is more difficult to estimate the effect of lowering the excess point because many policyholders will not inform the insurer of losses below the excess point. We have to estimate the increase in both the frequency and size of the future claims. Data may be available from other similar risks, or from external sources. Otherwise, we must use more approximate adjustments, based on any knowledge available regarding the claim cost distribution. Either way, the information is likely to be incomplete.

*Part (i) was answered well by the majority of candidates.*

*Part (ii) was a straightforward bookwork question that was not answered well. This highlighted a lack of bookwork knowledge by candidates on this section of the work.*

*The answers to part (iii) were very disappointing. Candidates failed to list enough reasons or provide enough detail to score well on this question.*

## QUESTION 4

i. Possible metrics:

Statistic / Metric	Portfolio A	Portfolio B	
Sample std. deviation	3,624	46,323	Square root of (sum of squared differences) / (# years - 1) (Accept population std. deviation with 10 in denominator)
1-in-10 year value at risk	72,586	144,000	Using historical method, this is the largest loss over 10 year period
90th percentile of ult. claims	68,576	82,000	90 <sup>th</sup> percentile (read from table) i.e. 2 <sup>nd</sup> largest claim.
Largest insurance loss	-	94,000	Max( Largest insurance loss , 0) = max( largest ultimate claim - premium charged , 0)

ii. The riskier portfolio for the insurer is likely to be B, because:

- The insurer will be more concerned about the variability of experience from year to year rather than the absolute amount of the losses.
- This uncertainty will make provisioning and pricing more difficult for the insurer.
- Although portfolio A has a higher average level of claims, portfolio B's claims are much more variable.
- Portfolio A has not had an insurance loss in 10 years, whereas portfolio B has had at least one year of significant loss in the last 10.

*Part (i) was poorly answered by the majority of candidates with a disturbing number of candidates not being able to calculate the sample standard deviation or largest insurance loss correctly.*

*In part (ii) the majority of candidates managed to recognise that the riskier portfolio was B but failed to give enough points to justify why portfolio B was riskier.*

## QUESTION 5

i. Claims cohorts can be grouped according to:

Accident year

Claims are grouped according to the year (or other period / cohort) in which the claim event or “accident” occurred

Reporting year

Claims are grouped according to the year (or other period / cohort) in which they are reported to the insurer/reinsurer.

#### Underwriting year

Claims are grouped according to the year (or other period / cohort) in which the policy covering the claim is incepted.

- ii. The following actuarial reserving methodologies would be appropriate to use for each class of business:

#### Motor:

- Given that there is sufficient credible data a likely approach to use would be the Chain Ladder method. This is because the Chain Ladder requires there to be sufficient volumes of data in order to produce stable results.
- Given the presence of floods in quarter three and four, and to allow for seasonality, the Chain Ladder should be applied to quarterly claims data. Since the aim is to calculate claims reserves accident quarter cohorts would be used.
- It is likely that personal and commercial business have different claims run-off patterns and thus these classes should be analysed separately. Salvages and recoveries should also be analysed separately as these are likely to have different run-off patterns than pure Motor claims.
- The Bornhuetter-Ferguson (“B-F”) method could be applied to the more recent cohorts to add stability to the Chain Ladder estimates.
- Given the strain on reinsurers you may need to make a provision for possible reinsurer default.
- You will likely need to adjust the data for the recent floods to avoid possible distortions in the Chain Ladder estimates.
- The Chain Ladder applied to incurred claims data assumes that the case estimation philosophy has been consistent over time, which is not the case. The claims data will need to be adjusted to restate the claims triangle on a consistent basis, or the Chain Ladder should be applied to paid claims data.
- A similar comment applies to the estimation of salvages & recoveries (S&R), i.e. due to the outsourcing of the S&R. S&R could be estimated as a percentage of the gross ultimate claims.
- The claims provisions should be calculated gross of reinsurance and the reinsurers’ share of the claims provision determined separately. This will allow an assessment of the potential cost of reinsurer defaults which should be allowed for in the claims provisions.
- The claims provisions should be analysed separately for attritional, large and catastrophic claims.

#### Commercial Liability:

- For similar reasons as the Motor class a likely approach to use would be based on a Chain Ladder type method applied to quarterly claims data. Further, as inflation has been volatile over the last few years the inflation adjusted Chain Ladder method should be used/considered.



- For Employers Liability accident quarter cohorts should be used to estimate claims reserves. For Product Liability a reporting year cohort will be used given that the policies are sold on a claims made basis.
- For Commercial Liability the Employers' Liability and Product Liability classes have different claims run-off patterns and thus should be analysed separately. Furthermore, as these are written on a losses occurring and claims made basis respectively, they would need to be analysed separately.
- The Bornhuetter-Ferguson ("B-F") method should be applied to the more recent cohorts to add stability to the Chain Ladder estimates.
- An appropriate assumption for the future courts award inflation will need to be derived.
- A tail factor may be necessary if claims have not fully run-off which will depend on the amount of claims history available.

#### Marine:

- Since there is limited data a Loss Ratio method should be used as the Chain Ladder will likely produce volatile results. The loss ratios could be based on the pricing loss ratios or industry data.
- The loss ratios underlying the Loss Ratio method are based on a subjective assessment of future claims experience which may not be appropriate.
- Since Marine Hull and Marine Liability are likely to have different expected claims experience these should be analysed separately.
- The loss ratios used should be the ultimate loss ratios (i.e. paid + outstanding reported + IBNR), and should be applied to the earned premium.
- Using the unadjusted pricing loss ratios for reserving will likely lead to inadequate reserves as actual claims experience was worse than that assumed in the pricing basis.
- The pricing loss ratios will need to be increased based on expert judgement and discussions with the claims and underwriting teams.

#### iii. Other considerations:

##### Margin above the best estimate:

- The calculation of the booked claims reserves implies that an assessment of the margin, over and above the best estimate claims reserves, needs to be made. The level of margin may be based on either the company's own risk appetite or on actuarial guidance.
- The calculation of the margin will likely require an assessment of the variability in the claims reserves. The most likely approach will be to perform a bootstrap on the claims triangles based on a Mack or ODP model.

##### Data accuracy:

- You will need to ensure that the data are accurate and complete. This could be done by reviewing the outputs from all data reconciliations performed by the

company and assessing whether these reconcile to independent sources e.g. the financial accounts and consist of a complete set of reconciliations.

Allocated loss adjustment expenses (ALAE):

- Need to consider whether the data include an allowance for ALAE. If this is not the case then a separate reserve for ALAE will need to be calculated.

Position of each class in the underwriting/reserving cycle:

- Need to estimate the stage of the underwriting cycle for each class. If the underwriting cycle is expected to soften then may need additional prudence since lower margins reduce funds available to pay claims.

Accounting regime/regulation:

- Any applicable accounting regime/regulation will need to be considered.

Purpose of reserving exercise:

- The purpose of the reserving exercise should be considered when deciding on the approach to use in setting the booked claims reserve.

*Most candidates scored full marks for part (i) which was bookwork.*

*In part (ii) most candidates performed well and showed an understanding of the application of reserving methodologies and the way external and internal issues should be addressed. Some candidates described how to apply the methodologies which did not score any marks as the question did not ask for this.*

*Part (iii) was not well answered. Most candidates failed to show an understanding of the booked claims reserves and how this differs from the best estimate claims reserves. Most candidates did not show an understanding of the broader issues required to estimate the booked claims reserves such as the purpose of the reserving, data reconciliations, etc.*

## **QUESTION 6**

i. Reasons why capital allocation is desirable:

- Performance measurement: Capital has a cost. Therefore to accurately assess the performance of a particular class we need to calculate the profit/return as a percentage of the capital required to write that class. i.e. a return on equity. This requires knowing the capital cost for each class.

- Business planning and strategy setting: This links quite closely to the above point. If the insurer can allocate capital to different areas of the business (and hence understand risk adjusted performance) then it can make decisions about which areas of the business to develop based on return and capital. This can be extended when deciding on which new ventures/products/territories to pursue.
  - Pricing: Premiums charged should have a capital/profit loading to reflect the cost of capital held to write the business. Any pricing exercise should allow for diversification benefits between policies, which results in the total capital requirement being lower. This allows the insurer to charge more competitive premiums. The insurer will thus want to allocate capital to products or even policies so that premium rates can accurately take account of the risk of the product/policy.
- ii. With the marginal capital method, we consider the additional capital that would need to be held if the element was to be added to the business.

This method will allocate a different level of capital to different classes of business depending on the order in which capital is allocated to the different classes. This is because a class of business will be correlated with other classes to different extents.

Therefore the additional diversification benefit to be gained by “adding” another class of business to the portfolio will depend on which classes have been “added” so far.

Generally, classes of business added to the model later will receive a lower capital allocation as they benefit from diversification with classes already in the model. This is not fair on the classes modelled first as the diversification benefit would not be possible without them.

It is thus difficult to suggest that certain classes contribute more to the diversification benefit than others.

The Shap13y method repeats the marginal allocation method, adding classes in all possible combinations of orderings. The average of capital requirements is then taken as the capital requirement for each class. This results in the ordering of including classes in the model not having an effect.

iii. Key considerations:

- Earthquake risk can have a substantial cost on a commercial property book of business, so the benefit of building a more detailed model will likely be worth the cost.
- An example of benefit is purchasing the optimal amount of Cat XL reinsurance.
- The company will only be able to use its own data to a very limited extent as the nature of earthquakes is that they are rare events.
- The company will need to decide to what degree to rely on help from proprietary cat modelling companies, taking into account the cost and how specifically proprietary output is tailored to the company.

- If possible, the model should simulate claims from all classes of business that may be affected by the same earthquakes, e.g. an earthquake in a built-up area would damage a number of cars and residential buildings in addition to commercial buildings. The size of individual claims may not be significant, but the accumulated amount may be very high.

Process for modelling earthquake risk:

- The company will likely need to purchase model output from a company that is an expert in modelling earthquakes as this is different to the core business of employees of the insurer.
- The model output will include something along the lines of potential earthquake events with their associated locations, severities and frequencies (or return periods).
- A simulation model would then be able to simulate whether each of the events happens or not in a particular year (single run of the model).
- The key modelling function is to then determine the cost to the insurer if each earthquake were to occur.
- This will be a function of the amount of exposure the insurer has (measured in terms of EML) at or within a near range of the location of the simulated earthquakes.
- For particularly large buildings, the insurer may wish to model damage separately, rather than grouped by postal code.
- The reinsurance model should be able to calculate recoveries on the Cat XL treaty.
- For particularly large risks, it should also be possible to calculate recoveries on IXOL treaties. If claims are modelled in aggregate per postal code region, then certain assumptions will need to be made to disaggregate claims to present individual claims for IXOL recoveries.
- Key parameters should be sensitivity tested to understand model sensitivity to each factor and decide which factors are worth putting more time into estimating accurately, including more research.

*Part (i) was generally well-answered. Better candidates clearly linked points to the given scenario. Some candidates made the mistake of suggesting why the company should hold capital, rather than allocate capital.*

*In part (ii) most candidates had the gist of the answer, but a number struggled to “describe” in enough detail to earn full marks.*

*Part (iii) was not very well-answered by most candidates. Many candidates described a generic frequency-severity model, which was not appropriate given the specific details in the question (EML and postal code). The better candidates integrated “considerations” into their answer, rather than a separate disjointed section.*

## QUESTION 7

### i. Possible distribution channels:

- Policyholders who own such vehicles are likely to be wealthy individuals, who tend to work through brokers.
- The company may also consider offering insurance through tied agents such as vehicle sales centres and/or clubs' societies for owners of such vehicles.
  - An advantage of both of these methods is that the company does not need to set up new infrastructure, which is significant for a newly established insurer.
- The company may consider having its own small call centre and/or allowing potential customers to apply online, as this is standard for most insurers, though the company will seriously need to consider whether the costs of these methods will be worth the benefits.
- Irrespective of the distribution channel, the insurer will need to be innovative in how to distinguish its product from other insurers who likely also offer such insurance on the back of their traditional motor books and thus compete in all or most distribution channels the insurer might consider.

### ii. Insurability:

- The policyholder must have an interest in the risk being insured, to distinguish between insurance and gambling.
  - It is reasonable to assume that owners of unique vehicles have an interest in the risk as it is unlikely that they will be able to replace their vehicles should something happen to them.
  - However, during a recession, it may be less likely that individuals will be able to sell such cars, making insurance fraud a possibility as car owners aim to get cash.
  - This may be difficult to mitigate as the insurance payout will be unlikely to achieve indemnity due to the limited nature of the cars, hence will pay out in cash.
- The risk must be of a financial and reasonably quantifiable nature.
  - The vehicles should have a market price, or a reference point with which to estimate the sum insured.
- Individual risk events should be independent of each other.
  - Risks will mostly be independent, similar to normal motor insurance.
  - There may be circumstances in which multiple claims happen at once e.g. hail storm.
  - The insurer could reduce such effects by diversifying geographically (which it does as it offers the insurance internationally), but it may also simply need to hold additional capital.

- The amount payable by the insurance policy in the event of a claim must bear some relationship to the financial loss incurred. There should be an overall limit on the liability undertaken by the insurer.
  - Being property insurance, there will naturally be limits on the payout, which should coincide with the sum insured.
  
- The probability of the event should be relatively small. In other words, an event that is nearly certain to occur is not conducive to insurance.
  - In general, motor insurance claims are of low enough probability to insure (evidenced by the extent of motor insurance).
  - Claims on unique vehicles will likely be lower as such vehicles are often for investment purposes and are unlikely to be driven as much.
  - Depending on the definition of “unique vehicles”, certain categories of vehicle may have higher claim frequencies – special cases will need to be considered separately.
  
- Large numbers of similar risks should be pooled to reduce the variance of the average claim size and hence achieve more certainty.
  - If the definition of “unique” vehicles is too strict, the company will be unlikely to sell enough policies to achieve pooling and recover fixed expenses.
  - As such, claims variability will be expected to be high, which is concerning as this is the only product offered by this insurer.
  
- Moral hazards should be eliminated as far as possible because they are difficult to quantify, result in selection against the insurer and lead to unfairness in treatment between one policyholder and another.
  - It is not likely that insurance will cause policyholders to act vastly differently as “money can’t buy” what they have to a degree.
  - However, this may be different in tough economic times as discussed above.
  
- There should be sufficient existing statistical data/information to enable the insurer to estimate the extent of the risk and its likelihood of occurrence.
  - General motor insurance data can be used as a starting point to estimate accident frequencies and severities, though there will be subtle differences. If telematics devices can be installed, the insurer will be able to tailor premiums to vehicle usage (which is likely to be low) and driver habits.
  - A major problem the insurer has is that it does not have a motor book from which to access data.
  - It may be able to reinsure and gain expertise from the reinsurer.

iii. Appropriate level of free capital:

- Holding additional capital will incur an extra cost and put pressure on the company to achieve more profits to achieve a given level of return on capital.
- Nevertheless, the company will want to have a capital buffer above the minimum required level for the following reasons:

- to reduce the risk that the available capital falls below the regulatory requirement, which would hamper the firm's business activities;
- for example, random asset price movements or large losses could push the insurer below the minimum capital level.
- The company's credit rating may depend on the solvency buffer.
- To maintain a level of working capital for investment in business development and other opportunities
- To allow a buffer between the actual profitability of the business and the dividend stream paid to shareholders, who prefer less volatile returns.

iv. Ways of increasing the ratio:

- Reinsurance: Purchasing more reinsurance will reduce the capital requirement, but will likely incur an extra cost in the long run as the reinsurer will price in an expected profit. Related to this, the insurer must make sure that all reinsurance (or other risk transfer) purchased is allowed by the regulator for the purposes of reducing capital requirements.
- Product design. The insurer can use certain product design features to limit the extent of risk taken on, though with the target market it should be careful not to make its products seem cheap. Examples include increased excesses and limits on sum insureds.
- Increase premiums: this will have the effect of increasing expected profitability and shifting the profit distribution to the right, hence reducing capital requirements. However, it will need to ensure that premiums are still competitive.
- Sell less business: This will reduce capital requirements due to the lower level of risk exposure taken on, but the company must be wary of having too low business levels to recover fixed expenses. This will already be a concern, being the only product the insurer sells and a niche product at that.
- Safer investment strategy: Following a matching strategy and limiting risky investments such as equities will reduce the investment contribution to capital.
- Choosing admissible assets: Not all assets will be allowed as assets on the capital balance sheet for regulatory purposes.
- Currency hedging: As the company offers the product internationally it will be exposed to the risk of the local currency depreciating relative to international currencies. It could consider having investments in foreign countries to match claim payouts.
- Co-insurance: This may be an option for sharing risk and reducing capital requirements, similar to reinsurance. Though, being a niche product, the insurer would not want to give away hard earned client share to competitors.

*In part (i) many candidates simply listed as many distribution channels as possible and gave the advantages of each. Limited marks were awarded for this. Better candidates focussed on the specific needs of the insurer, being a new insurer and writing a niche product.*

*Most candidates made a reasonable attempt at part (ii), given the opportunity to apply the insurability criteria framework. Marks were awarded where candidates applied their minds, even if exact details specific to the product were incorrect.*

*Part (iii) was generally not well-answered. A common mistake was to focus on how much capital insurers may hold, rather than the buffer beyond the minimum capital requirement (free capital).*

*Part (iv) was generally well answered. However, some candidates failed to outline points in sufficient detail. A common mistake was to suggest changes that would increase the ratio, but would not be attainable in the “near future”.*

**END OF EXAMINERS' REPORT**