EXAMINERS' REPORT

November 2019 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 stability clause is a clause that may be included in a non-proportional reinsurance treaty providing for the indexation of the excess point and/or the upper limit in line with a specified index of inflation.

ii. Benefits of a stability clause:

- In an inflationary environment it will help to maintain the same real value of cover provided. This is the case for unlimited layers or for layers where the excess point and upper limit are indexed.
- Indexation of the excess point will help keep premiums down, since without this the reinsurer would have had to make an allowance for the erosion of the excess point by inflation.

iii. a. The largest (Category 2) EML which can be written is $2/3 \times \$20m$
    Hence L, the maximum number of lines of Surplus cover is such that:
        $$\$2m\,(1 + L) = 0.75 \times 2/3 \times \$20m$$
    i.e. $L = 4$

b. On a Category 2 risk the split of the EML will be as follows:
        QS: 25%
        Insurer: 75% / (1 + 4) = 15%
        Surplus: 75% $\times$ 4 / (1 + 4) = 60%
    If x is the largest claim resulting in no XL recovery, then:
        $$0.15 \times x = \$1m$$
    i.e. $x = \$6.667m$
    As this is clearly larger than any possible recovery on a Category 1 claim (where SI cannot exceed \$2m) the above represents the largest possible XL recovery.

c. For a Category 1 risk no Surplus is used as the Sum Insured, and hence the EML, cannot exceed the Surplus retention limit.
    Hence the smallest claim, y, producing an excess of loss recovery would need to be such that:
        $$0.75 \times y > \$1m$$
    i.e. y must be more than \$1.333m
    From (b) above we know that no Category 2 claim under \$6.667m will produce an XL recovery, and thus the smallest claim producing an XL recovery must be a Category 1 risk (with a claim above \$1.333m).

iv. For category 1 claims larger than y (up to a maximum of the largest Sum Insured, \$2m) an excess of loss recovery would be made.

For Category 2 claims below x no excess of loss recovery would be made.

QUESTION 2

i. An Incurred but not enough reported (IBNER) reserve is a reserve reflecting expected changes (increases and decreases) in estimates for reported claims only (that is, excluding any "true" or "pure" IBNR claims).

An Incurred but not reported (IBNR) reserve a reserve to provide for claims in respect of claim events that have occurred before the accounting date but still to be reported to the insurer by that date.

ii. For IBNR:

The claims data collected at any one point in time will have some claims that have not been fully paid and possibly not reported either (IBNR). Standard reserving techniques, such as the chain ladder or Bornhuetter-Ferguson methods, could be used to calculate the ultimate overall claim amounts for each development year.

To calculate the number of IBNR claims we can use run-off triangle techniques to develop the reported loss count for each historical policy period to its ultimate level based on historical reporting delays. For example, the runoff triangle might use accident year as origin year and number of claims reported to date will be tabulated for each development year.

We will then need to assume an ultimate size for each IBNR claim, usually based on the known losses from this cohort.

For IBNER:

We could apply an incurred development factor (using a chain ladder method) to each individual loss (that is, open and closed claims), reflecting its maturity, to estimate its ultimate settlement value.

A more realistic approach is to only develop open claims using "case estimate" development factors. These case estimate development factors will usually be higher than incurred development factors at the same maturity to offset the effect of not developing closed claims.

We could use stochastic development methods to allow for the variation that may occur in individual ultimate loss amounts around each of their expected values.

iii. Where simulation is used, we should run through enough iterations of the simulation model to ensure that the results are stable (for example, if we ran two simulations, the two results may have both been extreme results due to randomness and not representative of the whole distribution or average):

- We will require more simulations if investigating the tails of the resulting loss distribution than if investigating the mean.
- We will require more simulations if assessing an excess layer than if assessing the underlying primary layer.

Because of the speed of modern computers, the time required to run a simulation model for a sufficient number of iterations should rarely be a problem.

A practical consideration will be what data is used to parameterise the model and what the ultimate aim of the exercise is for. For a frequency severity model we require more data to parameterise separate frequency and severity distributions than we do to assess aggregate amounts. The insurer will require past exposure information and information on individual losses in this case. The aim of the exercise will be to calculate the final premium as a rate per unit of exposure to allow for the actual future exposure turning out differently to that projected.

In the event that the insurer uses brokers as a distribution channel, the broker may store detailed information required for the analysis on their own systems. The insurer will need to access data from the brokers in this case to help with the modelling.

One also needs to consider common data issues. For example, if we consider the form of the data we should obtain individual loss information gross of reinsurance and ideally "from the ground up" (FGU) for all claims. If we only obtain losses above a certain threshold, the analysis may be complicated and we may need to make an assumption about the distribution of losses below this level. One possible source of data for this sort of adjustment may be the insurer's own databases.

Another factor will be the choice of base period to achieve the required quantity of data to get appropriate estimates for the parameters that need to be fitted.

We should obtain loss and exposure information for as many historical years as is possible. Typically we require five years of data when we apply frequency severity approaches to liability classes, but more is desirable. (This volume of information may not always be available.)The period of historical data required for other classes would depend on the length of reporting delays and typical claims frequency.

Par (i) was a well-answered book work question.

Part (ii) was generally poorly answered. Most candidates did not outline how individual losses can be developed for EBNER. A number of candidates made the mistake of providing too much detail on the mechanics of the underlying method for loss reserving techniques rather than just outlining how losses are developed.

Part (iii) was generally reasonably well-answered. However, most candidates provided too few points to score very well on the question.

QUESTION 3

i. Internal data items:

- Exposure data:
    - Policyholders' risk factors
        - Age
        - Gender
        - Address/risk postal code
        - Occupation
        - Credit score
    - Risk details
        - Sum Insured of item on cover
        - Risk inception data
        - Type of item covered
        - Make and model of the item

- Claims data:
    - Dates
        - Claim accident
        - Reporting date
        - Payment date
    - Claim type/description
    - Claim amount incurred/paid/outstanding

- The link between the exposure data and claims data
    - Policyholder ID/Policy number
    - Risk ID

ii. Adjustments:

- Reduce the exposure period of cover to the desired length of the new product's range of exposure.
- Allow for seasonal effects in cover.
    - E.g. certain months may have higher claim incidence rates, which means that month or week may need to be added to the rating structure.
- Allow for a possible increase in anti-selection.
    - E.g. individuals may only insure items when going on holiday and there is an increased risk of theft.
- Due to the shorter term of the product expenses will be proportionally higher than on the standard product.

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- There may be differences in the distribution channels used on the products which may influence the risk and thus needs to be allowed for.
- Allow for an increased risk of fraud.
  - E.g. people may take out cover on already damaged items
- Allow for any changes in the product offered.
  - E.g. certain perils may be excluded to reduce the fraud risk.

In part (i) candidates generally scored very poorly due to thinking the question was about a Household Contents product and not a Household All Risks product. Several candidates focused on describing general GLM data items instead of focusing on the All Risk product's specific data requirements.

In part (ii) most candidates noted the change in exposure period required and the seasonality effect. Better candidates also commented on anti-selection, fraud, expenses and changes in risk profile. Several candidates focused on office premium adjustments and missed out on marks for risk premium adjustments.

QUESTION 4

i. A calculation of actuarial liabilities may be needed :

- To determine liabilities for solvency purposes.
- To determine liabilities for internal management accounts.
- To ascertain tax liabilities.
- To test the adequacy of the case estimates.
- To value an insurer for purchase or sale.
- To transfer a book of business.
- To negotiate a commutation for the buyer or seller.
- To estimate the claims costs incurred in recent periods as in intermediate step in the rating process.
- To perform an actual versus expected analysis for claims development.
- To determine a suitable investment strategy.
- To provide information to management on how areas of the business are performing.
- To provide inputs for budgeting.

ii. Considerations when setting a reserving basis for published reporting:

- Whether the accounts will be prepared on a going concern basis, which means that the company continues in operational existence for the foreseeable future.
- Whether reserves are required to be assessed on a best estimate basis or some other basis. This will include the inclusion of any risk margin.
- Whether accounts should show a true and fair view based on the auditor's opinion.
- Whether the basis is consistent with the previous valuation and whether any deviations are justified by emerging experience.

- Whether the reserves are to be discounted and what guidance on the discount rate is provided.
- Consider how selected basis compares to market practice. Analysts will prefer a consistent basis between companies for comparability.
- Whether the basis complies with current regulation/guidance for published reporting.
- The quantity and quality of the data available.
- The class of business which will impact the nature of the liabilities, e.g. longer tailed classes may require a tail factor or rely more on loss ratios.
- The position of the company in the reserving/underwriting cycle.
- Allowance for inflation and inflation index if an explicit allowance for inflation is made.
- The company's risk appetite will influence the degree of prudence in the reserves.
- Consider the impact on tax.
- Consider the treatment of large and catastrophe losses.

iii. Key considerations:

Data:

- The new standard will require additional data and/or more detailed data given the increased complexity. Any additional data collected will need to be reconciled to an independent source to ensure that it is complete and accurate.
- A plan will need to be put in place to collect the necessary data in each jurisdiction to calculate the necessary reporting disclosures. This could involve developing standardised data templates to roll out to each jurisdiction.
- Need to develop appropriate data systems. These need to be thoroughly tested.

Methodologies:

- Given that the standard is principles based it is likely that there will be various interpretations and methodologies possible. The most suitable ones will need to be selected taking into account any practical considerations and views from key stakeholders e.g. auditors.
- The selected methodologies and interpretations will need to be documented, reviewed by management and approved by the Board.
- There may be different interpretations of the standard in different jurisdictions. Any differences need to be understood and justified.
- New actuarial models will likely need to be developed.
- Consider whether any simplifications are allowed and under what conditions they can be applied.
- Provide a clear explanation of any use of actuarial judgement.
- Consider how selected reserving approach compares to market practice.
- Consider whether discounting is required and what discount rate should be used.

Educating the users of financial information:

- Given the importance of actuarial reserves in the financial statements it is important that the users of financial information understand the reasons for any differences in published reporting between the current and new standard.
- Key users include investors, tax authorities, management, auditors, management and the Board.

Other considerations:

- The right skills and expertise will need to be acquired through training existing staff and/or hiring additional staff. Workshops with subsidiaries should be held to ensure consistent interpretation of the standard across different jurisdictions.
- The right software will need to be developed and/or acquired to extract the relevant data and perform the reserving calculations
- Where possible calculations and reserving methodologies and processes should be aligned to regulatory reporting. This will improve efficiency and reduce the amount of work necessary to implement the standard. .
- Consider the time frames within which the standard needs to be implemented.
- Ensure the standard is correctly interpreted and understood by the people responsible for its implementation.
- Ensure constant communication on reserving methodologies to all the subsidiaries to ensure that the relevant people are up-to-date.
- Perform a parallel run to assess the impact of the new regulation.
- Consider the impact of non-compliance, e.g. fines, qualified auditors opinion.
- Consider the need for additional reporting requirements relating to the actuarial liabilities, e.g. movement analysis, disclosure of confidence level for reserves, level of granularity for reporting.
- Consider how reinsurance recoveries should be allowed for in the actuarial liabilities.
- Need to consider whether the standard is relevant to all countries where the company operates. If not, accounts will need to be prepared on different bases.
- Ensure there is sufficient cross collaboration between actuaries, IT, Finance.
- Consider reporting time lines once the new standard is effective.
- Possibly engage with regulatory bodies to clarify any ambiguities in the standard.
- Consider whether there is sufficient data storage capacity for the increased volume of data.
- Consider the extent of any legacy systems and how this may impact the calculation of actuarial liabilities.

iv. Considerations when selecting an appropriate risk adjustment methodology:

- Consider any existing methodologies used, for example for regulatory reporting, and aim to align to these existing methodologies as closely as possible.
- Consider the impact of the selected methodology on the volatility of profits. The method selected should avoid any volatility in profits as far as possible.

- Consider what the expected market practice will be to inform your selection of a methodology, through discussions with consultants or auditors.
- Consider how easily the methodology is understood by various stakeholders, e.g. management, investors
- Ensure that the selected risk adjustment methodology is an allowed methodology under the new regulation.
- Consider availability of professional guidance for the calculation of the risk adjustment.
- Will need a clear definition of what is included in non-financial risk.
- Consider the company's risk appetite which will influence the confidence level selected for the risk adjustment.
- Consider the in-house expertise available.
- Consider whether the selection of the risk adjustment covers all sources of risk, i.e. process, parameter, model and systemic uncertainty.
- Consider the amount and quality of the data available, e.g. bootstrapping requires sufficient, credible data.
- Consider whether the selected methodology is in line with market best practice, and justify any deviations.
- Consider how to allow for diversification of the risk adjustment between classes of business.
- Consider the auditor's feedback on the selected risk adjustment methodology.

Part (i) was a book work question and was generally well answered by most candidates.

Part (ii) was a book work question and was surprisingly not well answered by the majority of candidates. Some candidates stated that the purpose for which reserves are required determines the reserving basis, however the question assumed that the reserving basis was for published reporting. A number of candidates stated that a best estimate basis is required for published reporting, which is generally not the case.

Part (iii) was an application question and was generally poorly answered with candidates not generating a sufficient range of points to score well. The candidates who scored well provided a broad range of considerations covering the entire reserving process. Some candidates considered the impact on capital however the new standard only affects published reporting which is likely to be independent from solvency reporting. No marks were given where considerations did not relate to the calculation of liabilities as specified in the question e.g. considering the impact on the selected investment strategy.

Part (iv) was generally poorly-answered by most candidates. Few candidates understood what risks are included in non-financial risk, which is primarily composed of underwriting, reserving and operational risk.

QUESTION 5

i. Perils include:

- Events which can lead to damage to the policyholder's vehicle.
- Events which can lead to damage to third parties caused by the owner driving the vehicle.
- E.g. accident, theft, fire, hail, etc.

Benefits provided:

- For the property component, the insurance provides an indemnity benefit to repair the vehicle, subject to a maximum of the market value of the vehicle.
- For the third party liability component, the insurance indemnifies the owner of a motor vehicle against compensation payable to third parties for personal injury or damage to their property.

ii. Possible scenarios:

- The car may have depreciated quicker than the loan has been paid off. This is common for new cars, which depreciate significantly early on.
- If the loan has a high interest rate or a long repayment term, the loan would reduce slowly initially.
- The insured may have paid more than the market value for the vehicle, and taken a loan accordingly.

iii. Rating factor comparison:

- The perils in common for both elements of the product (indemnity and add-on) are those that affect the property damage component.
- Given that liability claims are caused by accident, and accident can lead to either property or liability claims, the rating factors relating to accident will be similar for property damage and liability.
- So overall, the rating factors for the add-on will likely be very similar to those for the standard indemnity cover.
- One key distinction is the potential for the additional cover to create a moral hazard, where the driver becomes less careful as they are fully covered. So whether the insured takes the add-on or not can be used as a rating factor.
- In addition, as policyholders are not required to provide proof of an outstanding loan (and there may not even be a loan outstanding?), there may be situations where the insured is over-insured and stands to gain from a vehicle write-off or theft. The insured will not be collecting this information, but if it were available it would be a significant rating factor.

iv. Distribution strategy:

- As discussed in part (ii), the product is likely to be most relevant for purchasers of new vehicles. Thus it would make sense to market and distribute the product through the sellers of new vehicles.
- It may also make sense to target potential buyers of new vehicles in other ways, such as through brokers who generally service higher wealth individuals.

v. Advantages:

- This will reduce the admin burden on the insured, likely resulting in a higher uptake of the product.
  - ➢ If the add-on is profitable, the higher volumes will result in faster recouping of fixed expenses and more profits for the insurer.
- It will also reduce the admin load on the insurer, allowing it to save costs and offer the product at more competitive rates.
- It opens up the add-on to policyholders who don't have outstanding loans, but want to make sure that the insurance payout on write-off or theft is enough to buy the same or a better vehicle.
  - ➢ This could also increase volumes and profitability.

Disadvantages:

- The insurer may open itself up to the situation where policyholders stand to gain by having their vehicle stolen or written off.
- This is likely to result in:
  - ➢ Policyholders being less careful, i.e. moral hazard, resulting in more claims.
  - ➢ This will lead to higher premiums and the product being less attractive (and in turn lower volumes, a reduced ability to recover fixed expenses, and be profitable.
  - ➢ Increased levels of fraud, where fraudsters purchase significant levels of add-on cover and then fake the theft of the vehicle, for example.
- The insurer will not know how significant the outstanding loan is (as opposed to what the insured has selected as a sum insured), and hence how much it could potentially increase the likelihood of claims by increased fraud and moral hazard.
- If policyholders do not select an appropriate level of add-on cover, they could still find they are unable to pay an outstanding loan, resulting in reputational damage to the insurer.

vi. Claim characteristics:

The frequency of claims will likely be higher than for traditional motor insurance due to the increased moral hazard and potential for fraud. Importantly, this increased frequency will now also apply to the standard motor insurance component.

The actual claim size for this component of the product will be the difference between the value of the vehicle (paid under standard motor insurance) and the total cover level. It is unlikely that this will be a large percentage of the value of the vehicle, so claims should be relatively small on average and there will be a low potential for large claims.

Other elements of the claim characteristics are closely linked to traditional motor insurance:

- Geographical accumulations are possible, e.g. hail, though are unlikely to result in a full write-off. Thus the add-on cover is unlikely to be affected.
- Accumulations by peril that may cause full loss are possible, e.g. crime increasing in certain areas, deteriorating driving conditions causing an increased number of serious accidents, etc.
- Reporting and settlement delays are likely to be short-tailed as all add-on claims will relate to property damage.
- The claim frequency for the add-on is likely to be lower than for the standard motor product due to claims only being paid for full write-offs/thefts.

In part (i) most candidates had a fair grasp of what is covered in a standard motor indemnity product, but very few knew the entire definition.

Part (ii) was well-answered by most candidates.

In part (iii) many candidates identified that rating factors would be similar, but failed to flesh out reasons for this. Better candidates identified using credit score as an indicator of likelihood of fraud and/or moral hazard on the product.

In part (iv) better candidates identified a tied agent offering vehicle finance as the best source. A fair suggestion was to market to existing policyholders, but these would likely not need the product or would have been insured elsewhere. It also is a less sustainable marketing strategy for the product.

In part (v) candidates generally showed poor exam technique by listing points and not discussing as the question asked.

In part (vi) most candidates had good points relating to the reporting and settlement delays. The points relating to the claim amounts were less convincing. A common mistake was to focus on the motor product as a whole, rather than the add-on.

QUESTION 6

i. Advantages

- Access to a large base of potential customers since the agents and dealers have large customer bases. This will provide a good platform to sell insurance, without having to incur large marketing costs.
- Reduced fixed costs (both for insurance services and sales). This will mean that the expense loading (and profitability) is more predictable as expenses will likely be linked to volumes of business (e.g. sales commission).
- NewSure may get technical assistance from BigSure as BigSure has an interest in NewSure's success. BigSure will stand to lose if NewSure has low business volumes or large claims. It will thus likely be willing to provide advice (and potentially data) to help NewSure get started.

- The quota share reinsurance will give NewSure very good protection. This is particularly important as NewSure is a new company and thus does not have experience in this market.
- The attractive profit commission means that NewSure is not simply giving away all of its potentially profitable business to BigSure. If the ceded business turns out to be profitable, NewSure will share in this.
- The attractive ceding commission will assist NewSure with meeting its initial set-up expenses, new business strain and covering its capital requirements.
- Having BigSure assisting with claims is a big positive as NewSure would likely be very inefficient at this task initially – incurring unnecessary expenses and potentially letting through fraudulent claims.
- Having quota share reinsurance in place can increase the capacity of NewSure to write more business or larger risks without necessarily breaching its risk appetite.

ii. Reputational risk:

- The insurer will be represented by dealers and agents on the sales side and by BigSure for customer queries and claims. It thus has less control over how the customers are treated than if it managed these tasks itself.
- By making use of agents and dealers for distribution, there will be a wide range of people selling the insurance. It will be difficult to keep everyone up to speed on product features, so there is the risk that the insurance is mis-sold or agents treat policyholders in a poor manner, damaging NewSure's brand.

Operational risk:

- The more decentralised the operations of the business, the more likely it is for errors to creep in.
- Given that there will be many brokers and agents, there is a greater chance of errors when selling. For example, entering information incorrectly, selecting incorrect options, etc.
- Given that BigSure will handle all customer queries and claims, the likelihood of operational errors on that front is not much greater than for a normal insurer. However, it may be slightly higher because the staff of BigSure may not fully appreciate the workings of the product and the culture of NewSure.

iii. Key risks for BigSure:

- BigSure will primarily be concerned about things that may result in higher claims than expected, particularly higher than the premium received, resulting in capital being required to pay claims.
  - ➢ This could be for any number of reasons depending on the product, e.g. hail storm damaging many cars.
- The ceding commission paid will depend on BigSure's expectations of the profitability of the business to be ceded. If profits are not as expected it will have paid excessive ceding commission.
- BigSure will be concerned about business volumes being poorer than expected as this may reduce the efficiency of the reinsurance arrangement.
- Certain product features may open BigSure up to anti-selection. Given that dealers will likely have experience and will probably not be tied agents, they may help their customers exploit poor product design from NewSure.

- BigSure may be concerned that something that NewSure (or its dealer and agent representatives) do may tarnish its own reputation, thus reducing its own sales and profit.
- The current administration systems of BigSure may not be fully equipped to deal with the new business of NewSure as the data may be incompatible with the current systems which may lead to increased development costs.

iv. Key parameters:

- Claims frequency: BigSure will likely have a lot of personal lines business, so this experience will be a starting point in setting assumptions. Allowance will be needed for any unique product aspects or target market differences.
- Claims severity: Similar to claims frequency, adjusting BigSure's own experience.
- Expenses: In-house expenses are likely to be quite low. Claims and service expenses will be according to some agreement e.g. a percentage of premium or a percentage of claim cost. Sales expenses are likely to be a form of commission for agents/brokers expressed as a percentage of premium.
- Business volumes: As NewSure is a new insurer this may be quite unpredictable, so will need to be modelled with a fairly spread statistical distribution to incorporate the uncertainty.
- Correlations: Between NewSure's classes, but also with BigSure's business as this will affect its overall capital requirement and diversification benefit. As it is likely to have written these classes of business itself, the correlations will likely be present in its existing model. It can perhaps allow for an added diversification benefit due to a different target market.

Part (i) was generally well-answered. However many candidates did not appreciate that NewSure is a new insurer and therefore a Quota Share reinsurance contract would most likely not result in a decreased solvency capital requirement as the minimum capital requirements are likely to be triggered until NewSure reaches sufficient scale.

In part (ii) the reputational risk part of the question was well answered by most candidates, however, many candidates scored poorly in identifying the operational risks.

Many candidates did not read part (iii) properly, and outlined the key risks that NewSure was exposed to as opposed to those that BigSure was exposed to.

For part (iv) many candidates either did not attempt the question or showed poor exam technique by listing key risks instead of outlining how each of the key parameters within the capital model would be set as instructed.

QUESTION 7

i. Accounting concepts (any three from):

- Going concern:
  - ➢ The enterprise will continue in operational existence for the foreseeable future.
- Accruals basis:
  - ➢ Revenue and costs are recognised as they are earned or incurred, not as money is received or paid.
- Consistency:
  - ➢ There is consistency of accounting treatment of like items within each accounting period and from one period to the next.
- Prudence and realisation:
  - ➢ Revenue and profits are not anticipated (that is, must be realised), and provision is made for all known liabilities, whether the amount of these is known with certainty or is a best estimate in the light of the information available.
- Separate valuation of assets and liabilities:
  - ➢ When determining the aggregate amount of any item the enterprise must determine separately the amount of each individual asset or liability that makes up that item.

ii. Outstanding claims reserves compliance with accounting concepts:

- The change to discounting is inconsistent with prior years leading to a one-off reduction in reserves; in order to assist users of financial statements to appreciate the impact of this change, the insurer should also show financial results for 2018 using undiscounted reserves (or alternatively recalculate 2017 on a discounted basis) so that results for 2018 can be compared to those of 2017 on a consistent basis.
- While the increase in reserves relating to the storm in January 2019 is compliant with the prudence concept, it is not compliant with the accruals basis – the event occurred in 2019 and therefore should not impact 2018 financial results. However the insurer could allow for higher than expected future losses in the AURR (provided there is sufficient information to do so) and should include a note in its financial statements of all significant events (including the storm) occurring post reporting date, disclosing estimates including uncertainties about potential future financial impacts.

iii. Restated Outstanding claims reserves = (R56.87m / 0.94) / 1.1 = R55m
Therefore restated Change in o/s claims = R55m – R53.5m = R1.5m
Thus restated profit before tax = R(18 – 12 – 1.5 – 4 + 0.625 + 8)m = R9.125m
Restated tax = 20% × R9.125m = R1.825m
Restated post tax profit = R9.125m – R1.825m = R7.3m
Restated retained profits = R9.125m – R1.825m – R5m = R2.3m
Restated shareholder funds at 31/12/2018 = 413.18m + R2.3m = R15.48m

Profit & Loss (P&L) Account	2017	2018
	R millions	R millions
Written premium	17	19
Earned premium	16.5	18
Claims paid	8.5	12
Change in outstanding claims reserves	3.5	1.5
Expense paid	3	4
Change in deferred acquisition costs	0.475	0.625
Investment income	7	8
Tax	1.795	1.825
Dividends	4	5
Retained profit	3.18	2.3

Balance Sheet	31/12/2016	31/12/2017	31/12/2018
	R millions	R millions	R millions
Outstanding claims reserves	50	53.5	55
Unearned premium reserve	8	8.5	9.5
Deferred acquisition costs	- 0.8	- 1.275	- 1.9
Shareholder funds	10	13.18	15.48
Total assets	67.2	73.905	78.08

iv. Ratios:

- Claims ratio = claims incurred / premiums earned:
  - ➢ Claims ratio (2017) = (8.5 + 3.5) / 16.5 = 72.7%
  - ➢ Claims ratio (2018) = (12 + 1.5) / 18 = 75%
- Expense ratio = expenses paid / premiums written:
  - ➢ Expense ratio (2017) = 3 / 17 = 17.6%
  - ➢ Expense ratio (2018) = 4 / 19 = 21.1%
- Return on capital employed = post-tax profit / shareholder funds at the start:
  - ➢ ROCE (2017) = 7.18 / 10 = 72%
  - ➢ ROCE (2018) = 7.3 / 13.18 = 55%
- Solvency ratio = shareholder funds at end of the year / premiums written:
  - ➢ SR (2017) = 13.18 / 17 = 77.5%
  - ➢ SR (2018) = 15.48 / 19 = 81.5%

v. Assuming premiums are received half-way through the year, earned premiums for 2017 suggest that premiums written in 2016 were R16m. Hence growth in premium income = 17/16 = 6.3% (2017) and 19/17=11.8% (2018). This acceleration in growth may have been due to either more competitive pricing (as suggested by the increasing claims ratio) or by increased commissions or marketing (as suggested by increasing expense ratio).

While claims and expense ratios increased, ROCE still appears to be quite high, and this business may attract more competition (unless the last two years were anomalous in low claims experience – a longer term trend is required to give better insights).

Overall performance on this question was reasonable, with a very wide margin between the best and weakest candidates.

Part (i) was bookwork, and while most candidates scored well there were many that did not know their bookwork well enough and provided vague and inaccurate descriptions. The instruction to outline three accounting concepts meant that only the first three were marked if candidates chose to ignore this instruction and provided more than three.

Part (ii) was done well by most candidates. Most recognised that the post-accounting period storm should not be ignored, but many thought it was acceptable to include this in Outstanding Claims at 31.12.2018 (even though the event had not occurred by then). Only a few candidates thought of adjusting the AURR instead.

Part (iii) was generally not well-answered. Many candidates did not provide a Balance Sheet as asked. Most candidates applied the adjustments incorrectly and made other errors.

Part (iv) was marked assuming the candidates' calculations in (iii) were correct. Candidates did well in this part provided that they calculated the ratios using the correct components.

Part (iv) was generally not answered well, with many candidates appearing to run out of time.

END OF EXAMINERS' REPORT