Subject SA3 — General Insurance Specialist Applications

EXAMINERS' REPORT

September 2008

Introduction

The attached subject report has been written by the Principal Examiner with the aim of helping candidates. The questions and comments are based around Core Reading as the interpretation of the syllabus to which the examiners are working. They have however given credit for any alternative approach or interpretation which they consider to be reasonable.

R D Muckart
Chairman of the Board of Examiners

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Comments

Individual comments are shown after the solutions to each part question that follow.

1 (i) *Define Product Liability Insurance*
Insurance that indemnifies the insured against legal liability for death or bodily injury to a third party, or for damage to property of a third party, that results from a product fault.

Comments on Q1(i): *This definition question was generally well answered, although a disappointing number of candidates simply regurgitated the question with some form of "This offers cover for liabilities arising from products" without mention of the nature of the liabilities and many did not mention "third party".*

(ii) *Example Loss*
Possible examples include faulty motor components causing a large number of motor accidents, pharmaceutical product liability relating to a widely distributed medicine, or failure of a single very expensive product (such as an industrial turbine). Many other examples are possible, but the example should be extreme enough to potentially produce losses excess of £100 million, and be within the scope of product liability insurance.

Comments on Q1(ii): *The majority of candidates correctly identified that the company in question wrote only at very high attachment points and gave an appropriate example (most frequently a pharmaceutical claim) although some candidates did miss the point of the question giving examples of events that would be unlikely to lead to any claims of a remotely high enough order of magnitude.*

(iii) *Rating Factors*
Nature of product/industry type
Certain products tend to experience a higher frequency and severity of losses, e.g. stationary manufacturers would tend to have a lower loss potential than pharmaceutical companies.

Turnover or payroll
Requires high turnover to pose a realistic risk to the high layer

Geographic location of sales and geographic location of manufacture and related quality control laws
E.g. litigiousness in the US / separate US and non-US turnover figures may be requested

Latent claims / amount of the product already sold and used
Packaging instructions and reason
Subjective factors are also likely to be considered by the underwriter, e.g. his understanding of the insured's risk management systems.

Claims history may be considered
Possibly using a lower claim threshold
However, claims history will frequently be limited, or of little relevance to the current risk environment.
Consider claims history of similar companies

Limit/line/excess
Attachment points impact likelihoods of claims / large claims
Whether cover is on a claims made or losses occurring basis
Whether a sunset clause is included and/or RDI.
Writing business on a claims made basis/with a sunset clause allows the final underwriting result to be determined more quickly
Under occurrence business, new claim notifications may be received many years after the policy has expired.

Whether losses can be aggregated by event
Whether there is an aggregate deductible
Level of aggregation with that risk and the rest of MAD's portfolio
Treatment of legal expenses (excluded, included in addition to limits, included within limits)

Comments on Q1(iii): *Candidates almost invariably identified such key factors as the locations sold and type of industry/products produced, although many went into extensive detail on the industry/product type while missing other key aspects of the risk such as the policy terms or attachment points.*

(iv) *Claim Characteristics*
Liability claims tend to be long-tailed, i.e. claims may take many years to be notified.
The slow notification is likely to be a pertinent feature of MADs experience as products that have continued to be used for a significant time before discovery and notification are more likely to hit the excess point
If MAD writes policies on a claims made basis this will affect the development profile of the risk, depending on the time limits for reporting
Case estimates are often highly uncertain.
Uncertainty in respect of reported losses relates to the existence of liability as well as its quantum
Settlement can be a lengthy process involving legal action, particularly for claims of this magnitude
Claims are heavily affected by legislative changes. There may be issues that lead to claims purely on this basis.
Claims are heavily affected by inflation, including general, wage and court award types, and inflation is heavily geared for MAD as it is an Excess writer
The outcome of the settlement process might be that the insurer is not liable for the claim, e.g. because it is not covered by the policy, or because the final claim is below the excess point of the layer.
However, the insurer would likely incur legal and other costs in handling some of the claims received, even if no indemnity is ultimately payable.
The majority of claims hitting MAD's excess point are likely to be the result of catastrophes and accumulations
Re-opened claims.
Latent claims can be an issue, with claims often not noticed for a while.
Payment characteristics - periodic / lump sum
Litigiousness
MAD's claim frequency is likely to be low because few claims would be expected to exceed the high excess points at which it writes.

MAD's claim severity is likely to be high as if a claim reaches the high layers insured it is likely to be very large.
The data given for MAD appears to be consistent with low frequency, high severity claim experience, and losses taking several years to settle.

Comments on Q1(iv): *Candidates generally scored well on this question, although the number of potential points available was well in excess of the maximum mark leaving a high score comparatively easy to obtain.*

(v) *How to produce a best estimate of unpaid claims*
Review of Outstanding Claims
The £30 million outstanding claim requires separate analysis.
Investigations could include discussion of the claim with claim staff, discussion with other experts such as underwriters, and review of legal or other expert opinions that have been obtained by the company.
Consideration may be given to the overall market loss with MAD's exposure then worked out as a proportion depending on the line size and attachment. points.
The loss is unlikely to settle for the current case reserve and may settle higher or lower.

General Analysis
The actuary should meet with underwriters and claim staff to understand the business written in more detail.
Review previous reserving methods and assumptions.

Data splitting / portfolio segmentation
Split of Exposure by country/region/currency
Split of Exposure by industry/product type
Split of Exposure by size of insured
Split of Exposure by limit/excess
The characteristics of the portfolio may have changed over time (e.g. change in mix of business), and such features should be understood.

Premium changes and reasons
It is necessary to understand how the underwriters price the business.
The premium written has varied from year to year. It would be useful to understand the reasons for this.
How much of the change is due to increases in the size of the portfolio.
How much is due to a change in mix of business.
How much of the change is due to the insurance cycle.

Additional data, particularly lower layer information
The underwriters or claims staff may be aware of potential claims which are not included in the outstanding claims data.
E.g. they may have been notified by the broker of losses on lower layers written by other insurers, which are considered to have the potential to deteriorate to higher layers written by MAD.
Techniques such as extreme value theory could be used to estimate extreme values from a limited data set.

This could be used in conjunction with a stochastic method to estimate the potential excess losses based on the lower layer experience.
Loss curves used in underwriter rating guides could also be used to adapt low layer experience to an estimate of MAD's exposure
Specific IBNR estimates can be produced in respect of such losses.
There may be awareness of industry/product types that require separate analysis, because there is considered to be a particular risk of claims.
Policy wording (e.g. sunset clause) may mean that no further claims are possible on some of the older underwriting years.
For such years, reserves would only be required for reported claims, and the required reserve may be nil.

Projection methods
Limited claims data means it is not possible to apply standard projection techniques such as chain-ladder to the account.
It would be useful to apply a number of different methods to estimate unpaid claims.

Techniques based on initial expected loss ratios could be used, e.g. the Bornhuetter-Ferguson method.
Loss ratios used would need to reflect the insurance cycle.

Frequency-severity modelling
A frequency-severity model (or average cost per claim model) could be constructed.
Although even at the lower layers claims data are unlikely to be sufficient to accurately parameterise this.

Exposure based methods
An exposure based method based on the underwriter's rating model could also be used.
This would involve rating each risk individually against a rating model assumed to produce a particular loss ratio and aggregating the data to portfolio level.
The capital model may also provide some estimates of claims levels.
E.g. the models may contain information on pricing and loss assumptions.

External data sources and benchmarking
- relevant internal data from other areas of the business
- cedant/policyholder data
- industry data/benchmarks
- data from regulatory returns
- reinsurers' data: must specify that it is parent group's reinsurance as MAD doesn't purchase
- expert judgement
- engage external expertise (e.g. consultants)
- rate change indices

External benchmarks might not be representative of this portfolio, and so require adjustment before they can be used.

It may not be possible to objectively adjust the data so some subjective assumptions will be required..

Discounting
Benchmark payment patterns could be used to discount claims.
Various legislation will affect this depending on the purpose
Discounting rate should be set with reference to the investment returns achieved

Comments on Q1(v): *This question appeared to trouble many candidates who clearly felt uncertain how to proceed when standard statistical methods were not practical due to a lack of claims experience, although the majority of candidates at least correctly identified that statistical methods were not practical and many were able to suggest sources of information that could help the actuary to produce an estimate, for example, benchmarks or expert advice. Better candidates considered methods such as review of lower layers' experience or stochastic modelling. A surprising number of candidates however failed to make any comment about what the actuary might do with the data already available to produce an estimate, in particular review of the single existing claim which would be a natural first step in any such claims review.*

(vi) (a) *GN12 Uncertainty Requirements*
The report should normally indicate the nature, degree and sources of uncertainty surrounding the results and sensitivities to key assumptions.
Uncertainty should normally be quantified where practicable, but otherwise should be reported using an appropriate descriptive summary.

If there are specific features of the business that present potential concerns or significantly increase the uncertainty of the results, beyond that which an informed reader of the report would reasonably expect, then this fact must be clearly highlighted in the corresponding reservations or limitations of scope, included in the report.

If there is a substantial probability of material adverse deviation from modelled results, attention should normally be drawn to this in the report.

(b) *Uncertainty in this portfolio*
The claim characteristics of the business written are such that the difference between the actual unpaid claims and the best estimate unpaid claims may be large.
It would be impossible to hold large enough reserves to guarantee no adverse deviation as claims can effectively be unlimited.
In any case, accounting regulations may prevent such a reserving policy.

The expected claim frequency for high-layer product liability business is low, which makes the overall claim numbers significantly more volatile than more attritional business..

If the portfolio written is concentrated in certain areas the uncertainty in the reserves is increased.
E.g. concentration risk may occur if a large number of assureds make similar products, or very large limits are written for some assureds. (Or other relevant example.)

Any deterministic reserve estimate only gives limited information for an account of this type and a stochastic approach would give a better indication of the scope of the volatility.
Individual claim sizes are uncertain, and can be very large. This means that a single claim could have a very large effect on the liabilities of MAD.
The high attachment point means that a small variation in the ground up claim amount will have a disproportionate effect on MAD's liability.

It may be possible that no payments are ultimately required on the outstanding claim. This could mean that the estimated unpaid claims are overstated.

Because MAD does not purchase reinsurance any improvement or deterioration in the claims will be entirely for the account of MAD, rather than possibly being shared with reinsurers.

Comments on Q1(vi): *In spite of GN12 featuring regularly in SA3 exams and knowledge of professional guidance being a critical requirement for qualification as an actuary, many candidates displayed only the most basic grasp of the requirements set out for commenting on uncertainty. The most common error was to go into extensive detail about tailoring communication to the audience involved. Many candidates also missed the point of the second section, commenting in great detail about aspects of general product liability while failing to comment at all on the uncertainty and volatility caused by such high attachment points.*

(vii) *General comments*
It should be noted that premium rating on this account is necessarily subjective.
As a result of this subjectivity, any method of premium rating will be approximate.

Year to year premium comparisons
For stable portfolios, the overall premium can be compared from one year to the next
Alternatively, for risks written in both 2007 and 2008, compare the premium charged in each year to get a risk level movement and aggregate it to portfolio level.
These approaches are simple and practical but require reasonable levels of stability in the portfolio.
The methods will not pick up the effects of new and lost business.

If a material proportion of the portfolio is stable one can use movements on the renewing element of the business as a basis for estimates of movements on new and lost business.
These methods become more useful the more stable the business is.

Adjustments for exposure changes for year to year comparisons
When looking at movements on individual risks, policy conditions such as limits and deductibles will almost certainly change from year to year, and the effect of such changes on rate adequacy will need to be considered.
A table of increased limit factors could allow the effect of such changes to be quantified.
Such tables could be applied simply, but may not be accurate.
The nature of the risk insured will change from year to year.
E.g. the insured's turnover may increase, or it may start manufacturing new products (*or other example*).
Allowances for the effect of such changes on rate adequacy may rely heavily on judgement.

Rate-on-line comparisons
An index could be produced showing rate-on-line or some equivalent measure charged in 2007 and 2008.
There may be issues in producing this measure where liability is unlimited; and for business at these attachment points such a measure is often of limited value
This index could consider both new business and renewals.
Separate indices would need to be produced for different rating cells, since a different rate-on- line would be charged for different types of assured, so a change in mix of business could distort the calculation.
Such indices could be produced relatively easily from a detailed policy database.
It may not be possible to fully remove heterogeneity from the data without reducing the credibility in each sample.

Pricing tool / individual risk pricing
Underwriters may use a pricing tool to assist them in pricing risks.
A pricing tool/software could be produced to give an indication of the technical price for each risk.
An estimate of the technical rate might be produced by a pricing actuary for each risk.
To monitor rate adequacy, the actuary could compare the rates actually charged to an indicated technical rate for both 2007 and 2008 underwriting.
It may only be practical to apply this to a sample of policies.
This method could consider both new business and renewals.
The indicated technical rate should allow for rating factors such as excess, limit, industry type and size of insured, so the rate change produced should be sensitive to changes in the mix of business in the portfolio.
However, the indications of technical price may not be accurate.
This process may also be expensive.

Subjective underwriter comments
The underwriter could be asked to comment on the change in rate adequacy in the portfolio.
This approach makes use of the underwriter's expertise.
The rate change indication is quick and easy to obtain.
The underwriter may be able to quantify the effect of variables that are difficult to capture in a model, such as changes in the overall risk environment:
e.g. changes in propensity to claim
Legislative changes
Changes in coverage e.g. costs in addition
Or movements in the insurance cycle / changing levels of competition etc.
It is difficult to judgementally allow for all the factors that could have an effect on rate adequacy.

The results of this approach may be difficult to verify for auditors, reinsurers, management and others who are interested in rate adequacy.
This could, however, be a useful check on the results of other methods.
The underwriter's assessment may potentially be subject to bias (which could be introduced intentionally or unintentionally).

Other miscellaneous factors
Underwriting file review/ peer review.
Portfolio movement analysis may highlight areas where rates are out of line with the market, and identify specific areas to focus on
Claims inflation will affect rate adequacy.
Because of the high attachment point the effects of claim inflation will be highly geared
Appropriate indices of prices should be monitored to allow an adjustment to be made.

Examples of other factors that could affect rate adequacy include:
Changes in tax rates
Changes in expenses
Changes in commissions

Compared to the adequacy of technical rates, the allowance for such factors will typically be relatively straightforward.

Comments on Q1(vii): *This question was extremely poorly answered by the majority of candidates. Most candidates amazingly made no reference whatsoever to such absolute basics of rate monitoring such as looking at changes in premium or exposure from one year to the next. A number of candidates made very confused comments about "monitoring the insurance cycle" to find out what was happening with rates rather than considering how they would review their own company's data to find out the changes within their own portfolio.*

(viii) *Insurance-Linked Securities (ILS)*
A more usual type of ILS is a catastrophe bond, which the market is likely to have more appetite for
Under these, if a defined index is triggered, the bondholders typically forfeit the interest and principal on the bond to the insurer.
Unlike catastrophe bonds, the trigger for the ILS in this case is unclear.
It would be difficult to construct an objective method of establishing the required change in reserves for this account.
Capital market investors may therefore be reluctant to buy the securities because of the moral hazard.
Also, because this is an unusual type of bond, the expense of structuring and marketing the security may be especially high.
May be difficult to persuade capital markets to invest in risks where standard quantification tools have not been developed.
Capital markets may also demand a higher return because this is an unusual type of risk with which they are unfamiliar.
However, this risk may provide diversification from other assets in investors' portfolios.
The portfolio written is fairly small, so the costs of an ILS may be prohibitive.
.Investors would probably want MAD to maintain an interest in the reserves, so that claims are managed properly.
There may be alternatives that better meet MAD's need, e.g. an internal reinsurance within the group, or conventional external reinsurance.
Use of SPV would mitigate counterparty risk.
Another alternative could be to purchase adverse development covers.
Adverse development covers written in the market typically protect against losses above a specified percentile.
Although issue of an ILS for MAD would be possible in theory, it is unlikely to be viable in practice.
The director should be advised against proceeding with a capital markets solution at this time.

Comments on Q1(viii): *This question was generally reasonably well answered. Many candidates correctly identified the key issue of the trigger for the ILS not being a clearly defined and objective index and were able to provide an appropriate recommendation to the director and the reasons for their advice.*

2 (i) *General comments on internal & external data*
No historical claims experience on which to base premium rates.
Where benchmark data have been used there will be uncertainty as to the quality of the adjustments made to them.
Has it managed to recruit good quality underwriters
and are they basing premium rates solely on those of its competitors?

Internet/distribution method factors
The level of moral hazard associated with Personal Lines business may introduce a level of uncertainty to the premium rating.
Moral hazard risk is increased for an internet channel as it is easy to just adjust quote inputs to get different quotes out e.g. what if I said the car was in a garage overnight?

Marketing/brand risk from site crashing or if it takes too long to get a quote.
Risk of expenses being greater than expected due to handling lots of telephone calls from internet referrals.
Potential impact on fraudulent claims from economic downturn.
Risk of antiselection if entering the market with less sophisticated rating structure than competitors.
This is a potentially serious issue due to the level of referrals from aggregator sites which naturally highlight underpriced areas of the rating structure.

Motor
Volume is a key factor. If the company writes too little business, the fixed expenses allowed for in the premium rates may not be recouped.
Persistency is also critical in the longer term as renewal expenses will be smaller compared to initial expenses as well as broker market costs built into their premium rates.
Claims experience is usually not very volatile with the exception of very large individual losses.
Antiselection because of the poor rating structure is a more critical issue for motor business than for others
The impact of investment returns is not a critical issue as motor mainly consists of short tail damage claims with usually a smaller amount of longer-tailed liability claims.
Claims inflation is a material issue for the bodily injury claims.

Household
As with motor, volume is a key factor.
Household business tends to have better persistency than motor so may have more difficulty breaking into this market with established players and a sizeable market attached to the building society/mortgage channel.
Customers who regularly shop around direct through aggregator channels may result in a lower persistency level once business is gained.

There is greater uncertainty from year to year on claim amounts than motor due to more of the claims being linked to uncertain weather conditions such as:

- freeze leading to burst pipes
- storm damage to properties
- flood damage to properties
- long, dry summer leading to subsidence

There are fewer critical rating factors compared to motor (location and sum insured being the most important) and therefore less uncertainty from the rating structure.
As this is generally a short tail class, investments are not a major issue.
Rebuild costs may be linked to inflation, so can be a significant risk
For both classes, the use of excess of loss and catastrophe reinsurance will help limit some of the uncertainty in the claims experience. However this will be at a cost.

Risk that notional sum insured used in rating engine for household quotes is incorrect

Other classes
Other main personal lines classes of business that the company may be writing include:

- Travel
- Pets
- Creditor
- Personal Accident
- Warranty

The premium rating structures of these products are usually less sophisticated with all insurers using broadly the same rating factors.
Claims are for relatively small amounts and are usually very short tailed.
Medical inflation (for Travel) and vets fees inflation (for Pets) are potential areas of uncertainty as recent trends have shown an increase in these.

Expenses
Amount of expenditure on acquisition can be controlled by the company.
However volumes of business emerging from the advertising are highly uncertain. So expenses per policy are often very difficult to predict.
The total level of expenses may differ from the amount assumed in the business plan.
For example, the cost of hiring staff or obtaining premises may exceed expectations (or other example).
The insurer may not be able to raise premiums to cover expense inflation due to competition in the market.

Assessing the level of uncertainty with respect to volumes of business
Need to consider trends in methods of buying and selling insurance.
The stage in the insurance cycle will affect the volumes of business that these particular rates will generate.
Current and likely future trends between the high street broker market, telesales brokers and internet operations need to be forecast.
Assess the current number of internet based operations and their financial position if known.
Likely future number and size of internet based insurers.
The history of existing internet based insurers (how quickly they gained critical mass, how many have failed)

Impact of premium rates on volumes
Conversion rate is critical to volumes achieved.
Conversion rate will be highly price sensitive due to method of sale.
This will depend on the extent and speed with which the company revises its premium rates in response to experience.
E.g. a company may find it can reduce its rates in a certain rating cell to increase conversion rate without impacting significantly on profit.

Other more generic Risk factors

- Reinsurance cost
- Mix of business sold, if profit not uniform between rating classes and products
- Changes in legislation
- Levels of crime
- 3rd party bad debt rates
- Propensity to claim
- Level of contingency margin appropriate for the company's attitude to risk

Comments on Q2(i): *Answers to this question were frequently disappointing with many candidates giving very generic answers more appropriate to an ST3 exam while completely failing to exercise any higher order skills. The first paragraph of the question set out a number of features of the company and their method of sale that were intended to steer candidates into giving consideration to particular uncertainties and issues that might arise from internet operations, although most candidates made little or no mention of internet issues in their answers. Candidates failed to give due consideration to the specific phrasing of the question which asked for the uncertainties within premium rates, commenting on such components of office premiums as taxes and MIB contributions which are readily available information that no credible insurer would be uncertain of. Also, relatively few candidates identified which were the key areas of uncertainty, and how the key areas of uncertainty varied between products.*

(ii) The report must indicate the sources of the data used
… and the extent to which the user of the data takes responsibility for data accuracy or completeness.
The analyst may need to rely on or use the work of other people.
If there is a risk of confusion as to the division of responsibilities between themselves and other persons or organisations, the respective responsibilities must be made clear in the report.
The analyst must draw attention to any material limitations in the available data.
In particular the company's case estimators.
Including the effect on the appropriateness of the data of changes in the way the business analysed has been conducted.
The analyst must make reference to limitations in the data that have materially added to the uncertainty surrounding the results of the work carried out.
The report must describe the criteria used for subdividing data into groups
Where the member makes adjustments to the data the nature, amount and rationale for the adjustments must be clearly stated.
The concerns about the accuracy of the company's case estimators have materially added to the uncertainty

Comments on Q2(ii): *This question was generally well answered, although a number of candidates were only vaguely aware of some of the detail of GN12, which should be an essential part of any candidate's preparation for SA3.*

(iii) The main emphasis at this stage will be on how well the company has achieved its planned loss ratio, i.e. estimated ultimate claims against earned premium.

Other main factors
Expenses
Expenses incurred to date are likely to be very high due to development and initial running costs of the new company and this should be adjusted for to arrive at a long term assessment of profitability.
Example of expense breakdown (loss adjustment, fixed, variable etc)
Investment income
Reinsurance cost
Capital costs / profit margin / requirement etc

Data issues
The absence of good quality case estimates is an issue, primarily due to the difficulty in assessing the tail development of longer tail claims such as third party bodily injury.
We only have 24 months of development experience and earned exposure in the initial 6 months will be very low, meaning the credibility of the paid development at the tail will also be questionable.
The claims handling procedures would also likely take some time to stabilise.
Earning patterns and run-off for the first few months would be unstable and this should be borne in mind in any analysis (*any relevant attempt to correct for this*)

As the company has been successful, there may be more reasonable patterns of development from later months. It may be possible to use these to fix the run off pattern for the first accident year.
If PD and BI are considered together then the resulting paid claims development will include virtually no third party bodily injury claims.
Third party property damage claims may also be under-represented unless it adequately allowed for with a tail factor
If they are considered separately then there will be little to no data at all for the bodily injury.
Therefore the use of paid triangulations with chain ladder techniques alone may well under-project by significant amounts.

Other methods will need to be used to determine appropriate levels for IBNR and IBNER on longer tailed claims.

General data splitting
Estimated ultimate claims will need to be calculated by subdividing the claims into homogeneous groupings of similar development profile.
Splits are likely to be (in ascending order of tail) own damage, third party damage and third party bodily injury.
If the data allow, it may be possible to separately analyse gross payments and recoveries received from third parties.
Further sub-analysis may be taken between comprehensive and non-comprehensive business.

Accident month data should be viewed to determine if there are any trends emerging from the data.

PD / BI data splitting
One could develop own damage and third party damage separately, using any additional company or industry-wide data available to derive a suitable IBNR/IBNER.

For bodily injury, an addition to the above could be applied by either:
- projecting bodily injury claim numbers to ultimate and then applying a market average cost of bodily injury claims
- recruiting or requesting a claims assessor to concentrate on coming up with a sensible estimate for each of these claims (as there may only be a few hundred)

For the latter, it will be particularly useful in identifying particularly large potential outstanding liability claims as this could have a significant impact on profitability.

Benchmarking
Compare the loss ratio against other insurers in the market.
Ensure that loss ratios are defined in a consistent manner e.g. treatment of claims handling
Assess long term profitability by assuming similar loss ratios in the long term along with expected long term expense ratios, e.g. by considering the expense ratios of other insurers who are long established in the internet market, together with investment rates achievable.
One possibility is to make use of market data to select a suitable tail factor. E.g. FSA Returns for a similar company or a similar set of companies may allow development factors of paid to ultimate to be derived.

Miscellaneous key factors
The mix of business (comp versus non-comp)
A review of key exposures in the account may highlight areas of weakness / concern.
The potentially different terms and conditions between insurers.
Any changes to the rates and structure since the company started writing.
Mix by source:
- the different claims handling procedures
- the actual mix of claims

Exposure-based / BF type methods.
An exposure-based approach could be used.
This could involve taking projections from more developed accident months divided by associated earned exposure and applying this "risk premium" to more recent, less developed accident months.
Bornhuetter-Ferguson methods could be used on the claims splits by taking initial assumptions about the loss ratios split between own damage, third party damage and bodily injury and split between comp and non-comp business

from the underwriters with credibility factors derived from a combination of internal development factors and external market or industry wide data.

Case estimates
It may be possible to look at a sample of case estimates to try to understand better what the problems may be with them following the CEO's comment. This may enable the case estimates to be adjusted to derive more reliable incurred claims figures.

General comments
In practice, a combination of methods is likely to be used to determine the expected profitability of the company.
Other stakeholders e.g. underwriter, internal actuaries etc may have relevant information about the account.

Making the company aware of the additional uncertainty in the results as a result of poor quality estimate capture could enforce better estimation in future.

Comments on Q2(iii): *As with question 1(v), candidates clearly struggled with a situation where standard statistical projection techniques were not ideal. As standard statistical techniques can easily be replicated with software packages, perhaps the most critical area of the actuarial skill set is the capacity to identify weakness in statistical methods and to exercise judgement in working around such difficulties, and this skill appears to be lacking in the majority of the candidates. Answers that simply listed a standard step by step account of a statistical projection method were common for this question, with few candidates giving due consideration to specific features of the question such as the fact that the company is growing (distorting the development pattern) or to methods by which they could compensate for the poor case estimates. It is not enough to just say use benchmarks/consultants or that someone else must know the answer.*

END OF EXAMINERS' REPORT