Actuarial Society of South Africa

EXAMINATION

1 NOVEMBER 2011

Subject F203 — General Insurance Specialist Applications

EXAMINERS' REPORT

Question 1

Examiners comments:
Overall this question was poorly answered, except for the initial bookwork question. Candidates generally failed to address the specific information contained with the question appropriately within the answers they provided for both part ii and part iii of the question.

In question iii there was an error in the opening UPR reserve in the total column of the table provided. Few candidates picked this up. Marks were awarded where this was correctly addressed. Candidates who didn't spot this were not penalised. Overall the impact on this on the final outcome of results was immaterial.

i.

- Valid and admissible assets greater than sum of liabilities
- Plus the greater of 15% of net written premiums for last 12 months (immediately preceding or from previous financial year) and R5m
- Need to submit audited STAR returns by 4 months after year end
- Quarterly returns within a month of quarter end
- Copy of audited accounts 6 months after year end

ii.

FINANCIAL INFO

- In both years, the total equity is just over 25% of NWP. In year 1, the required equity is R5m contingency plus 10% of NWP for solvency = R8100. In year 1 the company doesn't meet statutory solvency requirement.
- The motor commission is higher than statutory maximum of 12.5% in year 1.
- IBNR reserving in yr 2 is less than the statutory requirement of 7% of net written premiums over the last 12 months. This is not necessarily a problem as they can apply for dispensation, but I would want to look at the methodology they used to determine this reserve before accepting it. An actuary's report would be required.
- The motor UPR is a higher % of GWP than the property. The motor UPR should be much lower as it will comprise mainly monthly paid policies.

- Is the reinsurance appropriate? In year one is a 25% QS sufficient given the capital being just sufficient and given that it is a new company? In year 2, given the premium growth is the reinsurance programme still adequate?
- Would expect more xl reinsurance due to this being a start up and both lines being prone to natural catastrophes.
- Motor loss ratio in first year is not reasonable at 33% - this places doubt on the quality of information and hence the suitability of the planning.

- RI commission percentage is lower in the second year, but experience didn't deteriorate – this isn't standard market practice and would be highly unlikely, so have they made a mistake?

The submission is not appropriate as

- regulatory solvency is marginal and in fact not covered in the first year of operation, i.e. the company isn't solvent
- regulatory requirements are not being adhered to (commission & IBNR)
- there is concern about the accuracy of the figures provided (UPR/LR%/RI)
- there is concern about the company's ability to understand/manage risk, given the relatively low and inappropriate RI.

iii

There is an error in the UPR opening balance for the total book. The opening balance should be R15,150. This results in an UPR movement of -R16,025 and an earned premium of R120,100. The net underwriting result is correct. Students were not penalised for any misinterpretations because of the error.

- Property book is much bigger than expected but with worse loss ratios. Potentially they are undercutting the market to gain market share, but not collecting adequate premium.
- This will increase capital requirements, as it seems to be a riskier portfolio of business than originally anticipated.

Mitigate by

- Applying better underwriting criteria, properly
- Ensuring appropriate pricing
- Targeting the right population / risk profile – i.e. appropriate marketing
- Motor book is much smaller than expected, also with worse loss ratios.
- This will increase capital as the diversification benefit is not achieved and
- The smaller motor book will experience more volatility, increasing capital requirements

Mitigate by

- Appropriate marketing initiatives, target and focus
- Appropriate pricings structure, including commissions

- UPR for property & motor is much lower (relative to GWP) than planned. Are they still focusing on the intended market? Could be focussed on shorter term business that may move around a lot more and also have worse results. Could be inappropriate marketing or misaligned premium rates.

- Could increase capital if premium rates are misaligned

- Could decrease capital if monthly business proves to have better, more stable experience.
- Mitigate increase by focussing on the right market

- They have reduced the amount of RI spend for property. They may think that they have reached critical mass and can absorb large individual and accumulation losses adequately.
- The RI commission also appears to have reduced, although this could be because the premium now includes a non-proportional treaty which doesn't attract commission. Is the commission reduction due to poor experience?

- Also, they may have needed to change reinsurers and they may now have more unapproved reinsurers or reinsurers with lower credit ratings than initially expected.

- Overall one would expect the change in RI to increase the capital requirement, as there is less reinsurance purchase although potentially offset by less credit risk to reinsurers

Mitigate
- Construct a proper capital model and model the impact of reinsurance, effectively determining an optimal reinsurance strategy
- Implement the strategy ensuring that the appropriate RI is purchased with the suitably strong/solvent reinsurers

- There is RI on the motor book , which will reduce the capital requirement – transfer of risk to reinsurer.
- Not taking the motor exposure for net reduces the diversification benefit and hence could increase the capital, but probably not at the current business volumes.

Question 2

Examiners comments:
Overall this question was reasonably well answered. Candidates generally were able to generate sufficient breadth and depth of points for all three parts of this question.

(i)

Volumes & Premium
- Risk that new feature does not increase volumes as expected – not meet strategic aims
- Resulting lower additional premium income
- Current & additional expenses incurred not spread over the volumes expect, reduce profitability per policy
- Not achieve pooling of TPL risk hoped, volatile underwriting experience

- Limited volumes & premium may not pay for IT & system cost incurred to cope with product features

Lapses
- Risk of losing existing policyholders
  - Current product very basic – likely to have attracted policyholders looking for simplicity. Product enhancements might not appeal to existing book.
  - Current product likely to be aimed at affordability – extra benefit = more expensive
- Benefit limit may not be adequate to attract the new business as hoped
- Different policyholder type attracted with new benefit may have higher lapse rates.
- Higher lapse rates decrease expected lifetime profitability
- Resulting cost of churn & retention efforts

Expenses
- Product design & market research expenses
- Cost on developing/updating distribution channel(s) & staff (e.g. call centre)
- Systems & IT updating costs
- Develop new documentation & re-issue existing policy documents
- If underwriting process is changed to cope with TPL, may mean higher acquisition expenses
- May significantly complicate claims handling process and lead to higher claims handling expenses
- Costs of acquiring/employing expert TPL underwriters
- Costs of acquiring/employing expert TPL claims assessors

Reputational risk
- Explaining/Educating policyholders about the new benefit
- Standard feature => compulsory. Policyholders may prefer choice
- Benefit only includes 3rd party property damage/loss – not bodily injury. May not appeal to the market, who might not want to rely on the RAF for this cover.
- Policy explicitly only pays where our policyholder is at fault. Not always possible to determine party at fault – complicates policy operation unless properly allowed for
- Rejecting invalid claims/litigious aspect of TPL may lead to negative publicity

Regulation & compliance
- Regulatory reporting may require provisions of info separately for Liability aspect
- Could increase cost of compliance (though many companies simply lump everything together)
- Ensuring that reserving, capital etc. remain in line with regulatory requirements
- Ensure distribution & product disclosures not breach regulations
- Ensure appropriate accreditation of agents & direct sales force

Data & systems

- Data capturing process for all existing products, if additional details required
- No past data upon which to rely upon to assist in developing the IT system
- Capturing process and checks to ensure useful information
- IT system & software cope with all stages (underwriting, maintenance, claims, termination, renewal, etc)
- System flags and links to pick up anomalies such as links between 2 separate claims (between our policyholders)
- Ability to appropriately monitor exposures and concentration of risks
- Ability to monitor exposures and dynamically react (e.g. rates adjustments)

Marketing & distribution

- Processing & explaining the additional feature might hamper new business sales process
- Competitive forces: compete with intermediary driven insurers who provide same benefit
- Not sold on stand-alone basis – some individuals might want this. Turning away potential new business.
- Product may be better suited to sales via intermediaries – consider broadening distribution channels
- Product features = very simple. Not likely to compete with other products sufficiently to grow market share

Policy design

- Where vehicle value low => cover limit low => not provide adequate protection, as they may still cause significant 3rd party losses
- Current pricing structure probably inadequate, because % of premium same for all policies. Thus low value vehicles (low SI) pay less for TPL cover, but risk likely to be the same.
- Premium not related to risk profile of policyholder, as does not use risk factors
- Using % of existing premium may not be appropriate
    - Current premium may include loadings for expenses, solvency building, reinsurance, commission etc
    - Current premium may include fixed per-policy loading amounts (e.g. R10 per policy admin fee)
    - May be more appropriate to have a nominal amount per policy

Pricing & underwriting

- Risk of incorrect pricing of new risk exposures
- Need to rely on industry/external data or benchmarks which may be irrelevant or inappropriate
- Expertise, time cost required to model cost & determine correct price
- Premium structure incentivises anti-selection, because risky individuals can get TPL cover for cheaper
- Pricing assumptions will have taken into account expected volumes

  - o Change in policy may affect volumes, invalidate existing assumptions bases
  - o Ability to cover overheads impacted
- New policy may attract significantly different policyholder risk profile – current premiums may not be appropriate any more
- If the aim is to attract the low income market (e.g. Mzanzi account holders), certain industry guidelines on the pricing may apply
- Competitive pressure may dictate pricing ranges – these may not be suitable to the profile of this book
- Experience likely to be subject to underwriting cycle impacts – may make pricing more difficult and hard o price "through the cycle"
- Current risk and rating factors may not be sufficient to get good view of book's risk profile & distribution

Claims experience
- Claims frequency may increase
  - o potential benefit of claiming now enhanced
  - o insurers of 3rd parties holding us liable for damage
- May incentivise fraudulent claims (e.g. policyholder may have colluded with 3rd party)
- Claims severity increase
  - o For many claims, now include 3rd party costs
  - o Given likely policyholder profile, 3rd party cost likely to be significant relative to own damage, per claim

Inflation
- Fault-determination approach introduces litigious aspect – possibly see court driven inflation effects
- Probably more at risk from exchange rate effect on claims inflation, as third party vehicles may be very different from those on our books (i.e. may be more overseas models which need parts to be imported at prevailing exchange rates)
- Impacts on pricing & reserving

Reserving
- Even though TPL is not for bodily injury, tails may be longer
- Reserving for IBNR and OCR will need to increase to reflect longer reporting & settlement delays
- Issue: lack of historic data, trends patterns => makes reserving less certain
- Techniques such as Chain Ladder are tricky, as cannot construct triangles without data – may need to use industry patterns
- Use of loss ratios for Bornhuetter –Ferguson and Loss ratio methods may be inappropriate if based on external info/experience
- Need for UPR and URR
  - o Depends on term of policy (e.g. monthly vs annual, term)
  - o May need to consider risk profile, if annual or term cover

- Reserving for expenses complicated by fact that expense experience will be uncertain
- TPL may introduce volatility in experience and more reserving uncertainty. May affect determination of best estimate reserves, and even more so, 75th percentile reserves

Capital
- Claims volatility will impact on capital requirements at extreme percentiles
- Additional cover added requires additional capital to support business
- Cost of capital a potential issue. Will affect the profitability required on the business.
- Premium & rating will need to consider the required return on capital and hence additional loadings needed
- Ability to source additional capital may be a problem
- Very limited, if any diversification benefits from introducing this type of cover

Reinsurance
- Cover structures may no longer be appropriate => also impact on capital requirements
- Additional cover may not be covered under existing treaties
- If facultative cover required, then quality of cover may be different to existing cover
- Cost of obtaining appropriate cover

Investments
- Investment approach may need to be adapted to ensure continued appropriate matching
- Change in investment profile may result in change in capital charges

Marks will be allocated to students who comment on the fact that the original product is not a standard SA market product and appropriately comment on the implications thereof.

(ii)

The RAF
- The RAF is a public fund established by South African legislation and governed by its own Act
- It covers against third party liability claims from motor vehicle accidents
- It covers only bodily injury claims, not property damage
- It also provides for loss of earnings as well as for loss of support following the death of a breadwinner
- Passengers as well as drivers are covered
- The RAF currently operates on a fault based system, which means that paid claims are reduced commensurate with the level of fault or blame for the accident
- The RAF benefits categories are:

  - o General expenses – non-financial loss for “trauma” (this is the single largest category)
  - o Past medical expenses related to the accident
  - o Future medical expenses (“Undertakings”) related to the accident
  - o Loss of income & loss of support
- Contributions/premiums to the fund in the form of a fuel levy

Addition marks to consider:
The question does not state who is paying for the scheme, e.g. as a fuel levy as per RAF or by a levy on insurers or as 100% reinsurance from insurers or other: relevant marks raised by candidates in this regards will be given benefit.

Comments on suggestion
- The comment is not valid as the RAF cover will not replace the proposed cover
- RAF cover is completely different in that the proposed cover applies when policyholder is at fault whereas for RAF the cover is effectively reduced the more the claimant is at fault
- While RAF indemnifies 3rd party claims, it excludes property loss/damage
- The existence of RAF cover might supplement complement the proposed cover to the extent that it provides different cover.

The administration and processing of RAF claims is expensive, slow and inefficient – not likely to be regarded as an attractive alternative.

(iii)

Insurers
- Creates competition for insurers and likely to remove some of their business
- May allow then to reduce current premiums – more competitive & better volumes
- May remove a particularly volatile aspect of underwriting risk – lower relative capital requirements
- Large central fund may require less reinsurance than would be needed by individual insurers – more efficient
- If insurer does administration of fund itself, then this will add costs.

Government

- SA has a very high proportion of uninsured vehicles on the road & Compulsory TPL (CTPL) will aim to address this => social benefits
- Skewed income distribution in SA makes affordability of motor insurance challenging. CTPL insurance aim to make more accessible to low-income segment
- Operational challenges
  - o Premium collection – already high fuel levies for RAF
  - o Premium collection – tax may be viewed negatively, but may achieve desired social/income cross-subsidies

  - o Ensuring compliance & enforcing compliance
- Historically fraud & corruption prevalent in publically run funds
- Expertise, systems, processes required may not be available in public sector
- Will need to be conditional on roadworthiness of vehicle – problem in SA and difficult to enforce

SAIA

- Education, making individuals aware of benefit
- Difficulty in pricing, challenges in sourcing of data
- Getting buy-in from industry
- Assisting with product & policy & benefit design & structuring

The uninsured population

- Offer a meaningful benefit, not currently offered through RAF. Loss/damage of property (e.g. luggage) for passengers of public transport (e.g. taxis)
- Provides access to some form of entry-level insurance protection
- Aimed more at covering lower income segment and addressing affordability issues – not appeal to higher-income segment
- Increases cost of owning a vehicle – not appeal to very low income segment
- Central fund may help to pool risk and hence achieve better premiums.
- Centrally operated fund may offer better expense management through economies of scale-

The insured population

- May potentially help address escalating motor insurance rates
- May still be able to supplement benefit through top-ups of cover through private insurance
- Benefits likely to be quite limited
- The government is usually not efficient and hence cost of benefit may be higher than what is available in the market.

The legal fraternity

- Hold may lucrative opportunities with litigious aspect of TPL insurance
- Prospective business in pursuing 3rd party claims on behalf of individuals & take success fee
- Obligation to clarify principles through case-law

Other

- Publically run funds notorious for inefficiencies (e.g. claims processing delays of RAF)

- Knowledge of fund's existence may incentivise fraudulent behaviour/claims on the part of motorists
- Regulatory strain – separate new legislation required
- Challenges in applying – linked to a motor vehicle or driver's licence?
    - High number of unregistered vehicles
    - High number of unlicensed drivers
- More claims as bigger population – panel beater industry would benefit as cars are now being fixed that previously weren't

Regulator

The fund would need an improved regulatory framework which would need to be developed – cost and resource implications

Question 3

Examiners comments:

Overall this question was not answered sufficiently well. Many candidates failed to answer the question that was being asked and relate their answers only to the three areas in question. Many candidates raised a variety of relevant facts for the management to consider, but they didn't relate to the actuaries areas of responsibility and hence could not be awarded marks for such points.

(i)

Reserving:

- What is the quality of the reserves being transferred and can this negatively impact the company's current level/sufficiency of reserves.

IBNR

- The information is silent about whether or not the portfolio transfer includes a payment for IBNR, which it should.
- What is the current level of IBNR and is it sufficient? & we don't have the necessary data to determine this.
- Is the statutory level of 7% appropriate for this class of business?
- We will need to employ specialised claims team. If not the claims handling might not be appropriate. This (i.e. new claims team), together with other factors may lead to a different development pattern within our books, vs. that being currently experienced. This will hamper our ability to accurately determine the IBNR

- Depending on the composition of the actual policies written, the risk profile can be vastly different within this class of business. CAR is long-tailed and multi-year contracts, whereas EE, plant etc. is short-tailed and usually not for longer than 1 year.

UPR

- CAR has an increasing risk profile, while plant etc has an even risk profile, which will need to be considered when determining the appropriateness of the UPR.

- Need to ensure that the UPR reflects the actual earnings pattern of the underlying risk profile to ensure that the portfolio transfer is not too low.
- The UPR will need to take DAC into consideration appropriately
- Distinction will need to be made between RI UPR and Gross UPR and similarly for DAC and the correct gross UPR needs to be transferred, as the reinsurance structures under the old arrangement won't necessarily be the same under the new arrangement.
- Need to ensure that the old reinsurance arrangements have no impact on the transfer/acquisition.

OCR

- Need to ensure that the OCR philosophy is appropriate
- Need to make sure that the OCR philosophy is accurately and consistently applied to the whole portfolio / each claim
- Need to consider any IBNER and whether the reserve transfer appropriately allows for this.
- Given that the two companies are likely to arrive at different answers for the OCR, IBNR etc. need some process to determine what figures are actually used, e.g. arbitration, input of a third party such as a consulting actuary, possibly future adjustments to the price based on subsequent performance.

New business reserving

- Only underwriters are taken on, not claims staff. Only personal lines business handled in the past. This is a major risk, since claims staff may not be familiar with commercial (and niche) product.

- How good will estimates for new claims be? This means that the ultimate incurred claim figures may be different from those accounted for in early periods.
- In addition, does company have a network of service providers to assist on claims settlement and will this add to claims cost, e.g. claims handling expenses and is this appropriately allowed for in the reserves?

- Is there any currency risk that needs to be reserved for?

(ii)
System:

- Can the current personal lines system deal with the engineering portfolio appropriately?
- Need to develop product on system & there is only 6 weeks to do this, which is a major concern
- The system needs to be properly spec'd and is there enough time and expertise for this? i.e. for pricing/rating, reserving, reporting requirements, Management information, lapses, risk profile et al

- Outsourcing administration could be considered, but this could be expensive and the quality of information output might not be as desired. Audits will be necessary. Timeframe to do this is also a concern

- All the policies will need to be loaded onto the new system within 6 weeks and again, is there time to ensure that this is done accurately
- Will need to integrate premium collection into company processes
- Load all supporting brokers of this portfolio and ensure that collections from brokers are successful.
- No history available! Can this be obtained and integrated? Timeframe. It would be quite valuable to obtain this as it would give underwriters, pricing team and claims staff additional insight / information

- Training of administration staff, claims staff will be needed in short space of time
- Will need to load reinsurance structure onto system
- Will the system be able to cope with the different nuances of engineering reinsurance vs. Personal lines reinsurance or will this need to be developed?
- Overall time is a huge factor as there is probably too much to do in too short a time frame.
- Expense in relation to the 5% margin & R120m portfolio size. There could potentially be a huge expense outflow due to the adjustments to the admin system, acquiring expertise, auditing external provider etc. The Rand cost in comparison to the 5% margin and costs already accounted for within this margin needs to be considered.
- Given all the above there may be a need to urgently discuss with management to reconsider the decision or at the very least understand the risks and potential inevitable losses that the company is going to incur due to this decision.

