Subject SA3 — General Insurance
Specialist Applications

September 2009 examinations

EXAMINERS' REPORT

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.

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Chairman of the Board of Examiners

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Comments for individual question are given with the solutions below.

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(i) **Key issues to investigate**

Reserve adequacy — company is currently solvent under their reserving methodology, but capital backing is obviously weak.

If over-reserved there is a potential benefit to the company but given the company is in a weak capital position that is leaving it vulnerable to takeover it is unlikely to be materially over-reserved as they would most likely have moved to a best estimate basis to remain solvent enough to continue trading / attract a more favourable takeover settlement, leaving it far more likely that any risk is to the downside due to the company being under-reserved

One aspect that materially affects this level of risk is the length of tail and level of uncertainty of the business lines being written with shorter tail classes such as property posing significantly less reserving risk than longer tailed classes.

along with the length of time the syndicate has been in operation if there are any longer tailed lines as that increases the number of years on which reserves could potentially deteriorate

including any inherited lines and discontinued business units

- Reasons for the poor loss experience
- e.g. was it due to a series of unfortunate major claim events e.g. catastrophes, higher than anticipated latent claim amounts
- in which case one would need to consider whether or not the business is adequately diversified / protected against such volatility
  and whether any lack of diversification is simply due to the small size of the syndicate and once integrated into your larger syndicate such volatility wouldn't be so material

  and is the likelihood of any further such volatility within your agency's risk tolerance
- and if due to major claim events were these market claim events that materially affected their peers or were they isolated events of bad underwriting judgement / luck for this syndicate
- or was it due to poor underwriting controls allowing the unit to write excessively large lines on individual risks

  or a failure to properly manage aggregate limits in particular areas
- or was it simply due to inadequate rating levels
- or was it poor claims controls
- or an increase in fraud
  and if so can these be addressed with improved internal controls / rating models

  and are the market conditions going forward likely to offer a more favourable rating environment

- Is any poor experience confined to only some of the underwriting units

  and if so is there any scope for discontinuing these units and going forward with the profitable underwriting teams only

  although the impact on morale of this move must be considered
- Synergies with the existing business
- e.g. with the IT systems (or other appropriate example)
- most importantly is the business written likely to complement the business your agency already writes

  and add to diversity

  and add genuine growth opportunities

  and/or to only retain those underwriting teams whose market segments are not already covered
- Do the underwriting teams that your business might seek to retain have valuable expertise / intellectual capital

  and how much of their client / premium base is likely to be loyal and easily transferable to your new business

  and the impact on broker relationships
- Are there potential expense savings / economies of scale from integrating the two businesses

  with particular consideration as to whether your company already has the necessary expertise to support any new business lines / claim types etc.
- Difficulties in letting go / retaining their current management team
- Capital savings from integrating the two businesses
  in particular the level of diversification credit from adding a complementary portfolio

  and the reduced volatility from simply having a larger overall business

- Price at which the business could be obtained

  Opportunity cost of alternatives

  Any other potential buyers and the impact this will have on the price e.g. risk of paying too much

  Costs associated with the take-over e.g. administration, advisory

  and the receptiveness of their staff base to the takeover opportunity

  along with moral issues for your managing agency in such a move
- Free capital for such a takeover opportunity

  or the scope to raise additional debt to finance it / price of such debt

  impact on A's credit rating

- Attitude of other stakeholders to the takeover including: your shareholders / the general market, names, your debt providers, your reinsurers, Lloyds / FSA, rating agencies
- Security / value of assets held

  e.g. are they readily tradable liquid assets whose value is clear.

  and are they adequately matched to the liabilities

  both by currency and term
- Security of any outwards reinsurance contracts on the inherited business

  adequacy of bad debt reserves

  which could be a material issue if the poor loss experience was due to a market wide issue that would impact reinsurers

  or if the poor experience relates to older years for which the reinsurers may be less likely to still be trading
- Debt held by the syndicate and whether there is any opportunity to refinance and improve profitability there

  especially if your managing agency has a superior credit rating
- Any tax benefits to be gained
- Any other relevant suggestions

There was a significant variation in the quality of responses to this question. Candidates generally fared better on the more generic issues to consider in a takeover (synergies, diversification, reactions of stakeholders etc.) although not in general covering sufficient issues. However, a disappointing number gave little or no consideration to the most pressing issues in the situation described in the question: what caused the poor experience, how much potential is there for the existing experience to deteriorate further and how much potential would there be to turn the experience around and have a profitable business going forward. Candidates should clearly recognise the far greater risks in taking over long-tailed business with significant latent potential suffering from significant under-reserving issues than in taking over short-tailed business suffering as a result of a recent catastrophe event with inadequate reinsurance or diversification. Few candidates gave more than a cursory consideration to these most critical aspects, suggesting either poor exam technique or a lack of awareness of the relative significance of different types of risk. A surprising number of candidates also failed to address the single most important point, i.e. the price at which Agency B could be purchased.

(ii) **Advantages / disadvantages (+/–)**

- + Niche business can be significantly more profitable than higher volume business lines
- + due to the lack of competition in the market

- + Having a separate specialist team to pass unusual but profitable risks to allows the main underwriting teams to focus on their areas of expertise
- + without turning down good business
- + Capital requirements are often low when written as part of a larger business as niche business is frequently uncorrelated with other lines

  + / – Requires very specialist underwriting
  although this could be an advantage if the specialist skill is available as it reduces the scope for new entrants into the market
- + Reinsurance may be easier to obtain given specialist knowledge of the team to find the right reinsurer and package
- - alternatively reinsurance may be harder to obtain for niche products despite internal specialist skill
- – Often difficult to analyse as all cases are so individual that few data are available
- – so true underlying profitability can be difficult to ascertain

  along with difficulties in business monitoring including rating

  and reserving projections
- – Contingency business in particular can be notoriously difficult to analyse and the loss record in the market is often poor as a result of this
- – Difficult to set standard underwriting controls as each case is so different
- meaning that the unit may well require a high level of management supervision / expense compared to the premium volumes written

This question was generally interpreted as to why you may want a Special Situations Unit separate from the main business (as opposed to why have one at all). Both interpretations are valid and many of the relevant points are valid under either interpretation. Most candidates recognised the advantage of being able to give unusual risks the focus they need although many failed to address the key reason for writing a niche product being the potential for higher profits because of a lack of competition and many failed to point out the difficulties in pricing and reserving because of heterogeneity and paucity of data.

(iii) Contingency insurance provides financial compensation for specific insured events that cause the insured delay, expense or an inability to continue current professional activities

Examples include:

Event cancellation due to weather / venue damage etc.

Film risks including death of cast members, damage to props etc.

Non appearance — e.g. musician refusing to turn up / falling ill etc.

Legal delays — costs incurred if a case overruns due to death or damage of a participant

Product recall sometimes

Specialist life / disablement cover — J-Lo's bottom, that wine taster's nose etc.

Although this risk type is not considered in the core reading and has not featured in past exam questions, at SA3 level candidates are expected to display general market knowledge including awareness of less mainstream product lines such as contingency insurance which is on offer from a number of different product providers and features regularly in the media when coverage is offered for highly specific and unusual risks, often with a celebrity focus. Because of the lack of a specific, core reading definition some level of credit was given for any reasonable attempt at a definition, although many candidates' guesses were either contradictory, incomprehensible or inappropriate as a form of insurance.

(iv) Expected claims cost from the top prize = chances of getting all 5 correct out of 50:

$$= \frac{5\times 4\times 3\times 2\times 1}{50\times 49\times 48\times 47\times 46}$$

= 1 in 2,118,760

expected cost of 4.72p per ticket to cover this prize

Expected claims cost from the second prize:

5 possible ways of picking 4 of the 5 correct numbers

Each of those can be combined with any of the 45 remaining possible numbers

Therefore 5 × 45 = 225 possible ways of picking 4 out of 5 from any combination

2,118,760 possible overall combinations

225 / 2118760 = 10.62p per ticket

Net premium after binding authority underwriter's commission & expenses = 20p per ticket

You work for a Lloyds syndicate so all accounting would be done on a net of commission and external expenses basis (award marks for alternative appropriate assumption stated)

Expected loss ratio = (4.72 + 10.62)/20 = 76.7%

Candidates at this level should possess the appropriate understanding of probability to answer this question, and although many candidates could produce reasonable answers for the probability of all five numbers remarkably few were capable of calculating the probability of four out of five numbers. Some papers also included comments that the calculation would in some way depend on the number of tickets sold. Many candidates failed to carry out even a basic sense check on their numbers. A number of candidates failed to pass comment even after producing loss ratios of less than 1%, and while the marking schedules do not explicitly penalise such an omission it does form part of the subjective assessments made of candidates close to the borderline.

(v) **Advantages / disadvantages**

- + Some profit to be made

  especially since internal expenses are likely to be low as underwriting is done externally

  also potential for increased profits if some winning tickets are lost / not claimed

- + Purely mathematical calculation, no subjectivity at all so profitability can be assessed with confidence

  which also makes it easy to set clear parameters for the binding authority to write to a target profitability for any other business

- + Easy to obtain reinsurance given that the product is easy to price

- + Extremely short tailed business (claim event known at the end of the draw) leading to reduced uncertainty

- + Should be entirely random

  therefore utterly uncorrelated with everything else

  meaning capital requirements for this business would be very low if it is a small part of the overall premium base, because of diversification credit

  and also meaning all separate risks and individual draws are utterly independent so there is no risk of aggregation

- + Premium volumes should be reasonably stable as it is an aggregation of thousands of individual ticket purchases

- + As the question specifies this comprises a "major source of premium" then at 20p premium per ticket it is likely that volumes are high suggesting any volatility would be pretty low, at least over a 1 year timescale

- + Rating levels may be fairly stable as it is a fixed priced product

- – Risk of moral hazard depending on the independence of the draw

  would want to check how the draw is handled and/or insist on an independent witness of your own choosing to supervise each draw

  although this may add a prohibitive level of expense

Would also request a database of all tickets to be sent through before each draw

- – Risk of fraud e.g. printing of tickets
- Loss ratio is comparatively high, may not meet internal requirements

  although given the low capital needed on a ROC basis this is unlikely
- Potentially high annual volatility particularly if ticket volumes lower than expected
- or if popular numbers are selected e.g. birthday dates (award point for mentioning accumulation of risk due to numbers selected)
- Potentially high weekly / monthly volatility even with higher sales volumes

  e.g. even £5m of annual premium suggests 25m tickets sold a year or 500k a week, so the top prize particularly can be volatile in the short term with only about 1 claim expected every 4 weeks
- and possible cashflow issues resulting from that

  although the managing agency is large enough that it is unlikely to be an issue

  unless there is material risk in different currencies to the rest of the business

Very few candidates understood the issue being tested here of the implications of a completely random (barring fraud) and mathematically calculable product and simply offered a generic answer on binding arrangements. Many candidates commented that there was a risk of ceding control of underwriting under binder arrangements, without considering that underwriting simply is not a factor for a policy where the risk can be calculated exactly. The majority of candidates failed to recognise that a purely random product like this would by its very nature offer complete diversification with every other line of business, making at best generic comments that it "might" offer diversification "depending on other lines of business written". A number of candidates also wrongly commented that this would not constitute an appropriate product as the insured had no financial interest in the outcome, in spite of the insurance contract clearly being with the lottery provider who is responsible for paying the claims and who clearly has a significant financial interest. Also points about moral hazard and what action could be taken were generally not made.

(vi) **List some key features of professional indemnity insurance (key points)**

Covers professionals against the consequences of flawed professional advice

Specialty business generally written through brokers

Sometimes compulsory cover for certain professions

There are often cover restrictions and exclusions

Key exposure measure is usually fees

Generally low frequency

Claims can be high when they do occur

and subject to court award inflation and earnings

Accumulation risk following on from precedent cases

Development is often slow, medium to long term business

Affected by changes in legislation/regulation

Any other reasonable comments e.g. changes in legislation affecting advice or actions retrospectively, latent claims in medical malpractice, moral hazard

Additional points

Solicitors business tends to renew on October

Type of cover — E&O

Type of cover — breach of duty

Type of cover — Civil Liability

Example of a profession

2nd example of a profession

Sometimes rated on turnover

Sometimes rated on number of partners

Generally rated in more detail according to the split of fees by different types of activity

Example of type of activity (e.g. conveyancing)

Sometimes rated on experience basis for larger clients

Development longer for some professions where the consequences of poor advice take longer to be realised (e.g. architects)

Legal costs are usually covered

Written to defined policy limits — no unlimited liability

Can be written as direct or reinsurance business

e.g. reinsurance of a professional body

Generally claims made (although can be losses occurring)

Claims made will generally have retroactive date

Comments on Q1(vi): *Generally adequate answers on a largely bookwork question, although a majority of candidates suggested turnover or even wage-roll as the most common exposure measure with few mentioning fees.*

(vii) *Potential concerns about professional indemnity business*:

Long-tail class so claims may take a while to emerge

Even those claims that do emerge can cover fairly unique situations

that are often tested in court requiring highly subjective valuations based on good understanding of the risks and situations in question

which makes the quality of the claims assessors used by the company critical in understanding the level of risk in the existing business

Given the high value international clients there could be large claims and precedent cases

and deep pockets syndrome

and more general reserving methodology

and development profiles for the business

Particular attention to any changes in claim assessment methods / staff that might change the development profiles of the business

Investigate reinsurance programme

Given the slow development, rate changes are of critical importance for this business for early years of development as emerging experience will be insufficient / lack of data on solicitors

New business strain as it's a growing book

rapid expansion may be a result of under-pricing leading to solvency issues

Coverage changes can also have significant impact on rate movements for this type of business

e.g. costs in addition coverage

Investigate potentialrecent significant market events and the impact (if any) on this book

Investigate rate monitoring quality and methodology and portfolio analysis

including allowances for any coverage changes

Coverage offered can have a significant impact on the development profile of the business

… claims made versus losses occurring in particular

Investigate the type of coverage offered and any trends or changes in coverage historically given change in mix of business

Potential accumulation risk given strong regional presence

Investigate level of expenses in running the business

Currently in a very soft market for UK PI business

particularly for solicitors' business

with a number of insurers reducing or withdrawing their product range

with low profits or even losses expected to emerge from recent years across the market as a result of the low rates

Business is also highly influenced by macroeconomic events which are currently extremely unfavourable and likely to lead to a significant influx of claims

such as valuation claims for surveyors

or claims on conveyancers

following the property market collapse

or mis-selling claims for IFA's following losses on the stock market / savings etc.

or from mortgage brokers for inappropriate sale of mortgage products / checking of documentation etc.

This risk is increased given that there are more SME that will be more impacted by a recession

Critical to understand the make up of the account

and any overexposures to certain areas, country or currency

e.g. is the solicitors' book heavily weighted towards high risk areas such as conveyancing

It was mainly generic bookwork answers that were produced for this question, including that it is highly influenced by macroeconomic events with very few candidates passing any comment whatsoever on what these recent macroeconomic events have been. With the first major recession since most candidates started their professional lives having dominated media coverage for more than two years we would have hoped that candidates had spent many months considering recessionary issues in their daily working lives and indeed that candidates would be expecting such a topical question. Many candidates failed to address the specifics in the question and simply gave a generalised list of potential risks for a book of business. The word "outline" in the question is being used to suggest a brief summary but many candidates gave very lengthy answers as to how they would perform a reserving analysis, often writing several pages, which only earned a couple of marks on the schedule.

(viii) *Methods of transferring the business:*

Insured is another Lloyd's syndicate so assets and liabilities can be transferred as needed through a reinsurance to close premium to one of the syndicates your agency manages

Although the timing of this may not be ideal as that would require waiting until the years of account are to be closed

A Novation e.g. part VII transfer or LPT would allow the assets & liabilities to be transferred in entirety

If the managing agency is a listed company their shares can be purchased on the open market or via a takeover arrangement

which would give instant access to the employees / intellectual capital / premium base etc. of the company and allow the practical process of merging the companies to begin / the underwriters to continue writing to your agency's current syndicates

Key stakeholders would need to be involved, namely Lloyd's / FSA, both of which would have minimum capital requirements for the merged entity which would need to be met

requiring a new capital assessment to be put forward for the combined business to demonstrate adequate capital backing for the takeover

The reserves of the newly combined entity will need to be reviewed and signed off

Mentions of GN 12 / 20 / 33 & 50 as needed: professional guidance with relevant examples.

This was not generally well answered, with many candidates demonstrating little knowledge of potential routes to purchase and giving little consideration to capital considerations that would form the cornerstone of regulatory interest in a takeover, often considering competition rules or treating customers fairly while not even mentioning capital. Very few mentioned professional guidance. A number of candidates discussed whether the syndicate should be run separately or incorporated into Syndicate A.

2

(i) **Definitions of MCR, ECR, ICA, ICG**

MCR — Minimum capital requirement.

MCR is the greater of GICR (general insurance capital requirement) and the minimum guarantee fund (MGF/BCRR) set by the EU.

Formula based calculation

Essentially comprises capital charges as a percentage of claims or premiums.

The capital charges only reflect the relative riskiness of different categories of claims and premiums to a very limited degree.

Calculated is retrospective

ECR — Enhanced capital requirement.

A more risk sensitive measure than the current EU directive minimum.

Comprises capital charges as a percentage of claims, premiums and asset values.

The capital charges reflect the relative riskiness of different categories of assets, claims and premiums.

Currently a soft test of solvency not a hard test

ICA — Individual capital assessment.

This capital assessment was introduced by the FSA.

Insurers are required to make their own regular assessments of the amount and quality of capital that is adequate for the size and nature of their businesses.

Expressed as a percentage of ECR

Aimed to be held at the 99.5th percentile level

ICG — Individual capital guidance

The FSA's view of the level of capital that should be maintained.

Based on the FSA's review of the firm's assessment of its capital needs and its risks.

Most candidates scored highly on this very bookwork question.

(ii) **Differences Between MCR, ECR, ICA, ICG**

Reasons why ECR differs but MCR does not

The ECR considers the assets held, as well as premiums written and reserves held

Company B may hold riskier assets than company A/hold assets subject to a higher capital charge.

Company B may hold more assets than company A

The ECR charge factors for premiums written and reserves vary between classes.

The MCR factors for premiums written and reserves do not vary by class

…with very few exceptions

…although there is some variation in MCR factors according to size of premiums and reserves.

Company B may write more premium than company A in classes with higher charge factors.

Company B may hold more reserves than company A in classes with higher charge factors.

As the premium income is the same the MCRs will be equal if a premium basis was used, but the ECRs will still differ due to some of factors used in the calculation

for example B may use a stronger reserving basis than A (or other relevant example)

A might have suffered particularly bad claims experience recently, which has increased the MCR (as it's a retrospective calculation) to the same level as B's and has had no impact on A's ECR level.

If A has suddenly contracted GWP then its ECR would reduce but MCR would be subject to the minimum brought forward GICR from last year (less reduction in o/s claims), which would keep it high. (or equivalent example)

Reasons why Company A has a higher ICA than Company B

The insurance risk for company A may be higher than for company B.

e.g. compared to Company B, Company A might:

- Write more volatile classes of business, e.g. more liability business, or more reinsurance
- Conversely, B may write more of classes where the ECR/MCR factors are high but the internally modelled risk is lower
- Write the same lines of business but select more volatile risks,

  e.g.

  - there may be more geographic concentration risk in Company A's portfolio
  - Company A may be more exposed to natural catastrophe losses
- Have a different reinsurance strategy
- Have a different reserving policy

There may be differences in the credit risk accepted

- Company A might purchase more reinsurance
- Reinsurers of Company B may have better credit ratings
- Company B has lower outstanding balances with other debtors such as brokers, because of different distribution strategy (or other example)

There may be differences in the market risk accepted

- Company A may have more foreign currency exposure (or other relevant example)
- Company B may have better quality assets (or other relevant example)

There may be differences in liquidity risk accepted

- Company B may hold higher cash balances *(or other relevant example)*

There may be differences in the operational risk or group risks accepted

- Company A may be reliant on legacy computer systems (or other relevant example)
- Company A may be more exposed to key policyholders or brokers (or other relevant example)
- The companies may be making different allowances for diversification in their ICA's
- Company B may write a range of uncorrelated classes of business, whereas company A might only write a single class *(or other relevant example)*

The companies may be making different allowance for expected profitability in their ICA's

This may be because the classes of business written are at different points in the insurance cycle.

The difference in ICA's may in part be due to differences in the judgements made by each company, rather than the inherent riskiness of the businesses.

Considerable judgement is required as part of an ICA assessment.

Some of the most critical areas require the most judgement, e.g. correlation assumptions.

Alternatively, the difference may arise due to capability/quality or type of modelling techniques used, rather than judgement.

The companies may be using a different time horizon in their ICA calculations, although in theory the different time horizons permitted should be equivalent.

Reasons why Company B was given an ICG greater than its ICA

For company B, the FSA took a different view of the capital required than was produced by the company.

The FSA may have thought that some of the assumptions made by company B were too optimistic.

The FSA may have thought that some risks in the business had not been identified or adequately assessed

Some candidates scored extremely well by considering the various moving parts of an ICA in detail. Knowledge of the more prescribed nature of the ECR and MCR was more patchy, although even this section was still well answered. Perhaps the most common reason for scoring low marks on the question was the allocation of time between the three aspects, with many candidates giving almost equal weight to all three. Good candidates recognised that there is really only one reason why the ICG would be higher than the ICA, i.e. that the regulator thinks the ICA is too optimistic! Other common errors were simply regurgitating bookwork points about the various capital measures without addressing them to the question in hand.

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(iii) *Alternative Capital Measures*

May wish to consider future changes in statutory capital requirements.

e.g. Solvency II

Company will be concerned about return on future capital requirements, not just present requirement.

However, there will be uncertainty regarding what the future requirements may be.

Capital requirements indicated by an internal model (other than the one used for ICA).

The company may use different risk tolerances from FSA regulatory capital (which is at the 99.5th percentile).

The company is likely to want to hold more capital than the ICG, as this is a fairly low level of capitalisation.

May wish to hold more capital to avoid regulatory intervention/interference.

The internal model will allow for diversification of the target with existing business.

One target company may have a much lower capital requirement than the other if it is uncorrelated with the purchaser's existing activities.

Capital requirements in other jurisdictions

Purchaser may be regulated outside UK

Capital required by rating agencies.

Insurer may need to retain certain rating to attract business.

Different rating agencies may impose different capital requirements.

Consider amount of capital needed to purchase the target

Need to get return on purchase price, not just the capital held by the insurer.

May be interested in capital requirements of target on some other basis

e.g. allowing for purchaser's future business plans, such as increasing premium or changing reinsurance requirements.

Level of capital held by its competitors so that it is not out of line with them

This was poorly answered. Many candidates focused only on formal capital requirements with acronyms, talking at length about GICR or MCR etc., giving no thought to wider business objectives and the role that capital considerations might play.

END OF EXAMINERS' REPORT