INSTITUTE AND FACULTY OF ACTUARIES

EXAMINERS' REPORT

September 2013 examinations

Subject SA3 – General Insurance Specialist Applications

Introduction

The Examiners' Report is written by the Principal Examiner with the aim of helping candidates, both those who are sitting the examination for the first time and using past papers as a revision aid and also those who have previously failed the subject.

The Examiners are charged by Council with examining the published syllabus. The Examiners have access to the Core Reading, which is designed to interpret the syllabus, and will generally base questions around it but are not required to examine the content of Core Reading specifically or exclusively.

For numerical questions the Examiners' preferred approach to the solution is reproduced in this report; other valid approaches are given appropriate credit. For essay-style questions, particularly the open-ended questions in the later subjects, the report may contain more points than the Examiners will expect from a solution that scores full marks.

The report is written based on the legislative and regulatory context pertaining to the date that the examination was set. Candidates should take into account the possibility that circumstances may have changed if using these reports for revision.

D C Bowie
Chairman of the Board of Examiners

January 2014

General comments on Subject SA3

Consistent with previous examiners reports, we would offer candidates two key pieces of advice – read the question properly and take the time to think about what is actually going on. Further to previous reports, we would stress that candidates do not need to score anywhere close to 100% to pass and there are significantly more points available for the majority of questions than there are marks. Time spent making sure that you are answering the question that is asked is therefore more valuable than a panicked rush to put down as many points as possible, regardless of whether they are relevant.

On the first issue, candidates should always work on the assumption that the question wording has been carefully chosen. It is therefore essential to read the question properly.

If something is not asked for then candidates will waste valuable time writing answers that will gain no marks. These broader answers may be a logical next step to the question and so may be appropriate for candidates to discuss in a professional context. This is an exam however with a finite number of marks available and so the scope must necessarily be limited and specifically defined.

If a question does specifically mention something, candidates should also assume that there are definitely marks available for this aspect of the question. During the exam setting process, any content that is superfluous will have been removed. A clear implication of that is that if there are numbers provided in the question paper then there are marks available for comment and consideration of those numbers.

Wording of question sections should also be considered in the context of the position within the overall question. Where new question information is provided between sections, candidates should recognise that this information is specifically relevant to the following section or sections. When answering preceding question sections, candidates should not consider any subsequent information in their answers (although may cover similar ground).

On the second issue, candidates should note that SA3 is the key paper at which we test candidates' broader thinking. This is generally the final paper before qualifying as a professional, and we consider a capacity for broader thinking to be one of the best indicators of a candidate's suitability to act in a professional capacity once qualified.

As such we aim to design exam papers so that it is difficult to pass without displaying some capacity for independent and broad thinking, as well as to heavily reward instances where these skills are displayed. When reviewing past papers, candidates should assume that the marks available for generic points are substantially less than those awarded for the more challenging points that would be the mark of high quality professional insight in a practising actuary. Marks available for list items from bookwork are lower still.

Even among passing candidates, this capacity for broader thinking is not always in evidence. We strongly recommend that candidates step back and take the time to thoroughly think about what is actually going on in question situations proposed rather than simply considering numbers to be analysed with standard techniques. For example, candidates might stop to think about what claims actually are for a particular class of business, considering factors such as what actually causes the claim, who brings the claim, how it is dealt with once brought, what makes one claim small while another is substantial etc.

This more grounded, real world perspective will help candidates to consider such things as practical issues, stakeholders involved and their potentially diverging objectives, wider impacts, regulatory or ethical issues, inappropriateness of certain actuarial techniques for the specific situation, current economic or cyclical effects etc. This is likely to lead to significantly broader point generation (and indeed reflects the thought processes of the examiners in drafting the questions and solutions) and a more rounded understanding of the underlying risks and dynamics which should also be of value to candidates when dealing with different stakeholders in their professional life.

More generally, we would also advise candidates to employ basic exam techniques such as well structured answers and effective time management.

Comments on the September 2013 paper

A majority of candidates struggled to display clear thinking or understanding of the nuances of the question specifics in their answers.

Question 1 was very specifically designed to vary an insurance product in such a way that the normal financial dynamics no longer applied, pushing better candidates to consider the broader spectrum of insurance company profit and operations. Unfortunately, most candidates did not do so, culminating in low marks particularly for 1 (iii).

We strongly urge failing candidates to look through the answer and really consider how many marks a generic answer would have scored for this question and whether a short but relevant answer would have scored more highly than a lengthy but generic response.

For the avoidance of doubt – most of the FA and FB candidates do not fail due to writing too little, but rather due to writing the wrong answers for the questions. We realise that exams are a high pressure environment and there is an instinct to just start writing rather than pausing to think, but this is not the way to pass SA3. Shorter answers well matched to the question will score far higher than long generic answers and will enable better time management.

Question 2 was designed to encourage candidates to think about the underlying nature of the exposures for particular product lines and for a particular company. Ultimately, what comes through to most actuarial departments as abstract numbers, further up the line relates to a real business with their own business activities (and sometimes suffering losses from those activities). Candidates scored reasonably well on 2(i), which asked for reasonably generic issues; candidates were rewarded for considering low materiality insurance covers and only later working up to the main exposures of the company.

However, the more challenging parts of the question (particularly in 2(iii) and 2(iv)) exposed a lack of consideration of the specifics left weak candidates missing out on some high marks available. We would re-iterate the advice given in previous examiners' reports (and again above) – step back and think about what is really going on, as it will assist significantly with point generation and is one of the key skills we are aiming to select for with the exam design.

1 (i) Investment income on the balance of funds

Underwriting profit on lapsed policies

Reinsurance recoveries – the PR benefit is based on claims made

Non-reinsurance recoveries (salvage, subrogation)

Margin on repair costs

Admin fees

Referral fees

Add-on / cross selling / renewal rights or other profits not directly from the product itself

Candidates often scored well in this part given the large number of acceptable points that could be given. Only a few thought of some of the more complex points (e.g. margins on fees / costs), but these were not required to score full marks.

Generally this question was a good guide as to whether candidates would pass, with those who managed to identify that it is the relationship between claims and premiums at the individual policy level rather than aggregate level that counts for this product design generally going on to make a reasonable attempt at the paper. Somewhat surprisingly though, some candidates did seem to grasp the issue on this small section and then went on to give only generic answers in the large 30 mark question, completely undermining and contradicting the understanding shown here.

(ii) Claims costs

Although only critical if over premium
Reinsurance premiums

Commission

Other typical expenses in providing this product
. . . for example, claim management
. . . policy administration
. . . contribution to overheads
. . . Investment fees

Specific marketing costs for this product, given its unusual structure
Additional costs of policy wording drafting as non standard

Cost of capital

Corporate tax on profits
Insurance premium tax or other taxes potentially

. . . which might normally be borne by the policyholder but may ultimately be a cost to the company if not excluded from the return

Regulatory subscriptions e.g. MIB / FSCS type

Lower profits on other products if customers switch to the PR cover

Additional admin costs as non standard

IT costs of monitoring / maintaining records

Costs of calculating PR benefit

Additional costs of complaints / disputes / queries

Many candidates only gave generic answers here

(iii) Claims

For some customers, claims will exceed premiums and investment income over the ten year period, even after reinsurance and other recoveries

Unlike other products, these losses cannot be balanced against other customers where claims < premiums as those premiums would be returned

The extent of this issue depends on:

Claim volatility / distribution of claim costs

Product pricing

This product will work much better with high volume/low value claims, which can be expected to be covered by the premium reserve

Infrequent large losses would create high claims costs but make no material impact to the premiums returned

In practice motor is likely to have a mixture of low value and high value claims, with some large injury claims
. . . depending on the local market where court awards may be lower

High premiums would increase the proportion of claim costs likely to fall below the original premiums
. . . but there may be reputational / competitive issues with this

Reinsurance can help mitigate the risk of large claims & spike losses
. . . but the PR design means that the reinsurance premium can't be funded from an underwriting margin

Re-opened claims / IBNR / IBNER uncertainty at end of 10yrs may exacerbate impacts
. . . depending on T&Cs and scope to agree final liabilities before PR settlement

Recoveries

The PR benefit is calculated after subtracting "claims made by the customer" – this suggests PIC is able to retain the value of any reinsurance or other recoveries
. . . although check T&Cs to make sure calculation basis is understood

These could be significant for motor insurance, since third party recoveries are common. This could add significantly to the profitability

. . . although there may be risk of a grievance / dispute where the policyholder is not at fault and becomes aware that the claims cost has been met in full by a third party

Reinsurance premiums will be a cost to PIC, and would likely exceed reinsurance claims over a ten year period (i.e. reinsurance is a net cost

Consideration of RI of PR element only
. . . although unlikely to be practical

Investment returns

Unlike a typical insurance policy, there is no scope to make underwriting margins as the original premiums will all be returned unless they are already eroded to pay claims

Key driver of profit will therefore be income earned over the period that the premiums are held

Depending on prices, very large reserves for investment could be accumulated after a few years

Investment uncertainty – PIC could earn more or less investment income if:
- there are fewer claims than expected, or no claim
- the claims occur later in the 10 year period
- the premium is higher than expected
- the interest rate is higher than expected

The long term may support a more aggressive and longer term investment policy
. . . although liquidity needed for short term claims

Product highly exposed to investment returns

In the current environment, investment returns are low so this may not be a good time to write this product

Local interest rates in the country in which PIC writes may be materially higher however

This may explain their decision to design a product of this type

If this is the case, they should stress test for potential drops in achievable investment returns

It may be possible to match the expected return of premium liabilities with long term assets to provide some protection against drops in investment rates, but this would not protect against further policy years written after that point which would need to purchase assets at the new rates

If investing in high yielding assets such as equities (to optimise return over the long period) there may be challenges / risks / costs in realising assets in bulk to meet maturing policies

<u>Lapses</u>

Lapse is a potential source of profit, because PIC keeps the accumulated balance at the time of lapse.

There will always be an underlying level of lapse
. . . e.g. people who no longer own a car
. . . move overseas
. . . are unable to afford premiums
. . . die
. . . move to cheaper policies elsewhere
. . . forget

Accumulation of a large PR balance may substantially increase retention rates however

Even customers who stop driving may remain insured to receive the PR
. . . minimal benefit though as only gain some extra investment income

The people most likely to lapse are those where claims have exceeded premiums (and so no longer expect a PR benefit)
. . . no accumulated lapse profit on these
. . . but scope for future premium to accrue to insurer so still do not want to lose these

Also likely to lapse earlier in the period when PR is more distant prospect

There may be a high lapse rate after year 10 when the PR benefit is paid, reducing profits in the long term
. . . depending on further PR offering / alternative products / T&Cs etc.

PIC should review their lapse rates to date against expectations

There is scope for aggressive rate increases to be put through in later years to drive an increase in lapses
. . . there may be significant reputational
. . . regulatory / TCF
. . . commercial or other issues with this however

Set-up costs / DAC need to be low enough to benefit from lapses

<u>Expenses + Commission</u>

PIC will incur expenses as listed in the answer to part I (no more marks for repeating)

Additional expense uncertainty with this product

We don't know what most of those expenses will be, so can't be sure whether the business would be profitable

Expenses may be lower than typical for motor however
. . . lower marketing costs as innovative product sells itself
. . . PR benefit encourages high retention rates
. . . lower claim handling costs due to disincentive to claim

Conversely, expenses may be higher in other respects
. . . . e.g. monitoring of accrued benefits
. . . active investment fund management costs / trading costs
. . . system requirements to support
. . . . higher marketing / education / design costs
. . . more disputes as customer stands to lose PR

Return of premium is based on amounts paid by customer so will include return of any commissions paid
. . . i.e. the insurer will need to return money that it never received in the first place
. . . this could be significant depending on local market conditions
. . . depending on terms, this might only be a year 1 issue after which the high retention rates will mean that there is no further commission payable with the insurer owning renewal rights

Margins on admin / referral fees etc. may drive profits and improve viability
. . . regulatory /TCF issues with this however

<u>Capital Requirements</u>

May be high capital requirements as a substantial 10 year liability is being built up for the return of premium cashflows
. . . although volatility of that cashflow will be low relative to claims cashflows

. . . depends on regulatory requirements
. . . factor based method could be punitive

Substantial asset balances will be built up which may attract a high capital load
. . . particularly in the kind of high return environment where this product potentially works

Capital is likely to be hugely expensive if investment returns are high (which they should be if the product is viable) due to the opportunity costs of capital

Can match accurately by term to PR element, may reduce modelled risk

May be regulatory capital load as not well understood

BBNI may be huge depending on regulations

<u>Customer Behaviour</u>

Customers with the PR benefit may be less likely to make claims
. . . influenced by claims handling fees charged (if any)
. . . and impact on subsequent year’s premiums through rate increases
. . . and difficulties of claiming

They may drive more carefully, or decide not to report claims to the insurer
This will particularly be the case if customers have large accumulated balances and are approaching 10 years of tenure

For example, there is almost no point submitting a small claim after 9.5 years duration – the customer is effectively paying for the claim themselves anyway (or other example)

However, the benefit of lower claim costs in these circumstances largely goes to the customer, through a higher PR benefit, effectively selecting against the insurer

PIC may save some admin costs, but this would be marginal compared to the claim costs

This may result in a poor customer experience – customers may not like the fact they are partially self-insuring

Some customers might delay submitting claims until after the PR benefit has been paid

Once total claims have exceeded premiums, propensity to claim would be the same as for standard insurance products
. . . or higher if customer feels they have overpaid for a benefit they will not now receive

Mix impacts – selection effect to low risk policyholders
. . . as they are most likely to expect a good PR
. . . relatively affluent as can manage deferral
. . . unusual and may be hard to understand so may be more educated take-up (or alternatively more likely to be mis-sold to people with low education)

Was behaviour correctly assessed in pricing

<u>Market & Regulatory Environment</u>

Customers may regard it as unfair if they lose their PR benefit following a claim that was not their fault
. . . may be additional issues around windscreen claims due to market standards

This may result in lapses, lower sales and damage to PIC's reputation, which might ultimately reduce profits

If experience is worse than expected, insurers generally have a number of levers to improve profitability

The design of this product means that these levers may not be ineffective, increasing the risk of losses if experience is different to expected.

For example, if premiums were increased in response to higher claim costs, most of the benefit of higher premium would go to customers (through the PR benefit) and brokers (through higher commissions)

For example, the effectiveness of the no claim discount is reduced. Where higher premiums prompt safer driving, the premiums are paid back to the customer.

PIC may increase customer numbers as a result of launching an unusual, innovative product
. . . although competition may erode this advantage rapidly

Any increase in PIC's profits is likely to be due to higher customer numbers rather than making more profits from existing customers

Increasing customer numbers may have been the purpose of launching the product in 2006, shortly after PIC was founded.

Tax may be heavily deferred due to the long tail nature of the product
. . . depending on accounting treatment

The regulator may apply additional scrutiny to this product
. . . given the potential to manipulate rates
. . . non standard nature
. . . anti-competitive nature
. . . T&C / wording risks

Unclear how much they can deny / increase rates / cancel

This was the key question on the paper where passing and failing candidates distinguished themselves. There are a huge number of marks available for this question with nearly every element of the standard dynamics of insurance impacted by the unusual structure of the product.

With the question very clearly breaking down into manageable components for candidates to think about, it was disappointing that many resorted to generic comments only attracting minimal marks. The design of the product made a number of the more generic comments not only irrelevant and but actually inappropriate and incorrect.

This question was a prime example of where failing candidates would have done far better to have spent time focusing on the details of the question rather than generating generic content.

(iv) Low claims means high balance and high investment income
. . . although one of the reasons for the low claims ratio (20%) may be that expenses are a high percentage of premium
. . . in particular, commission is often very high (in percentage terms) for this product
. . . because it is often a point of sale product (e.g. through phone shops)

If sold direct then expenses (e.g. websites & advertising) are likely to be fairly high

If this is the case then the product is almost certainly not going to be viable as the PR would return far more than the insurance company ever received

Potentially over a 10 year span the product may be workable if there are no commissions / high expenses after the first year
. . . either because the commission terms are on initial sale only
. . . or because the retention rates are high so advertising expenses are spread over a long term

More lapse potential – people don't keep phone for 10 years
. . . and those who don't lapse may be paying for a policy where no claims are possible as the phone just isn't used
. . . although policy may be portable to another phone product

Fewer large claims, means claims should be below premium for most customers (especially over ten years)

Still have some claims higher than premium

Smaller amounts – people might not bother claiming
This should raise concerns from a TCF perspective however

Need to claim in person – people might not bother claiming

But people know this when they buy the phone, so why buy the insurance
. . . i.e. may be no demand
. . . impact on volume / fixed costs

PIC still needs to cover all its expenses with the investment income

Premiums for mobile phone insurance are often low, so investment income may not be sufficient to cover expenses

Expense of paying PR benefit in person

Customers for existing product may move across to PR option, reducing profits

On balance, looks like a bad idea

Alternatively: might be a workable idea due to the low proportion of people likely to keep a phone for a full 10 year term and bother to attend in person to claim a return of premiums that were not high to begin with
. . . but this is a high risk assumption and substantial exposures could build up without the capacity to extricate from liabilities

Internal expenses – base / additional

Impact on existing volumes

No real scope for RI due to lack of large losses
. . . may be beneficial though as likely to cede profit

A disappointing number of candidates failed to pick up on the commission issue. Even if candidates were not familiar with the specifics of this product, they should at least have questioned a 20% loss ratio on an extremely low volatility product.

Also, many candidates continued on the same unfortunate path established in the previous question sections and did not apply themselves to the nuances of a premium return product.

(v) The first PR benefits on motor will be due soon and part of the reserve will be needed to pay claims emerging before then
The gadget product may only have moved to this basis more recently however

Over the long term, shares and property have a higher expected return than cash
Returns for shares and property tend to be more variable than bonds over the short term
This short term volatility makes shares and property unsuitable investments for the entire balance of funds
This remains true irrespective of the current position of the stock markets or property prices (i.e., even if many analysts consider shares to be currently undervalued)

PIC may be able to invest some assets in shares or property depending on the overall strength of its balance sheet and its risk appetite
However it would not be appropriate to invest the entire balance of funds in growth assets unless PIC has enormous amounts of surplus capital it is prepared to risk
For example, it is possible that there could be a very large fall in value of equities, meaning PIC does not have sufficient assets to pay the PR benefits as they fall due
The PR reserves may be a very large part of PIC's balance sheet, so such a movement could mean PIC becomes insolvent

Property investments may not be sufficiently liquid to fund the PR payments when they fall due

Holding large amounts of growth assets would likely increase regulatory capital requirements
Depending on the effect on regulatory capital requirements, changing investment strategy could reduce return on capital

PIC should consider the long term outlook for interest rates, and whether they are likely to increase in the short term

If yields have reduced significant, then the market price of any long-dated debt held by PIC would have increased significantly.
PIC may therefore have made a significant profit as a result of the fall in bond yields.

Only 2 years left to PR on some products so would need to keep some liquid assets

Regulatory / capital / admissibility issues

Matching harder with property / equity

Market moving impact of converting assets if large company

More impact on new risks than existing, backing assets for existing can be held to term

There may now be sufficient surplus assets to allow some allocation to growth investments

If PIC expects yields to subsequently increase (and therefore bond prices to fall), it should sell its bonds and transfer to other asset classes

This question was generally quite well answered although weaker candidates failed to consider the nuances of the PR product and this was reflected in their answers, thereby missing a large proportion of the available marks.

(vi) The options depend on what the product terms and conditions say

And whether PIC is permitted to change the terms and conditions

There may also be regulatory or legal restrictions on PIC's options

Reputational risks

PIC may have become insolvent, if the losses are very large

The options available to PIC may therefore be limited

PIC could close this product to new business

This would stop PIC acquiring any new loss making business

PIC may be able to return the current balance of funds and stop providing the PR benefit to current customers

This would prevent further losses on the PR product

Customers are moved to standard insurance products, which would be priced more profitably

Some customers may be pleased to receive an immediate payout from PIC

However, this option comes with significant reputational risk

Alternatively, PIC could negotiate a settlement for customers with a PR option

The settlement would be structured so as to reduce expected future losses
Some customers may be happy to settle for less than the balance of funds, given they are receiving a PR benefit earlier than expected
. . . or may offer more to get cooperative commutation rather than forcing
. . . would reduce reputational risks if not forced

Expensive to adminster
. . . especially for mobile phone

Compulsory nature of insurance may restrict on motor

Persuade other insurers to take liabilties
. . . e.g. part VII / novation etc.

Scheme of arrangement
. . . may be preferable as do not need 100% support

Limited market so could be hard

PIC could increase premiums to drive increased lapses

This would not completely exit the line however

And would have major reputational issues

But would improve profitability on partial exit through lapse profits

Generally poorly answered, with most candidates offering generic answers rather than considering the nuances of the product. Some of the standard closure measures would not be practical and it was disappointing that this was not recognised in most answers.

2 (i) Marine lines:

- Marine Liability
    - o Loss or damage to other vessels or crew arising from their shipping activities
    - o Likely to be limited liability to passengers if commercial / cargo shipping only
- Hull
    - o Damage to the company's own fleet of ships
    - o Often includes machinery cover for damage to equipment on board
- Cargo
    - o Damage to or loss of cargo that the company is shipping
    - o Either their own or third parties
- Pollution / environmental liability
    - o From spillage of cargo or fuel from the company's vessels
    - o Or environmental damage caused by the company's mining operations
    - o May include cleanup costs
    - o May be sudden & accidental only available
- Aviation hull / liability
    - o If the company also has air freight operations of some kind
    - o Damage to own air fleet or to others by the air fleet
    - o Again likely to have limited liability to passengers
- Charterers liability
    - o If the company also charters vessels from third parties
    - o Generating all the same exposures above, but on a charterer basis

- Stevedore / Port Authority / Terminal Operator if carrying out any integrated landside operations to accompany the shipping operation

- Marine War / Terror

    - Loss or damage to ships sailing through war zones
    - Or losses relating to piracy

<u>Landside exposures</u>

- Property

    - Fire / CAT damage to mining activity
    - Including machinery exposures
    - Also less material damage to head office etc.
    - Theft / vandalism

- Business interruption

    - Temporary cessation of mining activity following a physical damage loss

    - Potentially highly material as mines can take a long time to return to full operation, e.g. clearing out a flood from an underground operation or replacing highly specialised machinery

- Contingent business interruption

    - Indirect losses from other people in the supply chain suffering a physical loss, e.g. potential shipping clients no longer having the product booked to ship

- Public liability

    - Financial loss or physical damage to people visiting sites / near sites etc.

- Terror / War

    - Physical damage & business interruption from war or terror events
    - Potentially material if operating in high risk countries

- Strike / Riot / civil commotion

    - Physical damage & business interruption
    - Either from own employees (e.g. miners strike)
    - Or third parties (e.g. port operators strike)

- Political risks

  - Confiscation or expropriation by local government
  - Potentially material if operating in challenging areas / doing joint ventures etc.

- Credit risks

  - Trade credit losses from counterparties
  - E.g. non payment by counterparty taking delivery of a shipment

- Engineering / warranty

  - Machinery breakdown
  - E.g. engine failure on bulldozer

<u>Employee Protection / general covers</u>

- Employer's liability / workers compensation

  - Injury to employees of the company

  - Including industrial disease potential from hazardous materials used in mining / on board vessels

- Kidnap & Ransom insurance

  - To cover employees operating in unstable territories e.g. Columbia

- Motor

  - Losses from any company motor fleet
  - Potentially including high value commercial mining vehicles

- Life / personal accident cover

  - For company employees as part of core package
  - Or as enhanced package for ex-pats sent to dangerous zones

- D&O

  - General D&O exposure comments

- Fidelity guarantee

  - Fraud / misappropriation etc.

Relatively well answered, with a number of candidates generating a reasonable range of the types of cover required. Weaker candidates did struggle to give relevant examples however and often started with the minor coverage elements first rather than thinking about the *specifics. A number of candidates also wrote about exposure measures, which was* ***not*** *the way the question was worded; the question was asking for the exposures to the insured rather exposure measures.*

(ii) Ability to place

- Some exposures may not be readily insurable at a reasonable price in the market, particularly for this type of company

- Pollution / environmental liability for example is difficult to insure at a reasonable price
- . . . due to the long tail of liabilities

- . . . . and the uncertain legal environment

- . . . which is why this is often written on a mutual basis through P&I clubs

- . . . which the company may not wish to join, for example if they feel that their risk is lower than others that they might need to pool with

- . . . the company is likely to have exposures to this through both their shipping and mining operations

- The company may well also generate material latent employers liability / workers compensation claim potential through either operation

- . . . and may also have legacy liability exposures for risks such as asbestos with insolvent insurers and / or retained exposures which would be difficult to restate cover for
- Depending on the size of the company, there may be limited capacity available in the market for a large placement

- Writing through a captive will provide direct access to the reinsurance market which may make it easier to place large limits
- . . . which may make it easier to place large limits
- . . . or place at better rates
- . . . benefits may be hard to access until track record established

Profit retention

- Retaining risks within a company potentially saves the profit being ceded to the insurance market

- Depending on the stage of the insurance cycle this may be significant

- The company would need to have sufficient size and scale to be able to run the captive efficiently enough to avoid excessive expense impacts offsetting any profit saved

- . . . . and would need to fund the initial set-up costs, operating costs and capitalisation of the captive

- Costs of licensing / regulatory compliance will also need to be considered

- Fronting arrangements may reduce these costs,

- . . . . but this would eat into any profits retained

- These additional entry costs may limit the benefit of any cyclical decisions to avoid a temporary hard market

<u>Volatility issues</u>

- Retaining the risk does expose the company to volatility that would otherwise have been ceded to the insurance market

- However for a large company and a reasonable retention within the captive, this volatility could be minor

- . . . particularly in comparison to the volatility of their core business profit streams

- Insurable exposures may be lowly or even negatively correlated with the company's other activities

- For example, business interruption costs for a mine are correlated with commodity prices, so at points where there are large losses, the company is making excess profits elsewhere

<u>Other considerations</u>

- The broker may also receive fees for setting up and / or managing any captive so may not be providing entirely impartial advice

- Centralising risk within a captive may be a good way of managing insurance spends across a range of different subsidiaries
- . . . although internal politics may make this a challenging setup to implement in practice with extensive internal arguments and tension compared to separate local placements

- Retaining more risk may help the company to drive risk management improvements
- . . . and may lower the overall pure risk cost for the company as a result

- . . . . as well as potentially having reputational / operational / commercial benefits

- There may be tax advantages from a captive structure

- . . . although modern transfer pricing restrictions may limit these benefits and tax advantages may only be deferral rather than ultimate reduction

- Company may lack expertise to manage
- . . . could be adverse impact if can't run well

- Avoid insurance market rate cycle

- Reduce insurer credit risk

- Set-up costs

- Capitalisation costs

- Influenced by regulatory jurisdiction

- It may be possible to run an open captive offering cover outside of the company
- . . . . with associated potential profit streams
- . . . . but increased compliance & regulation costs relative to a closed captive

It was possible to score reasonably well on this question by providing generic answers, although a few candidates did manage to tie their answer to the specifics of the situation.

(iii) 50% over burning cost is only a 66% loss ratio even if burning cost is appropriate, which is actually quite high for a layer of this type
. . . given the volatility
. . . and costs of capital / capacity

Depends on view of how representative last 20 years' experience has been
. . . i.e. does it include / not include any "super-cat" events

Would expect a degree of underlying inflation
. . . . in repair costs
. . . or value of assets / TIV

Would expect substantially above trend inflation for the business interruption elements of the risk however
. . . interruption costs for mining risks will be a combination of the quantum of lost production (i.e. tonnes of raw material) and the going rate (or contracted rate) of that material
. . . over the period there has been substantial inflation in global commodity prices so this inflation is likely to be hugely material

Costs are dollar denominated so there may also be FX movement exposures that could affect the "current value" burning cost
. . . with the dollar relatively weaker against some emerging currencies this could also be material

All of these potential inflationary effects are heavily compounded because this is an excess layer so the ground up inflation could be further geared

Unadjusted burning cost would make no recognition of inflationary issues so would be understated

Collectively, the insurance market could actually be significantly underpricing the risk given these factors

Business mix may have changed

Does cost include IBNR
. . . and claims handling costs

Even if the price is appropriate, this level of risk retention may simply be outside of the company's risk appetite
. . . is probably higher than currently retained levels
. . . and is higher than their stated risk appetite, which may well be for a valid reason
. . . for example they may operate with limited liquid funds
. . . or prefer to limit their earning's volatility for share prices

Any additional retention would involve further capital costs

Very poorly answered. Almost no candidates gave any consideration to the nature of the underlying exposures being reinsured and as a result did not pick up any of the considerations of commodity prices etc. It is worth stepping back from the numbers to consider what a particular insurance policy actually covers and it is disappointing that few candidates did so.

Also, very few candidates picked up that the price quoted (ignoring adjustment issues) was still quite good for a very high excess layer.

(iv) An industry loss warranty pays out a defined benefit
. . . based on a defined market loss

These programmes make no reference to the actual level of loss incurred by the company purchasing the programme

This creates a basis risk, with potential for a private catastrophe where they are disproportionately affected by an event relative to the market

This is highly likely for their particular exposures, which are
. . . mobile in the case of the ships so potentially heavily clustered in a particular location with unfortunate timing
. . . remote and highly concentrated in the case of the mining exposures, so potentially exposed to a localised event that barely affects the market
. . . and uniquely exposed to flood events, which can do material damage to underground exposures while having minimal impact even on other local risks

Credit given for other sensible comments about basis risk for this company

Conversely, might get lucky

If very cheap, might be useful
. . . most likely only alongside traditional cession

ILWs work better for companies with a highly representative slice of the overall market so that basis risk is minimal

This suggestion is not appropriate

Poorly answered. A large number of candidates clearly weren't even aware of what ILWs are (giving comments on CAT XL in many cases). Of those who could remember, only a small number were able to consider why ILWs might be inappropriate for the company in question.

END OF EXAMINERS' REPORT