INSTITUTE AND FACULTY OF ACTUARIES

EXAMINERS' REPORT

April 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

July 2013

General comments on Subject SA3

Consistent with previous examiner's reports, we would offer candidates two key pieces of advice – read the question properly and take the time to think about what is 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.

If something is not asked for then candidates will waste valuable time writing answers that will gain no marks however logical they may be as next steps beyond the scope of the question.
If a question does specifically mention something, candidates should also assume that there are definitely marks available for this aspect of the question. For example, if there are numbers provided in the question 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 core points applied to the question 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 April 2013 paper

At a high level, question 1 was poorly answered while candidates generally made a reasonable attempt at question 2. The performance on question 1 was extremely disappointing and continues a trend of systematic underperformance on capital related questions. We stress again that this is a key part of the syllabus and candidates should be prepared to answer questions.

Marking for this specific paper was relatively generous as this is the first exam paper to ask specific, quantitative questions on capital topics. Future questions of this nature will not be so generously marked as candidates should in future be fully prepared for such questions.

1   (i)   The SCR may be calculated using:

A standard formula with simplification

A standard formula

A standard formula with undertaking-specific parameters.

The combination of the standard formula for some risk factors and a partial internal model for the remaining risk factors
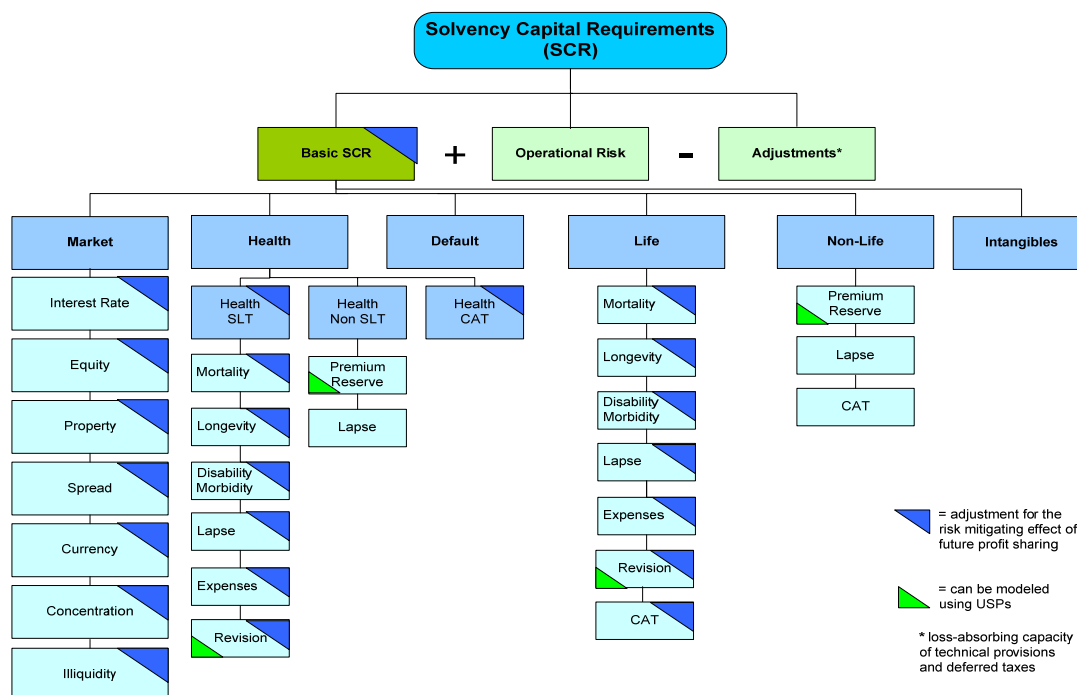
A full internal model.

Standard formulae variants are factor based

USPs need regulatory approval

Internal model needs regulatory approval

Sensible comments on regulatory approval processes (e.g. use test etc)

(ii)   Diagram option as per below (marks also given for core reading version)

Structure of 5 risk components of BSCR (Market, Health, Life, Non-Life, Default)

Subcomponents of Non life (Premium / Reserve, Lapse, CAT)

Components of premium / reserve risk (classes, correlation matrix, geographical diversification etc).

Subcomponents of market risk (interest rate, equity, property, spread, currency, concentration, liquidity).

Subcomponents of Life & Health - mortality, longevity, morbidity, lapse, expense, revision, CAT. Health split SLT / non SLT / CAT

Intangibles + sensible description

Operational Risk + sensible comment (e.g. 30% min / factors)

Adjustment + sensible example, e.g. the loss absorbing capacity of deferred taxes.

BSCR formula $- \sqrt{\sum_{i,j} Corr_{i,j} \times SCR_i \times SCR_j} + SCR_{Intangible}$

Final formula (BSCR + Adj + SCRop)

Parts (i) and (ii) – These were pure bookwork questions that prepared candidates should have received full marks for, but performance was disappointing. Most candidates seemed to have a vague recollection of the general concepts, but were imprecise and lacking in specific, well rehearsed answers. Easy marks were missed.

(iii)   Firstly calculate the NL charge:

= √(cat charge^2 + prem/reserve charge^2 + 2 × 0.25 × cat charge × prem/reserve charge)

= √(384.5^2 + 199.4^2 + 2 × 0.25 × 384.5 × 199.4)

= 475.3

The QIS5 BSCR is then

= √(mkt charge^2 + default charge^2 + NL charge^2 + 2 × 0.25 × mkt × default + 2 × 0.25 × NL × mkt + 2 × 0.5 × NL × default)

= √(124.2^2 + 31.4^2 + 475.3^2 + 2 × 0.25 × 124.2 × 31.4 + 2 × 0.25 × 475.3 × 124.2 + 2 × 0.5 × 475.3 × 31.4)

= 537.3m

Assuming Adj = 0

the SCR is then calculated as BSCR + op risk charge

= 537.3+26.4 = £563.7m

This should be an extremely basic calculation for all candidates but few seemed aware of how to implement a correlation. Again, easy marks were missed.

(iv)   *Large Company Issues*

The standard formula is unlikely to be suitable for a large entity writing large, complex risks within the London market for many reasons, some of which are detailed below.

Lloyd's expects to achieve internal model approval and requires each syndicate to achieve Solvency II standards, and thus, if it is a syndicate or has a syndicate, it would not use the standard formula for capital setting.

The segmentation of business lines used within the standard formula is unlikely to be sufficiently granular to take account of the range of classes underwritten by the company.

The large London market insurer will have a much more diversified book of business than that which underlies the standard formula calculation and hence the level of diversification is unlikely to be as high as required by the company.

SII factors generally unfavourable to larger entities as volatility factors take no account of size of portfolio

Would not expect a large company to use SF

. . . so may be reputational issues

Standard Factor issues

Standard factors may understate the more complex & volatile nature of business lines

As such likely to be too low for complex / volatilile lines

For example, international property is likely to be more volatile than the SII SF fire class

Especially if written on a high deductible / excess basis

Similar risk of understatement on aviation as this is likely to be at the riskier end of the overall MAT class

Workers compensation could also be above average liability volatility especially if US exposure

Catastrophe Risk Issues

CAT risk looks to be material for the company / so any standardised model likely to be unsuitable due to materiality

CAT is particularly bespoke, sensible examples e.g. aggregation management, layer structure etc

Adverse market reaction to standard model

Market Risk Issues

High charge for size and apparent nature of company / investments

Sensible comment as to why looks high (e.g. heavy CAT exposures so likely to be short tail)

Currency risk may be main driver of the high market risk

Can be inappropriate in the standard formula, as it is a fixed charge on amounts of overseas assets and takes no account of matching of assets to liabilities. / Investments more secure than average assumed in SF

Default Risk / Reinsurance

Company uses limited reinsurance so not critical

No non CAT XoL so no issues with use of standardised rather than internal

CAT specific cover in place however and risk mitigating benefits are unlikely to be reflected well in the CAT module due to highly bespoke nature

Other Factors

The company have no lapse risk charge. This is unusual given the issues around contract boundaries which are evident within this market. We would expect such a charge.

For the Motor lines of business the requirement to split the exposures into property damage and third party liability is not something the company would have done as part of their processes previously and as such they would not have historical data available.
Given the company writes Workers Compensation we would have expected a Health Risk Charge, although they could be assuming this is covered in the casualty line.

This was one of the more challenging questions, and was badly answered again. Candidates did not think through broader implications of the nature of the standard formula, for example the lack of responsiveness of standard factors to unusual business mix or volume.

(v)   *SCR vs Standard Formula*

Comment on relativity to Standard formula SCR eg The overall level of 1 year SCR is 74% (383.8/521.8) and ultimate SCR is 77% (400.1/521.8) respectively of the standard formula SCR

Comment on level / market benchmarking if known

High level of CAT would be expected to impact relativity to SCR, e.g. might be a lot lower as standard formula is punitive or other sensible comments

Overall 1yr vs Ultimate

1yr SCR close to ultimate SCR

Slightly unexpected due to casualty exposures which should drive an increase to the ultimate SCR, particularly on reserve risk (assuming casualty are a high proportion of reserves)

This suggests that the casualty book is a very small part of the overall portfolio

Big 1yr to ultimate jump on attritional risk (but this seems to diversify away)

May also be due to choice of recognition factors & earnings

High yr1 recognition & first year earning may be relatively appropriate for CAT business

Depending on time of writing & local CAT seasons (e.g. US)

Not likely to be the case for binders though, suggesting CAT is light for these risks

Diversification

The proportion of within insurance risk diversification benefit for the 1 year is 158.7 / 523.8= 30% and for the ultimate it is 249.7 / 620 = 40% (alternatively 158.7 / 365.1 = 43%, 249.7 / 370.3 = 67%)

Increase in diversification is likely to be because CAT is even more dominant in the 1 year picture (or other sensible comment)

Much higher than diversification between CAT and prem/res risk from standard formula calculated above which is c20%

This diversification includes premium / reserve diversification too so should be higher

Dominance of CAT risk should mean this is not a key driver though, so other reasons for difference

The proportion of across risk type diversification benefit for the 1 year is 94.8/ 478.6 and for the ultimate it is 103.9/504, both roughly 20% although slightly higher on ultimate basis (alternatively 94.8 / 383.8 and 103.9 / 400.1 both roughly = 25%)

Both heavily dominated by insurance risk, so slight increase in other factors makes little difference (or other sensible comments)

Within insurance risk diversification looks wrong

. . . Overall insurance risk (and total SCR) lower than standalone catastrophe risk

. . . Could be due to inclusion of other elements in insurance risk not in components

. . . E.g. profit or investment income

. . . If so this is a confusing way to report and may create challenges with stakeholders / regulators

. . . If it is an error could be due to bad model design

. . . Or dubious correlation factors (e.g. negative correlations)

. . . This should be thoroughly tested and explained as a matter of urgency

Across Risk type diversification looks reasonable

. . . Dominance of insurance risk means that marginal impact of other risk types heavily diversified away

. . . Not unusual for a GI business

Modelled Catastrophe Risk

Remarkably close to standard formula

Slightly higher in spite of punitive standard formula

. . . . Suggesting that company exposures are particularly volatile
. . . . E.g. high excess layers, CAT only cover (difference in conditions) etc / limited RI

Non Modelled Catastrophe Risk

The non-modelled Catastrophe risk charge looks small / given the international nature of the book and relevant exposures.

The book has international exposure for property, and it is likely that all regions covered will not be modelled.

Relative magnitude of exposures in these areas may be limited however, supporting the comparatively low weight

The book also has international exposure for casualty including workers compensation so will need to think about potential catastrophe risks, eg pandemic risk, which will not be covered by the modelled catastrophes.

Combined catastrophe risk / diversification within CAT risk

$\sqrt{(388.8^2 + 29.8^2)} = 389.9$

i.e. they are assuming that the two parts to their catastrophe risk are independent.

There are likely to be relationships between some regions in terms of property risk, but the majority of these should be picked up by the event loss tables from the proprietary modelling, but depending on the licence purchased by the company there may be regions where this is not the case.

Lack of correlation may indicate that any international exposures are non contiguous to core modelled regions

Or that all property is written in modelled areas and other events are non correlated e.g. pandemic or aviation crash etc.

1 year figure is very close to ultimate / suggesting that the binder element of the book is limited or less catastrophe prone

Attritional losses

Given the types of business that the company writes you would expect to see a large claim risk charge.
This is especially likely in the casualty classes.
What do they mean by "Attritional"? – i.e. do they model large claims separately
. . . If not then out of line with market practice
. . . And likely to understate volatility
Big increase from 1yr to ultimate / 1 yr is only 45% of ultimate
. . . Suggesting that the binder book (longer risk exposure) may be heavily attritional
. . . In combination with low CAT 1yr to ultimate may mean this is a complementary binder book written around peak CAT zones written on the open market
. . . . Alternatively casualty book (longer tail) may be mostly attritional   ½ for saying this reflects the existence of longer-tailed casualty business

Reserve Risk

Given the company writes casualty risks and have done for a number of years the reserve risk charge would appear on the low side. (absolute value)
This could be due to the fact that the company use very limited line sizes and therefore have a cap on the potential reserves needed to be held.
Or could be due to the fact that the focus on the book would appear to be the property lines (from the size of the catastrophe risk charge) and hence would not expect significant non-cat reserve charges.

We have no information in terms of the casualty business. If it is written on a claims made basis then this could explain the lower than expected reserve risk charge.

May be mitigation measures in place e.g. RI or commutations

Or casualty performance may have been benign in recent years so claim volumes are low, suggesting a niche portfolio

1 year is very close to ultimate (92%) for reserve risk / suggesting that liability makes up a small proportion of overall reserves

Operational Risk

Would question why the operational risk charges are the same for the 1 year SCR and the ultimate SCR.

Given the business is under new management a larger operational risks charge may be expected than that from the model output.

The operational risk as a proportion of the diversified SCR is 29.1/383.9 = 7.6% on a 1 year basis and 29.1/400.1 = 7.3% on an ultimate basis respectively. This compares with the standard formula which is 26.4/521.8 = 5.0%.

Would expect the modelled operational risk to be larger than the standard formula (which it is) / but would expect more of a difference to take account not only of the new management, and hence more risk of general operational risks but also the extra operational risk which comes from delegating underwriting authority.

Market Risk

Significantly lower than standard formula
May well be due to sensible FX model recognising matching
More in line with expectations for this type of business / investments

Default / credit risk

Higher than standard formula

Potentially driven by recognition of correlations between key CAT business and reinsurer failure

Marks for other appropriate comments

For some reason, many candidates did not mention numbers at all in their answer. In this particular question, not only were the numbers there for a reason, they were carefully constructed to be inconsistent and unusual, and most candidates who took the time to look at them rather than simply regurgitating standard answers (for minimal marks gained) spotted at least some of the key oddities.

Some candidates also missed the nature of the question, offering general comments on whether an internal model may be appropriate. The question asked about the appropriateness of "the model output" not the model itself.

(vi)   Would expect to see that the convergence runs produce SCR figures both above and below the baseline figure. The results show that all convergence runs are above the baseline SCR.

Either the baseline has been chosen at the optimistic side of the range or more simulations are required to improve convergence.

For insurance risk the convergence tests give a good range of outcomes with an equal number above and below the baseline.

Although test 6 is considerably higher than all other convergence tests and the baseline, which could indicate serious convergence issues.

Market risk, like the overall SCR shows that all convergence runs are above that charge in the baseline.

The differences are significant, ranging from 5%–14.3% above the baseline.

This could be driving the anomaly in the diversified SCR.

This is not expected as the insurance risk should be driving the SCR with the other risks diversifying away to a certain extent, so the market risk module should be validated further especially if any external model such as ESG is used.

Credit risk shows a reasonable spread across the convergence tests, although test 4 is 17.2% higher than the baseline, and this should be analysed further.

The fact that operational risk is constant across all tests indicates that either the operational risk charge is calculated deterministically or that the distribution used needs further analysis.

Any other appropriate comments.

This was relatively well answered with most candidates getting the key issues. Some were quite confused about the nature of stability testing though, thinking that the figures in the table represented individual simulations rather than percentiles of multiple simulations generated by different random number seeds.

(vii) **Sensitivity Testing**

Complete sensitivity testing on all key assumptions. This should be done in two stages – type 1 where you tests assumptions moving by the same amount up or down, e.g. move all correlation assumptions up by 10%. This testing will allow you to identify the key, more sensitive assumptions in each case.

Then type 2 will look at moving those key assumptions by a plausible amount, and estimating the impact on the overall SCR.

To do this you will need the output from all the relative runs and then a comparison can be made of all the risk categories to look at the movement as well as the movement in the overall SCR.

Pass/fail criteria can be set using tolerance levels (which are set via discussion with management) for how much you expect the various charges to move, e.g.

	1 Year Basis		Ultimate Basis	
	Fail if % change is:	Escalate if % change is:	Fail if % change is:	Escalate if % change is:
Insurance Risk	More than 100% Less than 15%	More than 75% Less than 25%	More than 100% Less than 15%	More than 75% Less than 25%
Credit Risk Market Risk Operational Risk	More than ± 5%	More than ± 3%	More than ± 5%	More than ± 3%
Overall SCR	More than 100% Less than 15%	More than 75% Less than 25%	More than 100% Less than 15%	More than 75% Less than 25%

Benchmarking

Benchmarking can be used in various ways:

- Benchmarking key metrics between various lines of business, e.g. reserve risk/reserves

- Benchmarking risk charges against balance sheet items, e.g. RI credit risk against RI recoveries

- Benchmarking against other capital requirements, i.e. standard formula, ICA, RBC measure, MCR

- Benchmarking against any other market data

- Data required will depend on what is being benchmarked, but likely to include risk charges, balance sheet data, competitor data (if available) and other capital measures.

- Pass/fail criteria is likely to be set using expert judgement.

Back testing

Back testing of previous experience against the model outputs at various levels should be completed.

This can include:

- Overall SCR – To verify that the model is producing a distribution of total losses that is consistent with the historical losses experienced by the company

- Reserve risk – To verify that the model is producing a distribution of ultimate and one-year reserve deteriorations that is consistent with historical experience

- Market risk – To verify that the model is producing a distribution of total asset returns that are consistent with historical investment returns of the asset classes held by the company

- Credit risk – To verify that the model is producing a distribution of reinsurance defaults that is consistent with the historical reinsurance defaults experienced by the company

- Catastrophe risk – To verify that the model is producing a distribution of catastrophe losses that is consistent with the historical experience of the company

- Dependencies – Test the assumed dependencies with the model against historical experience

The data required to complete these tests will be the losses/experience in each area.

The pass/fail criteria can be set quantitatively if appropriate, e.g.

- Escalate if the historical claims experience lies outside the range of 5th percentile to the 95th percentile; or

- Fail if the historical claims experience lies outside the range of 1st percentile to the 99th percentile

This will not always be possible and they may need to be set using expert judgement.

Stress and scenario testing

Stress and scenario testing is a useful tool to validate the model output:

- Particularly useful where data are limited

- Readily understood by individuals across the business

- Must be based on realistic assumptions with accompanying narrative

- Stresses must be sufficiently severe

- Event severities and probabilities must be derived independently of the process used to derive risk distributions in the model

- Evaluation of stress and scenario tests requires comparison with the model output

It can use stress testing to validate outputs in many areas, including:

- Overall SCR – To verify that the model outputs behaves as expected to stressed projected scenarios

- Overall SCR – Top down assessment of the suitability of the model output against stress tests and reverse stress tests

- Market risk – To verify that all reasonably expected market scenarios are covered by the market risk output distribution

- Premium risk – To verify that the model outputs cover a reasonable selection of extreme claim scenarios

Data required will be a description of the stress/scenario, the assumptions used, the estimated impact and an associated return period for that stress/scenario.

Pass/fail criteria could be set based on expert judgement. When determining the result of the test, the following considerations could be taken into account:

- If the event indicates that the event should be in the tail of the distribution (e.g. a return period of over 150 years) then we expect to see that the comparison to the distribution results in an implied return period which is also within the tail. This circumstance is likely to lead to a "pass" of the validation test.

- If the result of the above comparison results in the event in the tail distribution however the implied return period of the model output is not in the tail distribution, this is likely to lead to an "escalation" or a "fail" depending on the materiality of the discrepancy.

Model reasonableness

This area covers many aspects of the model and looks at consistency within the model.

It can cover the following:

- Inputs consistent with mean outputs:

    o Asset returns
    o Reserves
    o Correlations
    o Loss ratios

- Operational risk firing in each simulation

- RI credit risk firing in each simulation

- Flow through of premiums through the model

Data requirements will vary depending on the actual test.

Pass/fail criteria are likely to be set by expert judgement.

Any appropriate other tests

Any appropriate comments for the insurer in question.

Performance was average on this question. Weaker candidates had some interesting interpretations of what the core tests might mean, and few candidates gave strong answers for practical implementation or considerations.

2 (i)   Unable to afford premium due to low income

Unable to afford premium because high expected claims result in high expected premiums

Unable to afford excesses in event of claim, so decide not to purchase

As the insurance is not compulsory, there is no cross subsidies/requirement to make the cover available and affordable to all

Home insurance may not be available (insurers choosing not to quote in Swampshire)

Cover may not be available for key risks

For example, flood may be considered uninsurable if flooding is a regular event

People may assume cover is not available (even if it is)

Commercially available products may not be suitable for the needs of Swampshire residents

For example, Swampshire residents may tend to live in rented properties, with insurance products targeted to the needs of homeowners (or other example)

Residents may choose not to insure for some reason

e.g. no flood event prior to this for a very long time (or *other credible reason*).

Alternatives to insurance (such as charities, family support, government) may be considered adequate

Home insurance may be uncommon in other regions of the country too

There may be low levels of financial literacy in Swampshire

Low levels of financial literacy are often found in low income areas

The risks of not insuring may not be well understood

Size and frequency of potential claims may not be understood (for example, consequences of a flood)

People may not know how to buy insurance

There may be a lack of confidence with the insurance industry, possibly considering them as crooks who would find reasons not to pay even for valid claims

This was generally relatively high scoring as most of the points were achievable with a standard answer. Few candidates picked up the specific points available however.

(ii)   Make the insurance product compulsory

Discount the price

- However, in a competitive insurance market without price regulation, cross-subsidies between different regions would not be sustainable

- Some insurers may choose to accept lower profit margins in some regions than in others

- This may be because the insurer is a mutual/not-for profit insurer

Change the way the premium is collected

- For example, allow payment by instalments, perhaps even weekly

- Premium could be collected in person by agents for the insurer

- Premium could be deducted directly from income / social security benefits

Change the way the product is sold

- For example, through door-to-door agents

- For example, through another business operating in the community (such as the Post Office)

Insurers could sponsor a public information campaign/education initiative

- Advertise the product in Swampshire and similar communities

- Including using satisfied claimants in the advertisements

Customise the coverage to suit the needs of low-income households/niche products

- Offer lower sums insured

- Offer products targeted at people renting houses

- Other changes to reduce premiums, for example, exclusions

- However, the product should continue to provide a reasonable level of coverage, otherwise there would be no benefit to the purchaser/community from higher insurance participation

Individual insurers may not have good quality information to price the insurance, because of low penetration rates in regions such as Swampshire

- Insurers could pool data to improve pricing

This was generally well answered, although some candidates missed key points such as the competitive nature of the market that negated some of the standard points that might be appropriate.

(iii)   Premium subsidies could improve affordability

May be cheaper for government to subsidise insurance than provide financial support to uninsured people affected by flood

Government could support schemes that make it more convenient to pay premiums

For example, allowing premiums to be deducted from social security benefits

Some of the methods insurers could use to increase product penetration involve additional cost for insurers

- If government was not prepared to subsidise premiums, it could pay for all/part of the additional costs of insurers

Government could commit not to support people facing hardship that could have been avoided by purchasing insurance

This may not be publicly acceptable

There may be a particular problem with insurability in these communities

Government may need to improve flood defences to make flood insurable in Swampshire

Government may need to support crime reduction initiatives to reduce premiums

Other example, e.g. Swampshire properties may not be insurable because homes have inadequate security. Government could provide subsidies on locksmiths.

Regulation on selling insurance may make it difficult to sell to people on low incomes, for example, through community advocates or door-to-door sales

Government could review regulations

Government could make home insurance compulsory with potential to cross subsidise high and low risk properties

For example, government could allow a small levy on premiums for low risk homes to fund high risk home premiums

Otherwise, this may simply mean that home owners are both uninsured and breaking the law

For rented properties, insurance could be a requirement of the tenancy agreement or automatically included in the rent

Government could have its own insurance company with lower than market premiums, although this might upset insurance companies it may be cheaper than paying benefits to those affected

There could be additional regulations for insurers, e.g.

- price regulation
- requirement to offer a standard basic cover

Government could run an advertising / public information campaign to encourage people to insure

Relevant additional details were considered.

This was relatively well answered, although a surprising number of candidates gave cursory or no consideration to forced cross subsidisation.

(iv)   Mutual insurers are owned by policyholders, to whom all profits ultimately belong

Very few mutual general insurers remain in some countries today, particularly in personal lines business

Community risk sharing arrangements such as proposed by the charity have existed in developed countries in the past, and continue in developing countries today

General insurance is typically cashflow positive – the insurer receives the premium before having to pay the claims (although there may be some upfront expenses)

The key risk is the potential for claim costs and expenses to exceed revenue, in which case an insurer without capital will be unable to pay claims

For example, if there is another flood next year, the charity would likely be unable to pay

Although may be able to purchase reinsurance for catastrophe losses, particularly if the previous flooding was perceived as an infrequent event

The insurer is only planning to sell insurance in Swampshire, so will not be able to benefit from diversification of risk

Potentially every policyholder could have a flood claim at the same time
There is no point in having an insurance policy that is unlikely to be able to pay out when needed

People of Swampshire may have even less interest in insuring in future if their local insurer failed

Insurers are sometimes exempted from capital requirements, for example, if owned by the government

Government could provide capital in the form of a letter of credit, to be called upon in times of difficultly (e.g. following a flood)

Funding may also be required to cover initial expenses

Potentially there may be other organisations willing to provide a guarantee to the charity

However, even if the capital issue could be dealt with, it's not clear whether Meals-On-Swamp has sufficient expertise to operate an insurer

Examples of reasons why insufficient expertise

- No data for pricing
- Insufficient expertise for pricing
- Insufficient expertise in other regards, for example, claims staff
- No underwriting / claim management systems

While these matters could be addressed given enough time and money, it's not clear the charity has either.

On balance an exemption does not seem to be appropriate.

There are other ways Meals-On-Swamp could help provide insurance, for example, by distributing a product written by a licensed insurer.

Alternative opinion / reason as appropriate was rewarded.

This was averagely answered. Most candidates recognised the expertise issues and the general reasons why capital is important, but missed all other subtler points.

END OF EXAMINERS' REPORT