INSTITUTE AND FACULTY OF ACTUARIES

EXAMINERS' REPORT

September 2015

Subject SA1 – Health and Care 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.

F Layton
Chairman of the Board of Examiners
December 2015

A. General comments on the *aims of this subject and how it is marked*

1. The aim of the Health and Care Specialist Applications subject is to instil in the successful candidates the ability to apply knowledge of the United Kingdom health and care environment and the principles of actuarial practice to the provision of health and care benefits in the United Kingdom.

2. Candidates who approach the questions, especially the more substantial elements of each question, in a methodical and detailed manner are far more likely to pass the subject. Candidates will gain few marks if they do not address the question asked but merely write around the topic of the question. The mark allocation for each question part gives an indication of the relative length of answer or number of points to be made to gain full marks.

   It is often helpful to use subheadings when answering long part questions.

B. General comments on *student performance in this diet of the examination*

Overall the paper was relatively straightforward and well-prepared candidates scored well across most of the whole paper. As in previous diets, questions that required an element of analysis or application of knowledge were less well answered than those that just involved repeating bookwork. The comments that follow the questions concentrate on areas where candidates could have improved their performance. Candidates approaching the subject for the first time are advised to concentrate their revision in these areas.

C. Comparative pass rates for the past 3 years for this diet of examination

Year	*%*
September 2015	46
April 2015	48
September 2014	42
April 2014	48
September 2013	44
April 2013	43

Reasons for any significant change in pass rates in current diet to those in the past:

It should be noted that the number of candidates sitting this exam is low and so a reasonably stable pass rate should not be expected.

Solutions

Q1 (i) Critical illness (CI) insurance pays out a defined lump sum on survival for a specified period after diagnosis of a covered CI. Accelerated CI insurance pays out on death or earlier diagnosis on a covered CI. CI is a long term policy which has been sold in the UK for over 30 years. This insurer is likely to have many mature CI policies on its books. They will have various terms and conditions and definitions of covered CI.

Policyholders are aging and more likely to be susceptible to CI. Advances in medical science have led to increased survival from illnesses where policyholders would previously have died in the survival period. Hence overall anything which could increase the incidence of CI claims on the inforce portfolio is likely to have a significant impact on this insurer.

The ability of the policyholder to gain additional insight and potentially select against the insurer may depend on which tests/scans the policyholders choose to take and how effective they are.

It is possible that there will be an increased awareness of what the CI product actually covers which may lead to policyholders valuing the product more highly, which could improve persistency.

Diagnosis

The changes are likely to mean that more tests and scans will be undertaken than previously. Some diseases may therefore be diagnosed on a term policy that previously would not have been diagnosed until after the policy had expired, or may be diagnosed on policies that would otherwise have lapsed.

Screening may uncover evidence that the policyholder experienced a minor heart attack or stroke during the policy term of which they had been unaware (or unsure) at the time, which may allow them to make a claim retrospectively.

Earlier diagnosis of a disease can bring forward claims under CI policies which also reduces the receipt of future premiums, and may mean that the insurer's initial expenses are not recouped.

Advertisements may alert policyholders to policies they had forgotten about.

For accelerated CI policies the impact will not be as great, but there are still implications.

Anti-selection

These changes significantly increase the potential for anti-selection. Potential policyholders can take the test prior to purchasing a policy. If they have early symptoms they are more likely to take out a policy. Policyholders who have had no symptoms can now take a test prior to lapsing a CI policy; if the test

shows they already have the CI they will claim or if they have early indicators, they will continue with the policy until they can claim. Policyholders who don't expect to claim will therefore find it easier to discover whether it is in their interests to lapse, hence increasing selective lapse effects.

Distributors may encourage policyholders to undertake the tests. Treatment providers may advise policyholders how to claim. Distributors/treatment providers may encourage someone to take out a CI policy having performed the test.

The test result could inform the policyholder's choice between CI and accelerated CI.

Policyholders may be more likely to exercise guaranteed increase options.

Impact on premiums and reserves

Thus overall claim incidence rates are likely to increase and there could be an increase in windfall claims as well as claims processing and management expenses.

For existing policies that do not have reviewable premiums the insurer cannot increase premiums to reflect this and will therefore make reduced profits (or even losses).

If the insurer increases reviewable premiums, lapses could increase.

Although the insurer can increase premiums for new business, this may reduce the attractiveness of the product and reduce sales, therefore also reducing overall profits.

However, experience data may no longer be relevant and thus future pricing may be difficult.

Reinsurance premiums are also likely to increase.

Reserves would need to increase which could have implications for solvency or for investment freedom.

Underwriting/admin issues

It is possible that the screening can be done without the doctor's knowledge, so the insurer is less likely to find out about it. Hence there is greater potential for non-disclosure.

The proposal form may not currently ask about private tests that have been carried out. The application form may need to be amended so it is clear to new policyholders what their obligations are in terms of disclosure of medical

tests carried out prior to applying for cover. However, legislation may not allow insurers to ask about the results of private tests.

Policyholders may not realise that they have to disclose private test results. This could lead to Treating Customers Fairly (TCF) issues if claims are refused (or only partially paid) due to non-disclosure e.g. if felt to be "negligent" or "deliberate or without any care" but the policyholder maintains that it was "innocent". The insurer will incur increased legal costs of contesting non-disclosure.

There may also be a reputational risk relating to refusal (or reduction) of claims with adverse implications for new business and/or lapses.

There could be a strain on claims management/processing resources if the number of potential claims increases materially.

There could be a general increase in administrative expenses e.g. training staff or changing literature.

The increase in claims may be sudden and lead to cash flow or liquidity issues e.g. the insurer may be forced to sell assets at inopportune times.

(ii) **For new business the insurer could:**

Limit the covered critical illnesses e.g. remove those for which tests/scans are most readily available and reliable subject to retaining the ABI standard definitions of heart attack, cancer and stroke.

Provide for the ability to revise the list of covered CIs during the term of the contract subject to TCF requirements.

Require the policy to have been in force for over N years for conditions diagnosed by these tests to be covered (e.g. a waiting period).

Lengthen the survivorship period.

Encourage the sale of accelerated CI rather than stand-alone CI or move away from individual to group CI to reduce anti-selection risk or stop selling CI insurance altogether.

Consider offering alternative health products that would be less affected.

Consider offering tiered benefits, which may be less affected by earlier initial diagnosis.

Not provide options to increase cover without underwriting.

Ensure that terms and conditions are very clearly worded to reduce legal challenge.

Use standard ABI wording and definitions where possible.

Liaise with distributors on this issue.

Increase the premiums to reflect the higher expected claim incidence including the expected level of anti-selection and the increase in expenses from more claims.

Carry out repricing more often; for example, as a new test or more information on an existing test becomes available or if changes in available tests mean the company decides to exclude another CI or revise its terms and conditions.

Data is unlikely to be available so the insurer will need to determine an appropriate approach to estimating the increase in claims and will need to revise these estimates regularly through experience analysis.

Margins may need to be increased to allow for uncertainty in pricing and reserving.

The insurer could build a relationship with the test/scan providers.

The insurer could consider whether policyholders can be asked to disclose results of tests, subject to regulations allowing this. If they can, make sure that this requirement is communicated very clearly.

The routine use of a test could be added to the underwriting approach.

The insurer should keep up to date with the range of tests and scans offered.

The insurer would look at what competitors are doing.

For existing business the insurer could:

Increase premiums for policies with reviewable rates or for the exercise of lifestyle increases or indexation options when possible.

Ensure the terms and conditions with respect to exercising any options are strictly enforced. It may be possible to introduce restrictions and additional underwriting to existing policies especially when policyholders seek to exercise options.

Introduce more stringent claim underwriting.

Ensure that the claims management team is sufficiently resourced.

Make use of any opportunities to alter the conditions covered due to medical advances since policy commencement.

Increase reserves to reflect the increase in claims which is expected. There may also need to be a small increase to reserves to allow for the increased cost of disputing these claims and for any potential regulatory issues.

Ensure that there is sufficient capital in place to support these higher reserves.

Seek reinsurance if available / renegotiate existing reinsurance cover.

Investigate other options e.g. selling the CI portfolio.

Lobby through the ABI.

Part (i) was generally well answered with candidates providing a wide range of relevant points, although relatively few candidates included a discussion on whether this was likely to be a large concern for the insurer. The better candidates identified the impact of earlier claims and anti-selection, and talked about different impacts on new policyholders and existing policyholders with either guaranteed or reviewable terms and recognised that the tests could discover the illnesses earlier, before they reach the required severity for the CI payment, and hence may improve the claims experience.

Some candidates appeared to confuse CI with PMI and mainly concentrated on the expense to the insurer for covering the cost of the tests, trying to give arguments how they could avoid these tests, that they could sign deals with providers of the tests etc., and hence they scored poorly in the question.

Part (ii) was generally well answered; however, whilst candidates generally discussed ways of reducing the impact for new business relatively few discussed ways of reducing the impact on existing business in any great detail.

Q2 (i) **Terms and conditions**

Terms and conditions will need to be rewritten for UF policies e.g. to clarify whether the choice of hospital will now be restricted to the UF excluding Region C.

Terms and conditions will also need to be rewritten for Region C policies e.g. can Region C policyholders living in the area which borders the rest of the UF choose to receive treatment across the border (especially if it is closer than the nearest Region C provider).

Cross border treatment may only be allowed on enhanced policies.

There is sufficient notice of the change for terms and conditions to be rewritten.

Legal advice will need to be sought.

Issues relating to treating customers fairly will need to be considered if changes have to be made to in-force business terms and conditions. However, since PMI is usually sold on non-guaranteed annually renewable terms there should not be an issue for renewals (and new business).

Group business will need careful consideration as the companies themselves may have employees based in one region and travelling/living/working in other regions.

Data/system changes

Data would need to be collected for each region individually in future (at least separation of Region C). Past data would also need to be categorised by region (at least separation of Region C). There will be less data on which to base pricing calculations.

Systems will have to be able to cope with different premium rates for Region C (region may not currently be a rating factor). There will be costs incurred as a result of these changes.

There are potential implications if existing outsourcers are based in Region C.

There are potential legal issues relating to sharing data outside the region in which the company is located.

Pricing

Policies will need to be repriced. It is likely that there will have to be different prices for policies sold to residents in UF and those residing in Region C (and this may not be the case at present). Pricing for the remaining UF policyholders would need to exclude Region C experience.

Region C policies may have to be priced again from scratch to reflect changes to expected claims experience post-independence.

Independence may result in changes to Regions C's hospitals, both State and private. There is likely to be a smaller number of provider hospitals within Region C. Provider agreements in Region C will need to be renegotiated.

The pricing basis will need to reflect changes to the expected costs of treatment. For example, hospital treatment costs may differ due to changes in taxation introduced by the new government.

There will be a change in the mix of policyholders from the regions of UF. In particular, a larger proportion of those remaining will be from the islands (potentially up to 25% post-independence, compared with less than 20% before). Island treatment may be more difficult for the smaller UF State to

maintain, leading to an increased demand for PMI from Region E. There may be an increase in expected cost if policyholders from the islands (of Region E) have to travel further, e.g. to (the capital of) UF rather than receiving cheaper local treatment in Region C if this were closer.

Pricing may need to be loaded further to recoup the costs of the changes including an increased share of the insurer's overheads e.g. to reflect greater costs in terms of senior management time, tax, legal issues etc. and to reflect higher ongoing maintenance expenses e.g. due to dual reporting.

Pricing margins will need to increase due to greater uncertainty of cost of treatments, staff costs, inflation, availability of hospital supply in a smaller region, data credibility etc.

The economic fortunes of Region C and the remainder of the UF may differ in future affecting the assumptions used in pricing.

Demand

Region C policyholders may no longer be entitled to free State healthcare in the UF and the new country C may not provide free State healthcare, or it may not be able to afford to meet the standards currently offered by the UF State healthcare system. This could increase demand for new PMI business from Region C residents.

Region C may make PMI compulsory.

Alternatively, the new Region C government might prioritise spending on State healthcare more highly than the UF government and thus improve the quality of treatment provided and/or reduce waiting lists which could reduce demand for new PMI business from Region C residents and existing Region C policies may lapse.

There could be changes in business mix; for instance, if the region C government targets more resources to a different socio-economic group.

There may be an opportunity to sell different types of policies to Region C residents e.g. travel insurance for those who travel frequently to the other regions.

If demand increases materially, the insurer may incur administrative strain.

If demand falls materially (or lapses are high), profits will fall and per policy expense assumptions will increase due to the need to reflect the spread of fixed costs over fewer policies.

There may be greater competition for Region C business, depending on whether it is seen as relatively beneficial or because the Region C government

might decide to encourage and subsidise the establishment of more domestic insurers.

The prospects for Region C as a standalone economy will also impact future potential demand since PMI tends to be purchased by those who are relatively affluent.

Personal taxation could change and any State incentives to take out PMI are likely to be different.

There may be less competition if insurers are put off by barriers to entry e.g. the reduced number of potential policyholders in each region, unfamiliar or excessive regulation etc.

Regulation

The insurer needs to consider whether it can continue to operate in Region C (and the UF) in its current form and whether a new subsidiary would have to be set up in Region C.

The insurer needs to consider whether it is necessary to relocate staff or operations, particularly if there is no existing expertise in Region C.

Costs of employing staff may differ between regions, allowing arbitrage; similarly the cost of properties.

There may be an overall increase in admin costs if roles have to be duplicated in all regions and in complying with any changes in regulation.

The company may wish to cease operating in Region C so it may look to sell off the Region C business.

As Region C is relatively small, there is a need to consider whether it is economically feasible to continue to write and manage PMI business there on profitable terms.

Region C may introduce different reporting requirements.

Suitable investments may be limited in Region C; there may be a lack of government bonds.

There may be different regulations relating to what investments can be held to demonstrate solvency.

There may be an increase in required capital e.g. if a minimum level must be held in each country of operation.

New regulations may require changes in underwriting standards e.g. relating to the use of genetic tests.

New regulations might require changes to treating customers fairly expectations or to distribution methods or distribution practices (e.g. information provided at sale) or to terms and conditions of the PMI products or to premium rates (e.g. maximum levels introduced) or to rating factors that can be used (e.g. gender, age).

The insurer will need to be able to deal with different legislation/legal systems.

The new government may offer incentives to operate in the new Region C country.

Corporate taxation may change in respect of the Region C business.

Currency

Region C will have to have its own currency, although this could be pegged to that of the UF, at least in the short-term. Hence payments may have to be made in multiple currencies.

Systems may need to hold records in more than one currency in which case the insurer would need to decide the method (rates used and when updated) for converting between currencies.

Excesses and policy maxima may need to be expressed in a new currency. Over time excesses and policy maxima may differ by region, if, for example, inflation was significantly different between each country.

The insurer could be exposed to an exchange rate risk if Region C has its own currency.

Language

Region C may adopt a different official language; hence terms and conditions may have to be translated. Staff may need to be recruited who speak the required language(s).

Reinsurance

The insurer will need to renegotiate and rewrite existing treaties.

There may be a requirement to use a regional reinsurer.

Marketing

The insurer may need to recruit regional sales persons and may need to make changes in commission levels.

Advertising costs may increase.

General

The overall impact will depend on the proportion of the existing portfolio and customer base which is Region C. There may be a risk of other Regions doing the same.

The announcement may generate social/political unrest in the UF which could adversely impact sales volumes and persistency rates.

There may be few changes initially but with further changes arising in future years.

(ii) The terms and conditions with respect to current policies will have to apply until the current policies reach their renewal dates. They are PMI policies, so this will be at most for one year.

The UPR will not change unless the accepted methods of calculation are altered by the new Region D government but this is unlikely to be implemented immediately.

The other claim reserves, i.e. the URR, OCR (or IBNS or RBNS), IBNR, IBNER will need to be recalculated taking into account any changes in the expected number and cost of claims in Region D. These impacts will be mainly in respect of reserves held for Region D policyholders but there may also be implications in respect of other UF policyholders living close to the Region D border who would elect to use (or are already using) Region D hospitals.

Changes in the level and type of State-provided cover may take effect immediately and would not be as assumed in the pricing basis. The same would be true for changes in the cost of treatment in the regional hospitals.

A likely reduced ability to manage claim amounts if preferred providers are now located across the border should be taken into account and there may be a limited number of providers in Region D, which could push up costs. However, existing provider agreements should remain valid for the short-term.

As Region D is now a new country, it is likely that the regulations applicable to the UF require it to separate out those reserves for financial reporting purposes – which it might not previously have done. It might be difficult to do this immediately due to system/data constraints.

Assumptions may have been determined on a UF rather than a regional basis, so would have to be set again to be specific to each of Region D and the remaining UF. Experience data may not have been collected so that it can be analysed and applied by region. Hence more estimation is required and higher margins may be required, or expenses incurred in purchasing suitably categorised data or reinsurance assistance.

Different estimation methods for claim costs may be needed e.g. case estimates instead of statistical methods.

Reserves will need to be included for any reinsurance treaties which are voided or insufficient as a result of the changes, a provision would be required for the cost of obtaining or renegotiating suitable reinsurance cover.

Lapses will alter the expected claims cost, in particular selective lapses.

Reserves may be needed to cover the cost of closure to new business, particularly if this is the intended strategy following this announcement.

Expense reserves are likely to need to increase e.g. due to anticipated system changes and any immediate language or currency changes.

The work required immediately is unavoidable and likely to be more expensive; the insurer may need to hire more staff or use consultants and to allow for the anticipated cost of any relocation of staff and buildings. The cost of employing staff in the new regions may change and similarly rental/property costs.

There will also be an increase in the expenses of administering the claims over separate regions.

There may be an increased cost of legal advice and the cost of settling disputes to clarify the policy coverage post-independence.

Inflation will differ from the levels assumed but this should not be an excessive difference over the one year time period.

Region D is small, and UF minus region D is smaller than before and will become smaller once Region C leaves as well; this will require larger margins in respect of random fluctuations in estimates.

Reserves will need to be altered to take into account any announced tax, regulation etc. changes plus further reserves/margins for any anticipated changes and the effects of any initial and ongoing economic and political turmoil.

It might be decided to hold an equalisation reserve to cover the unknowns.

The UF regulator may get involved given the immediacy and uncertainty and may impose additional reserve margins or requirements.

Interest rates may move as a result of the announcement, particularly UF government bond yields, depending on the market reaction to Region D's move. This will impact any discounting in the reserves but this will have a relatively small impact for PMI business.

Mismatching reserves may need to be recalculated.

Depending on how quickly repricing can be carried out, there may need to be additional reserves (URR) held in respect of imminent renewals which are still written on the old basis.

Overall, the implications will also depend on the size of the insurer's portfolio that originates from Region D.

Part (i) was generally well answered, with many students covering a range of potential impacts, including regulatory, demand, pricing. The better students also recognized the fact that PMI was annually reviewable. However, as for question 1, some students confused CI with PMI.

Whilst many candidates discussed the implication with regard to Country C, relatively few considered the impact for existing policies and new business written in the other regions of UF.

Part (ii) was less well answered with many candidates not providing a wide enough range of points to score well.

Q3 (i) Operational risk

The failure of systems, people or processes

The dominance of a single individual over the running of the business

Reliance on third parties to carry out various functions for which the organisation is responsible

Reputational risks

Potentially bad publicity resulting from not being seen to treat the elderly well e.g. due to claim declinatures or due to poor care home standards or from increasing premiums materially at a review date

Control failures in relation to underwriting or claims management

Control failures in relation to accounting and reporting

Data input errors

Errors made in pricing products

Incorrect amounts being paid to policyholders e.g. due to inappropriate administration

Failure to apply the 5% p.a. increase at the correct time

Fraud by staff or by policyholders e.g. money laundering

Non-disclosure at outset

Data protection/security failure or breach

Litigation – policyholders taking action against the company if they feel they should have received a claim but didn't

Regulatory or compliance breach

Conduct/TCF risks; may result in a fine

Loss of key persons

Issues arising due to poor policy wording e.g. greater number of claims accepted than was originally intended

Mis-selling of the product e.g. policyholder may be unhappy if they did not realise that there was no value payable on surrender. Mis-selling may result in compensation being paid to policyholders

Changes in State intervention

Risks relating to regulatory/legislative change or changes to tax, including the risk of an unfavourable decision on outstanding tax computations or specific open issues with the tax authorities

Risk that inappropriate decisions are made by management, resulting in lossmaking business e.g. not increasing reviewable premiums when should have

Business interruption due to physical risk e.g. fire, flood

Outsourcing risk

Risk of theft, e.g. computer equipment

(ii) **Credit or counterparty risk**

The risk that a third party will not meet its obligations (to an acceptable standard)

May include spread widening on corporate bond securities (although this may also be categorised as market risk)

Downgrades to corporate bonds

Defaults on corporate bond coupons or on corporate bond capital repayments

Defaults on cash holdings

Defaults on reinsurance contracts where monies due may not be paid

Defaults of providers of any derivatives used as part of the company's investment strategy

Defaults of firms providing outsourced services such as administration and investment management or poor service provided by these outsourcers

Defaults of care homes providing services

Defaults of insurance brokers (if used), e.g. not passing on premiums owed Downgrades to reinsurers

(iii) **Group risk**

Group risks arise from the impact of individual group companies on the organisation as a whole; for example, material risk exposures to members of the Group could arise from significant regulatory action against one member of the Group

Breaches of inter-company agreements

Discrepancies between or difficulty in agreeing a consistent strategic direction / poor strategic alignment

Exposure to more than one jurisdiction, e.g. strategic impact of regulatory change in USA LTCI provision

Downgrade in the parent company's credit rating

Future defaults on intra-group reinsurance arrangements between UK company and USA subsidiary

Non-payment of future internal dividends or transfers between UK company and USA subsidiary

Future defaults on inter-company debt

Lack of transferability of capital between funds and companies

Risk of adverse tax judgements

Inadequate supervision by the parent company of the subsidiary could lead to legal costs/loss of reputation for the subsidiary which could ultimately affect the parent company.

(iv) **Operational risk**

Staff: ensure sufficient number with appropriate experience and provide training, where necessary

Vet staff, where appropriate

Train sales staff and distributors

Provide clear and comprehensive sales literature

Review policy wordings and terms and ensure all processes are consistent with them

Improve claims management/underwriting to manage risks around non-disclosure and policyholder fraud

Systems: fully tested and well documented

Processes: review and fully document, including for outsourcers

Monitor outsourcing agreements on a regular basis

Have automated data checks and reconciliations

Have robust premium acceptance checks

Carry out customer satisfaction surveys

Keep abreast of regulatory and tax changes and lobby against them if necessary

Implement a business continuity plan

Insure premises etc.

Have good data security protection/cyber insurance

Take out key persons insurance

Make staff take a 2-week break to reduce the risk of over reliance (and fraud)

Credit or counterparty risk

Invest in higher grade bonds or just in government bonds

Have a clear policy for dealing with defaults and downgrades for corporate bond portfolio

Diversify bond holdings across sector

Hold cash deposits in banks with high credit ratings

Ensure exposures to individual counterparties or bonds are diversified and within risk tolerances

Purchase credit insurance

Hold credit derivatives

Hold collateral

Use reinsurers with high credit ratings

Diversify across several reinsurers

Only use derivatives which are cleared through a third party

Put in place detailed service level agreements with outsourcers

Carry out due diligence of outsourcers

Clear enforceable performance contracts with outsourcers and have penalties for non-compliance

Only deal with reputable care homes and monitor on a regular basis

Pay care homes in frequent payments so that cash payments meet the regular ongoing cost

Only deal with reputable brokers

Group risk

Set out clear responsibilities

Have strong communication across the Group

Put in place a coherent risk management framework across the Group

Have consistent group-wide risk tolerance and approach to managing risk

Hold legally enforceable collateral for inter-group loans

General

Have additional margins in premiums

Hold capital against the risks

Monitor experience

Have strong governance and controls

Have regular internal audits

(v) Advantages of using the internal model:

It will allow the insurer to reflect more accurately the specific operational risks to which it is exposed since the standard formula is a very broad brush approach. This is particularly advantageous as the insurer seems to be a relatively non-standard insurer.

The internal model can allow for any partial correlation or diversification effects with other risks which the standard formula approach does not recognise. Thus, overall, the amount of capital that has to be held for operational risk could be lower than if the standard formula was used.

If the insurer is planning to use an internal model for other risk modules, then including an operational one may not mean too much additional work.

It will provide the company with a better understanding of the risks.

Using an internal model has a potential reputational benefit for the insurer (e.g. with rating agencies, fund managers etc.).

Advantages of using the standard formula:

This is a relatively simple approach.

The operational risk component of the internal model may be difficult to design and calibrate, particularly in respect of those risks which are high impact but low frequency and due to lack of data. It is also more difficult to test and validate.

Standard formula requires less resource and costs less.

It may be easier to explain / communicate.

It may result in a lower capital requirement.

It doesn't require regulatory approval.

Part (i) was generally well answered, although few students included risks related to Solvency II. Some candidates just covered risks related to systems and hence failed to provide a wide enough range of points to score well.

Part (ii) was generally well answered.

Part (iii) was not well answered. Whilst most candidates recognised the risks of tied capital / inability to pay dividends to the parent company, few candidates listed any other group risks.

Part (iv) was generally reasonably well answered; most candidates gave a good range of suggestions for managing operational risk, with the better candidates also providing suggestions for managing credit or counterparty risk.

Part (v), which was broadly bookwork, was well answered.

END OF EXAMINERS' REPORT