

INSTITUTE AND FACULTY OF ACTUARIES

EXAMINERS' REPORT

September 2014 examinations

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 at the date 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 2014

General comments on Subject SA1

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.

Comments on the September 2014 paper

Overall the paper was at the more difficult end of the range, although 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.

- 1** (i) To reduce government spending (or balance the budget).

This may be seen as an alternative way to tax the wealthier people (people who can afford to pay for private treatments) and thus to increase social fairness within the country (or subsidise the poor).

To improve the quality of free healthcare provided to all individuals.

To provide access for all to advanced treatments not offered by State hospitals.

To utilise existing spare capacity in private hospitals.

To reduce the burden on the State healthcare system e.g. due to demographic change/staff movement to private sector. In particular, to reduce waiting times which may have been increasing or are currently unacceptably long.

This may be related to past political promises made or the next election may be close; this could be seen as a way for the current government to gain popularity.

The government may be of the opinion that, due to insufficient competition, private hospitals' profitability may be too high and this may be seen as a method to charge them additional tax.

Requiring an independent company to make the decisions provides an element of fairness.

[4]

- (ii) Private hospitals will most likely not be happy with this new legislation and might lobby against the proposal. However, if they respond negatively it may create bad publicity for them.

Profitability

The new legislation will have an immediate negative impact on their profitability (as they will not be able to charge for all the treatments and services they used to charge for). Therefore they might increase their capacity to make up for the lost income and/or increase their fees and/or reduce their costs.

The proposal may reduce share prices, if listed.

Capacity/demand

It may not be possible for private hospitals to increase capacity sufficiently in the short term, in which case there may be a resultant strain on existing staff.

In the longer term there may need to be further investment to increase capacity e.g. to recruit more staff or expand premises.

The demand for private healthcare may reduce because patients know that they might get the treatment at the same private hospital for free (so, they

would be less inclined to want to pay for private medical treatments). Demand could also reduce due to a fear of lower quality treatments in private hospitals. The “niche” appeal of private healthcare may be removed as a result of this new legislation.

The waiting times within the State healthcare system will reduce and the quality of treatment/care within the State healthcare system could improve.

However, the arrangement could provide marketing opportunities for the private hospitals and thus help to increase demand.

Fees

If the private hospitals increase their fees, patients will be reluctant to pay more especially because they will be aware that they could possibly get the same treatments / services for free at the same hospital. However, for patients with PMI, an increase in fees will not have an immediate impact unless the higher fees are passed on to policyholders through higher premiums (see part (iii)).

On balance, due to potential reducing demand and willingness to pay for private healthcare, the private hospitals may actually need to reduce their fees.

Cost management

Reduced costs could be achieved by freezing/cutting salaries or by reducing staff. However, these options will impact the hospitals' ability to increase capacity.

Hospitals could reduce the quality of the treatment or care but this is unlikely to be considered a viable option.

There may be mergers between private hospital operators in order to cut costs or hospitals might even close.

Implications of dealing with independent company

There will be an extra admin burden of dealing with the independent company and its requirements. The private hospitals will also need to change their administrative systems to differentiate which treatments/services are free and which are charged for. This will include electronic linkages with the independent company to provide regular reports.

Hospitals may need to change the range/balance of treatments offered as a result of the independent company's demands.

Issues may arise relating to fair and consistent treatment between private and free patients. There is the potential for adverse publicity if monitoring issues are raised.

Penalties might be imposed on hospitals if the requirements are breached.

Other implications

Levies may be imposed on hospitals to help meet the costs of the independent company.

[8]

(iii) **Claim costs**

It is likely that private hospitals will increase their fees (as noted in part (ii)). Overall, claim costs would therefore increase but the impact will depend on the contracts that PMI providers have in place with hospital groups and when these contracts are up for renewal.

If no contract is in place that specifies the cost for treatments and medical procedures then claims costs will rise immediately and the full rise in costs will be passed on to the PMI provider.

If such a contract is in place, then claims costs will only rise at the renewal date of the hospital contract, or by the increases year on year specified in the contract; hence the impact will be dampened.

The insurer may decide to change preferred providers, if some change their fees by less than others.

Claims experience (frequency) may reduce if policyholders turn out to be eligible for some of the treatments on a free basis.

There is uncertainty about what will or will not be covered for free going forwards and what the eligibility requirements will be, since this is a new initiative and may change as it beds in.

In-force business

PMI providers will not be able to increase the premiums to existing policyholders until their renewal. Hence, with increasing claim cost, reserves would need to be strengthened. An unexpired risk reserve should be set up (or increased). As a result profitability will reduce.

New business & renewals

PMI providers will be able to increase the premiums on new policies / renewals. The exact increase will depend on the impact on each PMI provider's claim cost and the desire to be competitive.

Increased premiums would reduce the attractiveness of PMI, as policyholders may not be willing to pay more.

The demand for PMI may also be reduced due to the increased availability of free treatments or less perceived difference between the State and private provision. There may be an offsetting increase in demand if those using the free treatment have a good experience of private hospitals (or general increased awareness of existence of private treatment).

Overall non-renewal rates could increase and fewer true new business policies could be sold. Furthermore, the non-renewals may be anti-selective. These impacts would reduce the total profits to the company.

To soften the immediate impact on the PMI market, PMI providers may accept lower profitability per policy in the short term in order to keep premium increases to a minimum, or might even have to reduce premiums in order to maintain market share. Alternatively, providers may increase the excess rather than increase the premium.

Products

It may be difficult to reprice products.

To mitigate the above negative implications, PMI providers could change their product focus. For example, they might shift more towards health cash plans - unless the choice and allocation of free treatments makes such plans also less attractive.

PMI providers could introduce changes to the PMI product features and terms e.g. more focus on waiting list plans (though demand for these may reduce too if State waiting lists reduce as a result of this initiative) or on products that only provide cover after treatment has been received for a certain period, say three months, or products that provide cashback if free treatment received.

PMI providers may need to consider using different distribution approaches if there are changes in target markets as a result of the legislation.

PMI providers may need to do more advertising/marketing to counter any reduction in demand.

Introducing any of the above changes could incur additional costs.

There may be a need to review non-proportional reinsurance retention limits due to higher claims cost (*other well explained points relating to reinsurance were alternatively given credit*).

[8]

[Total 20]

This question was aimed at getting candidates to apply their knowledge in considering an unusual scenario.

Part (i) was well answered, with most candidates providing a good range of reasons.

Part (ii) was also generally well answered, although few candidates discussed the implications of dealing with the independent company.

Part (iii) was generally less well answered. Most candidates discussed the effects on the future demand for and renewals of PMI insurance and the likely increases in claims costs.

However, many candidates didn't discuss the existence or otherwise of contracts with private hospitals and how the terms of these might affect insurers. Few candidates discussed the possibility of changing product focus.

- 2** (i) The best estimate liability is the present value of expected future cashflows discounted using a yield curve (i.e. term dependent rates) based on “risk-free” rates. These future cashflows will be the expected future claim payments plus expenses less premiums for current healthy lives and claims in payment for those claiming or in the process of claiming.

All assumptions should be best estimate, with no prudential margins.

The projections should allow for all expected decrements (e.g. mortality) and policyholder actions, including lapses. Lapses may vary according to the economic scenario if a simulation approach is used.

The key assumptions will be future expected claim inception rates and claim durations or claim termination rates. The assumptions should take into account expected future changes in health status.

Insurance companies must take into account all relevant available data, (both internal and external) when arriving at assumptions that best reflect the characteristics of the underlying insurance portfolio. In particular, the morbidity assumptions should be appropriate to the features of the underlying portfolio such as socio-economic status, occupation. The morbidity assumptions should also take into account the possibility of anti-selection, including the impact of selective lapsing.

External data (e.g. from reinsurers) may be used to help set these assumptions.

Future premiums can be taken into account up to the “contract boundary”, which is broadly defined as the point at which a company can unilaterally terminate the contract, refuse to accept a premium or change the premiums or benefits in such a way that they fully reflect the risks. For income protection business this would mean the maturity or expiry date of the contract if written on guaranteed terms. However, if the premiums or benefits are reviewable so that they fully reflect the risks, then the insurer will need to consider carefully whether the contract boundary is in fact an earlier date.

Allowance for future expenses needs to take into account both overheads and directly attributable expenses and future expense inflation. No closure reserve is required.

Assumptions will also be required for future rates of inflation to the extent that benefits or premiums are indexed. Such assumptions should be “market consistent” and consistent with the expense inflation assumptions.

Contractual options and guarantees and take up rate assumptions need to be allowed for, e.g. if there is an increase option written into the contract. For some of these, a market consistent simulation or stochastic analysis may be the most appropriate calculation approach although a deterministic approach could be acceptable depending on the risks involved and the materiality.

The discount rates should be set using market-based “risk-free” observed rates such as swap rates or government bond yield curves which may then need to be adjusted to allow for credit risk (e.g. a deduction from swap rates).

It is also noted that the method used to determine the discount rate needs to be consistent between different currencies including those without an active government bond or swap market or where the market is not active for as long a duration as the liabilities.

It may be possible to adjust (increase) the discount rate to allow for the illiquidity premium within assets held such as corporate bonds. However, for income protection business it may be challenging to demonstrate sufficiently close matching of future liability and asset cashflows.

The cashflow projections should ideally be performed on a policy by policy basis. However, approximations are permitted and grouped model points can be used (provided certain conditions are met).

Recoveries expected from a reinsurer are shown as an asset in the balance sheet, so the liabilities should not be reduced to take account of any reinsurance held.

Appropriate allowance needs to be made for taxation.

[13]

- (ii) The risk margin would be determined using the “cost of capital” method. It is based on the cost of holding capital to support those risks that cannot be hedged in financial markets, which for this product would include:

- Insurance risk – particularly morbidity risk
- Operational risk
- Reinsurance credit risk (if applicable)

It is unlikely for this product that there will be any “residual market risk” associated, and so no need to hold a risk margin for that element.

The company will first need to identify the capital that it is required to hold within the SCR for the insurance and operational (and reinsurance credit, if applicable) risks. Allowance for diversification between the risk types can be made.

The company will project this subset of the SCR forward each year for the whole period of run-off of the existing book. These projected capital amounts are then multiplied by a cost of capital rate. For Solvency II it is currently proposed that this is a fixed rate of 6% per annum. The product of the cost of capital rate and the capital requirement at each future projection point is then discounted using risk-free rates to give the overall risk margin.

Since the projection of the SCR is potentially complex, various simplified approaches can be used. This could involve selecting a driver which has an approximately linear relationship with the required capital or its components.

For example, the morbidity risk could use the expected claim amounts as a driver, the expense risk might use policy count, and the operational risk could more simply use total reserves.

The initial capital requirement can be expressed as a percentage of that driver, and the projected capital is then approximated as the same percentage of the projected values of the driver. In practice, more sophisticated methods using a combination of drivers and correlations may have to be used.

The risk margin for operational risk may be assessed at company level rather than being allocated directly to this product.

The risk margin for the product may be reduced to take into account any diversification that there might be between other lines of business that the company might be writing. For example, the diversification benefit might be apportioned according to the (subset of) SCR used at the start of the risk margin projection.

However, the implication here is that this insurer is not well diversified across product lines and so diversification potential may be limited.

[8]

(iii) For both types of business:

Market risk module: the main components for these types of business are likely to be interest rates and possibly credit spreads if corporate bonds are held.

Currency and concentration may also be relevant.

Illiquidity may be relevant to IP claims but is less relevant to PMI.

Each individual market risk stress is performed separately according to detailed rules, which specifies the calibration and application of each stress (e.g. x% change in interest rates). The SCR for each individual risk is determined as the difference between the net asset value (assets less best estimate liabilities) in the unstressed balance sheet and the net asset value in the stressed balance sheet. The individual risk capital amounts are then combined using a specified correlation matrix.

The counterparty risk module is similar with a proposal that the insurer must first differentiate between type 1 (may not be diversified and the counterparty is likely to be rated) and type 2 (usually diversified and the counterparty is unlikely to be rated) exposures. The assessment here could include reinsurance and outsourcer default risks.

There is also an intangible assets module and an insurance risk module, which is specific to each type of business as described below.

The above modules are combined using a correlation matrix to give the Basic SCR.

Further adjustments are made to allow for operational risk which is a relatively simple approach based on percentages of earned premiums and technical provisions and an allowance for the loss absorbing capacity of technical provisions and deferred taxes.

(a) **Income protection business – insurance risk module**

This is SLT health.

It comprises morbidity, mortality, lapse and expense risks. It also includes revision risk; the risk of adverse variation of the amount of an income protection insurance claim if the benefit can vary due to changes in the legal environment or the state of health of the insured.

The individual stresses are applied for each insurance risk element, e.g. an increase of 35% in claim inception rates for the following year together with a permanent 25% increase thereafter and a permanent 20% decrease in disability recovery rates.

There is also a catastrophe risk component reflecting extreme events e.g. epidemics, under standardised scenarios.

(b) **PMI business – insurance risk module**

This is non-SLT health.

It comprises premium and reserve risks i.e. fluctuations in the timing, frequency and severity of insured events, claim settlements and expense payments, and lapse risk.

The standardised approach multiplies a volume measure by a specified standard deviation relating to that risk then further multiplies by a factor that adjusts to the required confidence level. The catastrophe module is also included.

[11]

(iv) **Improve the input process:**

- Ensure timely production of internal data/information.
- Negotiate timely supply of information from third party providers and reinsurers.
- Streamline the data checking process such that many of the potential errors could be identified and corrected at an early stage of the valuation process.

Simplify/accelerate the calculation process:

- Use model points instead of a policy by policy approach provided the EIOPA conditions are met relating to validation of accuracy.
- Consider using data from an earlier period and using roll forward techniques wherever possible.
- Reduce the level of manual calculations: automate as much as possible.

- If stochastic modelling is performed, reduce the number of stochastic runs to a level that is appropriate to the size, nature and complexity of the business.
- Or simply use stress tests rather than stochastic modelling.
- Reduce the projection frequency period (e.g. monthly to annual) if it doesn't compromise accuracy e.g. for later years in the projection or for the risk margin SCR projection.
- Use appropriate simplifications based on materiality.
- Build automated checks into the projection system, which would flag up inconsistencies automatically in output results and so can more quickly be fixed.
- Ensure that the models are thoroughly tested before use.
- Perform practice "dry runs".
- Move to Solvency II (as part of ICAS+) reporting before it is required, thus having more time prior to full implementation to fix inefficiencies.
- If permitted, use the standard formula approach to the SCR rather than the internal model approach. This may be difficult for this insurer as it has a relatively "non-standard" portfolio.
- It might be possible to use a partial internal model approach (i.e. standard formula for some components).
- Use simplified SCR projection approaches for the risk margin calculation.
- Use correlation matrices rather than copulas.
- Use a less detailed, broad brush approach for monthly reports with more detailed reports on a quarterly basis.

Simplify the reporting process:

- Have automated reporting templates.
- Adapt other reports (particularly internal reports) so that they are consistent with the Solvency II mandatory reporting requirements.
- Cut down on outputs which are not required for Solvency II (and which are not deemed to have other benefits).
- Streamline the population of end user applications.

Better IT:

- Improve the efficiency of the IT systems.
- Integrate the IT platforms and database.
- Integrate models, e.g. tax models.

Resource and process management:

- Identify and remove duplicated effort created by separate teams doing similar work.
- Carry out non-dependent work in parallel rather than sequentially.
- Ensure that the Solvency II reporting and modelling teams are sufficiently resourced, both in terms of numbers and expertise/skills.
- Clarify accountability and roles and responsibilities (poor accountability is often a cause of delay).
- Have a clear production timetable.
- Have a clear governance and sign-off structure.

- Make use of internal/external programme management specialists to spot inefficiencies.
- Have good quality process documentation.
- Assign a project manager to manage the reporting process.
- Hold regular meetings and updates between those producing the results, to encourage full knowledge sharing.
- Hold a review (e.g. just after a recent reporting exercise) in order to identify the key inefficiencies, so that know where to focus improvement efforts.
- Learn from inefficiencies from the current reporting process.
- Engage auditors/reviewers early on in the process.
- Have ongoing staff training.
- Outsource if more efficient.
- Employ consultants
- Keep up-to-date with Solvency II and related regulatory updates as they are announced.

[13]

[Total 45]

Part (i) required the application of core reading to this specific product type. It was generally reasonably well answered, although several candidates provided little description of discount rates or the allowance for options and guarantees. Few candidates mentioned the concept of the “contract boundary”. Some candidates mistakenly thought that the liabilities could be reduced by reinsurance recoveries.

Part (ii) was often poorly answered, despite again being heavily bookwork-based. Although most candidates could list possible risks to be included in the risk margin, there was not always recognition that it is only non-hedgeable risks that need to be covered. Few candidates described the possible approximations for forecasting the SCRs or the allowance for diversification, despite these being covered in the core reading.

In part (iii) the insurance risk module for IP was generally well described, but that for PMI was generally less well described.

Part (iv) was designed to allow candidates to demonstrate higher skills and application of their knowledge. However, it was generally less well answered with candidates tending not to generate a sufficient range of separate points, given the high number of marks available. Whilst candidates often highlighted IT improvements, resource management and training there was generally little consideration provided of improved data processes or simplification of calculations and reporting.

3 (i) This critical illness is suitable for inclusion in the critical illness policy.

It is considered to be “severe”, so will have a very material impact on the life of the individual.

Since the claim cost is estimated to be around 2.5%, the inclusion of the definition is likely to cover a significant number of claims.

The illness looks to be well defined and is measurable when an appropriate level of the specific enzyme is met. The existence of the enzyme is the current

method of diagnosing Dalgaard Syndrome; however, should medical diagnosis of Dalgaard Syndrome change then there could be difficulties in the future with diagnosis.

There is a need to consider if the disease is hereditary (which could provide scope for anti-selection).

There seems to be sufficient data available on which to price it.

The definition is not an ABI "Model critical illness" and so the company will need to ensure clarity of the definition of the disease in the sales literature and technical policy wording - specifically about what is, and is not, covered.

It could potentially be temporary or curable and hence generate too many windfalls.

[3]

- (ii) The impact on pricing model/cashflows will be:

Premiums: 0.5% higher

Claims: 2.5% higher

This will be due to higher numbers of claims, not to a change in the amounts paid per claim

Commission payments: 0.5% higher (assuming this is expressed as a proportion of premium) for both initial and renewal commissions.

Claw back of commission: 0.5% higher, offsetting in part the higher commission.

Other premium related expenses: higher e.g. sales consultant credit or higher premiums resulting in increased medical underwriting.

Claim expenses: higher since the number of claims will increase.

Other expenses (i.e. per policy): likely to be unchanged.

Reserves: increased to cover higher frequency of claims given that the expected increase in claim costs exceeds the expected increase in future premiums. In the first month the higher initial reserves will reduce profit. But in later projection periods there will be an increase in the release of the reserves. The solvency margin will be similarly affected.

Investment income: higher mainly due to the higher reserves.

Slightly fewer policies continuing due to increased claim frequency, so very small reduction in mortality profits (no change to assumed mortality) and similarly for lapses (no change to assumed persistency).

Reinsurance premiums: 2.5% higher.

Reinsurance recoveries: higher due to the expected increased claim frequency.

Tax on profits: the overall impact will depend on the various expense, claims and premium impacts but profits would generally be expected to reduce. Hence tax also reduces.

Overall pricing model profit: the increase in premium is unlikely to offset the increase in claims and in reinsurance costs, so a significant reduction in profitability from the pricing model would be expected.

The payback period would be expected to be increased and the IRR (internal rate of return) reduced.

The actual profit arising will depend on new business volumes. If the change attracts higher business volumes, overall profit could even be increased (or vice versa).

The actual profit arising also depends on the experience relative to the pricing assumptions, for example:

- Additional expenses incurred in the development of the product
- Lower per policy expenses if business volumes increase significantly (or vice versa)
- Lower lapses due to additional coverage
- Higher/lower claim rates if the initial analysis proves to be inaccurate.

[10]

- (iii) The increase in premium rates will reduce the price competitiveness of the product. However, the additional benefits will make the product more attractive and this is likely to more than compensate for the price rise.

The company needs to consider whether doctors accept the validity of the test and/or do they carry out the test routinely.

If the market accepts the coverage of Dalgaard Syndrome as a material risk for customers then product marketability will increase, leading to an increase in sales (and vice versa).

The company should investigate the market and see whether any competitors are covering this critical illness. If not, the company could have a niche product that is more attractive, although competitors may then follow. If competitors already cover this illness, the company may need to include it in order to stay competitive. In either case, the views of distributors may be sought.

If sales increase too rapidly then this will put stresses on new business systems, perhaps leading to backlogs in processing. Pressures on underwriters may lead to delayed acceptances. Overall this could damage the company's reputation (e.g. through unclear policy wording) which could then have a negative impact on future sales.

The new product has higher reserves than the current product and reserves may also be increased due to higher prudential margins to reflect greater uncertainty about future experience. So more capital is needed to write the same level of new business.

If the new product sales are materially increased then even more capital will be required. If capital is limited this could become an issue. It could even result in new business being stopped partway through the year. This could also result in significant reputational damage.

Administrative processes and systems need to be changed and staff and distributor training will be required. Also, policy and marketing literature will need to be rewritten. These changes will all incur costs. The company needs to consider whether it will sell sufficient additional new business to recoup these development costs.

The company needs to consider the potential for anti-selection risk and non-disclosure risk from those most likely to develop Dalgaard Syndrome. It may have to consider making changes to its underwriting process and/or its underwriters. However, the development or recruitment of underwriters will take many months. Third party organisations could be used but the company would need to ensure that the company's underwriting policy is applied correctly.

Policyholders with policies written recently without the Dalgaard Syndrome may decide to lapse and re-enter with the new product resulting in losses for the company and increased administration. The company could investigate offering existing policies the new benefits for an increased premium.

The company could investigate whether another reinsurer could offer better rates.

Including a new critical illness for which there is no historic experience increases the risks to the company. The company will need to monitor actual claims experience closely and then re-price as appropriate.

The mix of new business may change as a result of the inclusion of this new critical illness.

Other considerations would include:

Any regulatory constraints on including this illness e.g. gender equality legislation.

Shareholders' views/impact on share price.

Fit with corporate strategy - whether high margin or loss leader.

Consistency with other products (e.g. any accelerated critical illness products sold).

Whether there are better uses of the capital.

[12]

- (iv) Need to understand the reason for the suggestion.

The increase in sum insured would increase business volume.

However, it would result in coverage of extremely large individual risks which could result in volatile company earnings. This could have a negative impact on the share price. It could even threaten the solvency of the company, unless the reinsurance cover could be extended to these levels.

The company would consider whether existing policyholders would be able to increase their sums insured.

The underwriting of the high sum insured cases is much more onerous and specialised as the risk of anti-selection is heightened. Robust and detailed financial underwriting is required to avoid windfall opportunities.

Claims approval is also more onerous and there is an increased risk of fraudulent claims. Hence if the number of applications for such cases was material, it may lead to processing delays and knock-on effects on the processing of other policies.

The reinsurer might be able to provide technical assistance (and control) in the areas of underwriting, claims approval and claims monitoring for these risks.

Such reinsurances can be arranged on a facultative or treaty basis depending upon circumstances. Surplus or excess of loss treaty reinsurance would likely be used here.

Reinsurance can also assist with the financing of the business as the solvency requirements are normally reduced in line with the proportion ceded, though this may be subject to an upper limit.

The £10 million sum insured limit may well be in excess of what any reinsurer (or even a group of reinsurers) will accept and so a lower level may have to apply. For a particular life insured the reinsurer will also look at the total sum at risk across all the business that it is exposed to on this life and may impose a lower limit.

For underwriting, and particularly for claims, the reinsurer (having the bulk of the risk) will have control over the acceptance of such claims.

The company should consider how many such high sum insured applications are likely to arise. Have there been any social, demographic or economic trends which might lead to a demand for higher sums insured (e.g. how much individuals can borrow for mortgages, high inflation).

The product might be bought as Keyman CI requiring a high sum assured.

A different distribution channel might be needed to reach this different target market. The level of anti-selection risk is dependent on distribution channel (e.g. using brokers might exacerbate anti-selection).

It should balance the possible additional profits from this business against the additional costs of implementation, such as system changes and greater underwriting costs.

It could consider the limits imposed by competitors.

It needs to ensure that it has sufficient capital to cover any new business strain from writing such large contracts.

The company could consider whether the experience of high sum assured policies might differ from smaller policies e.g. due to the policyholder being from a higher socio-economic group. The product may be hard to price as company does not have such experience to date.

Such policies would also contribute significantly to the coverage of fixed costs; therefore it may be possible to offer beneficial (lower) premiums to such cases (even after allowing for higher underwriting costs).

There may be increased potential for high premium cross-selling opportunities.

[10]

[Total 35]

Part (i) was well answered by some candidates. However, several candidates discussed why the insurer might include cover for Dalgaard Syndrome in its CI contracts rather than whether the illness was suitable for inclusion as a new critical illness.

Part (ii) asked for the impact on cashflows in the pricing model. Most candidates only discussed some of the more significant cash flows and omitted many others, for example, the impact on commissions, tax, reserve movements, reinsurance and investment income.

Part (iii) was generally better answered, with candidates making a wide range of appropriate points. Most candidates discussed the impact the change is likely to have on making the product more attractive and on sales and capital requirements. There was less discussion of the likely impact on the administrative side or of the other non-financial impacts.

Part (iv) was also generally well answered with candidates making a good number of points. However, few candidates recognised that the reinsurer might want more control over the underwriting and claims acceptance processes if the sum assured were raised to £10 million. Similarly points relating to the possibility of needing a different distribution channel, the potential for cross selling of other high premium business and that such policies could contribute significantly to the coverage of fixed costs were only made by the better candidates.

END OF EXAMINERS' REPORT