INSTITUTE AND FACULTY OF ACTUARIES

EXAMINERS' REPORT

September 2019

Subject SA3 - General Insurance: Specialist Advanced

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.

Mike Hammer
Chair of the Board of Examiners
December 2019

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

1. The aim of the General Insurance Specialist Applications subject is to instil in successful candidates the ability to apply knowledge of the United Kingdom general insurance environment and the principles of actuarial practice to providers of general insurance in the United Kingdom.

2. Our expectation of a passing candidate at this stage is that, broadly, they should appear capable of stepping up to a head of function (pricing / reserving / capital) role at a small-mid sized organisation or being a senior member of a function team at a larger organisation. They should demonstrate not only a grasp of the technical aspects of general insurance actuarial work, but should also have a good sense for products, the competitive marketplace, regulatory environments and the operational aspects of an insurance company. They should be able to pull these areas of understanding together to provide well rounded advice to the users of their services.

3. Consistent with previous examiners' reports, we would offer candidates two key pieces of advice – (i) read the question properly and (ii) take the time to actually think about what is going on. Further to previous reports, we would stress that candidates do not need to get the majority of the points included in this report in order to pass (there are significantly more than 100 marks available for the points in this report). 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.

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

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

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

7. 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 it may cover similar ground).

8. Various examples from this paper of recurrent failure to read the question are noted below. 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.

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

10. 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.

11. 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.

12. Again, some examples of this failure to think more widely on the current paper are below. More generally, we would also advise candidates to employ basic exam techniques such as well structured answers and effective time management.

13. Candidates who give well-reasoned points, not in the marking schedule, are awarded marks for doing so.

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

Performance on this paper was largely in line with expectations, as reflected in the pass mark.

As in previous sessions, performance varied across the paper. Bookwork elements were generally higher scoring, although many candidates were unfamiliar with the Franchise policy term, with a number even failing to be able to articulate the differences between an Excess and a Deductible.

Performance was more variable when candidates were expected to think about broader market issues or operational & commercial factors.

C. Pass Mark

The Pass Mark for this exam was 60.

Solutions for Subject SA3 - September 2019

1 (i)

- Flight delay [½]
- Flight cancellation [½]
- Other connecting travel delay [½]
- Secondary costs as a result of delay [½]
- Lost luggage [½]
- Damaged luggage [½]
- Delayed luggage [½]
- Missed holiday due to illness [½]
- Missed holiday due to family crisis etc [½]
- Lost/stolen items [½]
- Cash cover [½]
- Medical costs on holiday [½]
- Emergency medical repatriation [½]
- Injury on holiday / Personal accident [½]
- Death/repatriation (of body) [½]
- Legal costs [½]
- 3^{rd} party liability [½]
- Curtailment [½]
- Loss of passport [½]
- Pre-existing medical conditions [½]
- Gadget cover [½]
- Airline failure [½]
- Petcare [½]
- Hijack & mugging [½]
- Golf / weddings / hazardous / cruises [½]
- Catastrophes. [½]

[13, Max 4]

(ii)

- Period of cover will be longer for annual [½]
- Cost will higher for annual overall [½]
- . . . but cheaper per trip [½]
- Need to book trips before for single trip [½]
- Coverages, for example
  - Annual will have restrictions on holiday length, total holidays length? [½]
  - Annual likely to have broad zones rather than individual destinations [½]
  - Annual might be automatic renewal [½]
  - Excesses may differ [½]
  - *Other valid suggestions.* [½]

[4½, Max 4]

(iii)

- Could vary by travel company [½]
- due to historic reasons/negotiating strength [½]
- Could vary by cost of holiday [½]
- higher figure for cheaper [½]
- Could vary by destination [½]
- . . . depending on insurer margin [½]
- Could vary according to how many policies sold [½]
- i.e. incentive [½]
- Could vary according to quality of business, for example [½]
- number of complaints re mis-selling [½]
- retention rates [½]
- Could vary according to how much admin each travel company does [½]
- Examples of admin [½]
- Competition will affect amount of profit to be ceded [1]
- Could allow variability of commissions to smooth out flat rate pricing [½]
- *Other valid suggestions.* [½]

[8½, Max 4]

(iv) (a) Set up costs

- Need to consider marketing [½]
- How current system needs to be adapted [½]
- Initial pricing, new personnel needed? [½]
- Potential costs of purchasing external data [½]
- Big initial costs setting up online offering [½]
- Could incentivise travel agents to steer clients to annual policies [½]
- (But this may detract from existing business) [½]
- Setting up additional monitoring processes [½]
- Underwriting / reinsurance / reporting / accounting etc [½]
- May be scope to amortise set-up costs [½]
- May be able to dilute with existing business assets [½]
- Costs of additional capitalisation. [½]

(b) Ongoing costs

- Marginal cost per policy should be cheaper if online offering suitably automated [½]
- Fixed costs may be higher e.g. website maintenance [½]
- . . . may need additional cyber cover [½]
- If comparing to gross gross premium cost ratios will be impacted - online platform will mean costs shift to internal operating expenses that don't go into the denominator of the premium calculation [½]
- Move to annual policies should improve costs relative to premium as higher premium per policy while admin costs per policy wouldn't increase as much [½]
- No commissions payable [½]
- Aggregator fees may be high however. [½]

(c) Pricing

- Beware selection [½]
- . . . customer base likely to be quite different [½]
- Can use web to derive pricing basis of competitors [½]
- BUT beware excesses and exclusions, ie compare like with like [½]
- Need to take care re accumulations of risk [½]
- Allow for other office costs, for example
  - reinsurance, expenses [½]
- Care needed re wording, i.e. to price what is included and not allow for what is not included [½]
- Rating factors & pricing approach are likely to be broadly similar overall however [½]
- Different allowance needed for commissions etc [½]
- May be able to use similar data with adjustments for likely differences [½]
- Lapse ratio may be worse. [½]

(d) Competition

- Aggregator sites mean this is quite competitive [½]
- Therefore margins may be squeezed [½]
- So whilst it may be more efficient than current short term policies potential profits may be lower [½]
- Demand will impact volumes [½]
- Lapse ratio may be worse [½]
- Brand may have an impact on competition levels [½]
- Competitors may react to a new entrant by lowering margins to prevent entry. [½]

[18½, Max 10]

[Total 22]

Almost all candidates scored full marks on (i), although some missed marks where they listed out coverage that wouldn't typically be expected on a travel policy without providing enough core points to ensure they scored full marks

On Part (ii), a number of candidates did not provide many answers on differences in the policy itself and instead focused more on how actuarial work (e.g. reserving) may experience some differences.

The majority of candidates scored well on (iii) giving a variety of reasons.

Part (iv) was the main section where performance varied, with a large number of marks on offer and a number of candidates repeating themselves over the various question sections reducing their scores.

2 (i) Comments on the statement:
Comments on the politician's motivation / awareness etc [1]

- Location is a key risk factor for several perils [1]
- Unequal premiums may be fair if they are reflective of an unequal level of risk [1]
- . . . goes against principle of pooling of risk [1]
- . . . flat pricing would force cross subsidies [1]
- Current market pricing may not however be a fair reflection of risk if the market is unduly penalising policyholders in flood prone areas, for example [1]
  - o because they are pricing based on recent experience which has been unusually bad relative to a longer historical perspective [1]
  - o or pricing excessively high to encourage policyholders in those areas to non-renew [½]
  - o or seeking to recoup past losses from current policyholders [½]
  - o or targeting high margins on flood prone properties due to lower levels of competition on these properties [½]
- Even if the level of risk is unequal, it could still be argued to be "unfair" to some policyholders, for example [1]
  - o if they have lived in their property for a number of years and it has been made more flood prone by subsequent development [½]
  - o or if they bought in the area on the understanding of government / developer investment in adequate flood protection which did not subsequently materialise [1]
- . . . although policyholders knowingly buying in flood zones could be argued to have chosen to take on the risk and cannot reasonably expect to be protected from the consequences of their decisions [1]
- Statement also comments on unfairness to businesses, which are generally assumed to have a greater level of financial sophistication [1]
- . . . so should have considered flood risks and insurance costs in determining the location of their sites [½]
- . . . or could more reasonably be expected to invest in adequate flood protection [½]
- Even if an area is particularly flood prone, insurer models based around policyholder address may be unduly penal to *some* properties in the area depending on their sophistication and / or granularity, for example [1]
  - o properties with a higher level of elevation such as 1st floor or above flats [1]
  - o or properties that have invested in their own flood protection. [½]

[16½, Max 4]

(ii) Implications of introducing the legislation

- Removal of a key rating factor would lessen the sophistication of all insurer pricing models, reducing their ability to adequately reflect risk [1]
- . . . increasing mix / selection risks for insurers [½]
- . . . initial impacts will vary by insurer depending on the mix of their portfolio [½]
- . . . particularly adversely affecting any that are currently continuing to provide insurance to flood prone properties [½]
- Loss of a key rating factor may impact overall profits [1]
- The legislation may result in more consistent rates between properties [½]

- . . . although the rates may in aggregate be higher as insurers compensate themselves for reduced ability to price accurately [½]
- . . . which can be argued to be unfair to policyholders outside of flood zones who would effectively be subsidising others of higher risk [1]
- Legislation is likely to reduce the number of flood prone policyholders with serious insurance affordability issues [1]
- May create flawed incentives for builders, planners and local government, increasing the extent of building in flood prone areas and / or lessening investment in flood protection [1]
- Depending on how well the legislation is drafted, insurers may manage to use other factors to at least partially provide a proxy, for example [1]
    - local authority, telephone code [½]
    - although these are likely to be at a lower level of granularity [½]
    - may already have information on policyholders through existing policies or through other policies (e.g. motor) where address is not a restricted rating factor, although they may not be able to use these to affect the rate [½]
- Property address also provides proxies for other risks such as theft which insurers will also lose ability to differentiate on [1]
- . . . which might also be considered "fair" or "unfair" on same basis [½]
- May impact complaint levels [½]
- May also impact reinsurance costs [½]
- Costs incurred in adjusting pricing models [½]
- Impacts may vary depending on whether it is compulsory [½]
- Insurers leaving the market may have an impact on pricing & competition [½]
- *Other valid generic points about a shift towards flat rating.* [½, Max 1]

[15, Max 5]

(iii) Scope of coverage

- Scope of exactly what counts as a flood will have implications for the impact on the market, for example [½]
    - rivers or coasts or rainfall [½]
- NFIP only provides protection against losses due to flood, so all policyholders will still need some kind of home insurance policy in order to protect against fire, theft, wind or other perils [1]
- Defined sum insured only available which will not be appropriate for all policyholders who may have higher or lower coverage needs that they will continue to look for in the private market [1]
- The NFIP may place restrictions on the panel of approved loss adjusters or repairers [1]
- . . . with potential implications for the quality of repairs [½]
- . . . or more material implications for the timeliness of repairs [½]
- . . . particularly as a limited panel of approved repairers would be overwhelmed by any event impacting multiple policyholders in a local area [1]
- Other coverage offered may be different to that available in the private insurance market, for example [1]
    - the NFIP may only offer coverage on a cash value rather than replacement cost basis [1]
    - or may not fund costs of temporary accommodation [1]

- May be capital release for the private market if writing less. [½]

Competition and selection

- Insurers may need to start offering policies excluding flood cover to complement the NFIP policies available [½]
- . . . or top-up policies for people seeking a higher limit [½]
- . . . alternatively if insurers have already been excluding flood cover this will not introduce any material competition [½]
- Government may look to recoup costs with a levy [½]
- Competition impact will depend on the extent of the margin charged [1]
- . . . a subsidised policy will introduce a wider level of competition to the insurance market even on lower risk policies [½]
- . . . although it is unlikely that any flat rate would be competitive for properties that are not in flood prone areas [1]
- Whatever margin is charged, there will be a large selection effect as lower risk policies are overcharged and the highest risk properties are undercharged [½]
- . . . with the scheme being pointless unless the higher risk properties are offered cheaper coverage [½]
- . . . this will mean that insurers are likely to lose the higher risk properties from their portfolio while keeping lower risk properties [½]
- . . . if there has been limited competition, these higher risk properties may have been profitable parts of the portfolio even if higher risk [1]
- This may have been one of the key accumulation risks for insurers having impacts on the demand for reinsurance [1]
- . . . although the NFIP may seek reinsurance this is unlikely to be in the same volume as the collective insurance market [½]
- Scheme does not cover commercial insurance so would have no direct impact on this market [1]
- . . . although there may be secondary impacts from the effects on the residential market, e.g. lower flood exposures on household may increase insurer appetite for commercial flood risk [1]
- Credit for comments on suitability of insured values. [½]

[20½, Max 8]

(iv)

- In theory this approach might lead to the scheme being self funding if the cover was mandatory for everyone in the country [1]
- . . . however the scheme is not mandatory and the high selection risks from the scheme design are likely to mean that the scheme protects only the highest risks based on average premiums so the scheme is likely to be highly loss making [1]
- If the margin was high enough then the scheme would be closer to being self funding [1]
- . . . . although this may exacerbate selection effects to drive away all but the highest risks, so the margin may need to achieve the same pricing as currently charged to high risks [1]
- Extent of funding will also be affected by how the fixed sum insured relates to the average loss cost per property [1]

- . . . if the average loss cost per property were significantly higher then this might effectively introduce additional margin [1]
- Recent flood losses have been high - if these are higher than average then a last 10yr average might generate an initial margin [1]
- . . . or equivalent points around lower [½]
- Climate change, inflation or other upward trends in risk would mean any retrospective pricing basis would understate exposure [1]
- . . . conversely downward trends (e.g. flood defences, changes to building codes) would overstate [1]
- Operating costs also need to be allowed for [½]
- And loss adjusting costs following an event [½]
- May also need to allow for a level of fraudulent claims [½]
- May be difficult to get accurate industry loss cost estimates [½]
- Loss cost - insured versus economic? [1]

[12½, Max 5]

(v)

- Deductible - The amount which, in accordance with the terms of the policy, is deducted from the claim amount that would otherwise have been payable and will therefore be borne by the policyholder [1]
- Excess - The amount of a claim, specified in the policy, that the insured must bear before any liability falls upon the insurer [1]
- Franchise - A minimum percentage or amount of loss that must be attained before insurers are liable to meet a claim. Once it is attained the insurers must pay the full amount of the loss [1]
- Deductible also reduces a maximum sum insured loss where excess doesn't [1]
- Franchise pays out full loss or nothing at all [1]

(vi)

- Franchise approach is clearly inappropriate for the government objectives [1]
- . . . although it would reduce the proportion of claims below $5,000 but wouldn't reduce claims that are only marginally above the threshold [1]
- . . . . and wouldn't reduce costs at all for any claims that do happen [1]
- . . . and would also introduce a significant adverse incentive for people to inflate claims to reach the trigger point [1]
- Deductibles and excesses are similarly likely to remove the number of smaller claims [½]
- . . . deductibles would also reduce the overall sum insured for larger claims which the government could just have set at a lower level if that was their objective [½]
- . . . and the difference would only take effect for individuals where the sum insured is already insufficient which may not be the governments objective [½]
- Overall an excess would seem the most appropriate basis. [1]

[6½, Max 4]

[Total 31]

This was recognised as one of the more challenging questions so significantly more whole marks were available for this paper.

In (i) candidates who took time to think about what "fair" means and how it may differ from "equal" scored well

In (ii) better scoring candidates gave proper consideration to how the restrictions would influence the competitive & commercial behaviour of insurers

In (iii) again better scoring candidates thought about commercial & competitive impacts, including consideration of the demand aspects and how that might drive insurers' competitive response to a market changing programme

In (iv) it was surprising that a number of candidates didn't consider the core issues of selection effects

In (v) many candidates were unfamiliar with franchises but were still able to score 3/5 if they actually understood and were able to articulate what deductibles and excesses were and how they differed. Unfortunately a fair number of candidates clearly didn't have a precise concept of these two fundamental policy terms.

(vi) generally reflected candidates quality of answer to (v)

3 (i)

- Fronting occurs when an insurer underwrites a risk and cedes all (or nearly all) of the risk to another insurer which is technically acting as a reinsurer. [1]
- The ceding or 'fronting' insurer will typically receive a fee for its involvement to cover its expenses and profit. [1]
- In insurance, the term 'fronting' may also be used to describe the process whereby an individual effects a policy for him/herself but tries to save money by putting the policy in someone else's name. [1]

[3, Max 2]

(ii) Accessing through a fronting partner / as reinsurer

- Does not have licences in all jurisdictions so requires other companies to front for it… [1]
- Access to restrictive countries e.g. might need a local partner in a joint venture to sell insurance [1]
- Being a large commercial line insurer, it is likely to have global clients with operations in multiple locations [1]
- So instead of turning clients away uses fronting partners to offer global coverage [1]
- Fronting partners may have local expertise in: [½]
- policy wording [½]
- In sales [½]
- In underwriting / pricing [½]
- May have brand recognition [½]
- In claims handling [½]
- Better language capabilities [½]
- Same time zone [½]

- Fronting partner may have access to clients/client relationships [½]
- Might mean less cumbersome reporting requirements in that jurisdiction. [½]

Acting as a fronting partner / cedant

- Can take in business and get fee income … [½]
- … which might be attractive if the Underwriting cycle is soft so the fees are attractive [½]
- Can use the business to test different products/markets before entering themselves [½]
- Can benefit from reinsurers expertise [½]
- May have many licences themselves and be in a reciprocal fronting arrangement with their partners [½]
- May have credit rating issues. Many specialty lines are reliant on credit ratings. [½]

Either

- May be tax advantages through fronting [½]
- May be capital advantages through fronting [½]
- May be diversification benefits [½]
- May improve relationships with partner. [½]

[14, Max 6]

(iii)

- Each base may be for different purposes/requirements [1]
- Regulatory solvency capital, for example
  - solvency II SCR using Internal Model [1]
- Regulatory solvency capital using Standard Formula [1]
- Internal assessment, for example
  - ORSA [1]
- Regional differences, for example
  - Bermuda ECR versus European SII [1]
- Harp has developed the various methods over time and continue to keep all three as these help validate the results - sensitivity testing/model error is being computed, for example
  - old ICA regime [1]
- One is for Group and the others are legal entity. Although unlikely as the OF looks similar [1]
- Could be marginal contribution to group capital rather than standalone [1]
- Scope of the basis differs, for example
  - includes pension risk [1]
- May be monitoring on for example
  - prudent versus best estimate bases [1]
- May be monitoring on different time horizons [1]
- One is for M&A purposes [1]
- Statutory returns versus published accounts [1]
- Run-off versus going concern [1]
- BBA / PAA under IFRS 17 [1]
- Legislation might require multiple bases. [1]

[16, Max 4]

(iv) (a) Own Funds

- Number are similar order of magnitude so no material differences [1]
- Inadmissible assets or only partly allowed such as under SII, goodwill and intangibles are excluded and may not be on another base [1]
- Different discount rate … [1]
- …Higher discount rate means lower value of fixed interest assets such as bonds and lower liabilities [1]
- Reserve margin not included in one base so liabilities are lower and so OF is higher [1]
- One base has contract boundaries (as per SII) and others don't [1]
- Books value versus fair/market valuation of assets [1]
- Excludes pensions liability in one base [1]
- Alternative asset valuation or reserving assumptions if using an alternative basis for internal purposes. [1]

(b) Capital required:

- Different return periods, for example
    - internal assessment may be 1 in 250 and regulatory one may be 1 in 200 (e.g. SII) [1]
- Run-off versus going concern versus windup [1]
- Scope is different, for example
    - one includes pensions and one doesn't [1]
- Calibrated differently, one basis may be based on European insurers (e.g. SF) and another may be based on a simplistic Solvency [1] type of calc. [1]
- One has add-ons from the regulator due to concerns [1]
- One doesn't allow for diversification [1]
- An error [1]
- Different periods, for example
    - YE versus HY [1]
- One year versus ultimate [1]
- Pre tax versus post tax [1]
- Standard formula versus partial internal model [1]
- *Open marks for other valid suggestions.* [1, Max 3]

[15, Max 6]

(v)

- The amount of diversification depends on independence or low correlation between risks, for example [½]
  - lines of business, geography, currency [½]
  - risk profile [1]
- Size also impacts the level of diversification [½]
- Adding a small business (i.e. writes a lot less premiums) to a large one, may have minimal impact on the required capital [1]
- Jurisdiction/regulatory regime can impact synergies as some regulatory regimes are more capital intensive [½]
- Extent of fundability of capital within a modelled entity may affect ability to take credit for diversification [1]
- Reinsurance can affect diversification [1]
- *Comments on choice of modelling methods or assumptions.* [½, Max 1]

[7, Max 3]

(vi)

- May or may not be true, depends on a variety of factors [½]
- Likely to be at least some synergy but may not be material [½]
- Under which basis (as per various bases considered above) [1]
- Diversification depends on model implementation & assumptions. [1]

Synergies / diversification benefits / cover ratio improvements may be low

- One of the bases - A, B or C may not allow diversification and this might be a biting constraint and so capital synergies are not realised [1]
- Rose may not be in line with Harp's reserving standard, for example
  - may be on 55th percentile and Harp on 75th percentile, reserve risk is usually the difference between a 1 in 200 reserve requirement and best estimate [1]
- Rose could introduce concentration in one product/investment portfolio [1]
- Requires regulatory approval to change internal model/capital basis when aggregating Rose to Harp and may not be allowed [1]
- May be required to hold a certain cover ratio in Rose's jurisdiction and so trapped capital [1]
- Might not be allowed to apply any diversification from regulations, for example
  - if Rose uses a Bermuda ECR, this cannot be diversified against a SII SCR, assuming Harp uses this [1]
- Consider if any goodwill is created upon acquisition due to a premium over net assets or any other items are eradicated from the balance sheet [1]
- New owner may increase op risk [1]
- Rose may have a lot of inadmissible assets for Own Funds and so although there may be required capital synergies, the own funds is lower so cover ratio suffers [1]
- Certain risks may not be calibrated by Rose in the way Harp calibrates its risks which may cause disynergies [1]
- Purchase price may dilute own funds [1]
- Although operating in somewhat different markets there may be macroeconomic, regulatory or other systemic drivers [1]

- Rose's business may already have high capital ratios so may not improve overall cover ratio. [1]

Synergies / diversification benefits / cover ratio improvements may be good

- Bigger and diversified potentially as Harp has large commercial risks and Rose has SME liability risks [1]
- Perhaps Rose is on SF and Harp is IM and moving Rose into IM could decrease capital requirements as SF may overstate CAT risk and other risks rather than be bespoke for the risk profile of Rose [1]
- Perhaps Rose is in USA and Harp is in a jurisdiction that is less capital intensive. Perhaps credit ratings can be grand-fathered [1]
- If Harp has an internal reinsurer (captive) in a location where the regime is not as onerous as say Europe under SII, it may be the case that all risks from Rose can be ceded in and so the addition of Rose in Harp is capital light. [1]

[20, Max 6]

(vii)

- Back of the envelope e.g. assume diversification of xx% in the target when adding the business together [1]
- Benchmarking looks at required capital/premiums or required capital/expenses, etc. (i.e. capital intensity) by risk for Harp and apply this multiplier to the premiums, expenses of Rose. Can do this at line of business or legal entity level[1]
- Benchmarking against other similar transactions and the announced synergies post integration [1]
- Assume none when bidding to keep all the upside [1]
- Plug in volumes and other data into existing model and calculate [1]
- The biting constraint for Harp appears to be metric A so this perhaps should be the focus only unless Rose's biting constraint is a different metric [1]
- A range should be produced via sensitivity analysis [1]
- Ideally one would want to use the information in (vi) to recalculate the capital required using the Harp IM or Harp SF in aggregate with existing Harp business i.e. Synergy = [Diversified SCR of Rose using Harp's model] - [SCR of Rose] However this may be difficult and time consuming and thus not possible. [1]

[8, Max 5]

(viii)

- Products [½]
- Capital model results at total level and by risk and product and any other dimension (e.g. claims size - attritional versus large) over the last 3-5 years [½]
- Risk calibrations [½]
- Methodology [½]
- Validation documents including sensitivity testing e.g. impact of reinsurance on SCR result [½]
- Risk appetite statement / metrics [½]
- Claims triangles by product, gross and net of reinsurance [½]
- Underwriting results [½]
- Investment asset portfolio [½]
- Reinsurance strategy and covers in place [½]

- Bridge from IFRS /other accounts to SII basis [½]
- The internal model or parameters & inputs & methods for the model [½]
- Standard Formula model (if excel based) [½]
- Ratings agency model [½]
- Business plan [½]
- Financial statements [½]
- Technical provisions at appropriate granularity [½]
- Any catastrophe risk expectations [½]
- Premiums [½]
- Claims [½]
- Large claims / specific IBNER [½]
- Asbestos or latent [½]
- Exposure measures / volumes [½]
- Mix of business info [½]
- Inflation [½]
- Operational risk losses [½]
- PPOs [½]
- Cashflows [½]
- Expenses. [½]

[14½, Max 5]

(ix)

- Lines of business not allowed to be underwritten at all [½]
- Limits on sum insured or approval processes for permission to underwrite larger commercial risks [½]
- Terms and conditions restrictions [½]
- Signs offs required, for example
  - policy wording has been checked by a legal expert [½]
- Guidance on exposure management [½]
- Guidance on performance management, for example
  - reporting required [½]
- Reporting requirements on how underwriting decisions are made [½]
- Minimum margin requirements [½]
- Regional restrictions [½]
- Distribution restrictions [½]
- Commission quantum restrictions [½]
- Variable commission restrictions [½]
- Broker limits [½]
- Individual underwriter authorities [½]
- Maximum by cedant / currency / type [½]
- Separate rules on new versus existing [½]
- Peer review requirements [½]
- Documentation requirements [½]
- Ethical restrictions, for example
  - coal [½]
- *Credit for other valid suggestions.* [½, Max 2]

[11½, Max 4]

(x)

Option A:

- No residual risk remains so cleaner than reinsurance [½]
- . . . may be latent exposures given liability risk so full extinction may be preferable [½]
- Might not be able to do this legally, for example
  - LPT/part VII transfer doesn't exist in US [½]
- Could lose clients due to cross-sell [½]
- Paying away value in M&A. i.e. buying a bigger company and then discontinuing lines may be costly [½]
- Lose div benefit/synergies M&A director speaks of [½]
- Structuring option might be a contingency of deal completing so put transaction at risk if not possible [½]
- Lose all renewal rights of this business [½]
- Costs - Complex and costly transaction costs potentially given regulatory approvals required [½]
- Court approval may affect timescales [½]
- Disclosure implications for LPT [½]
- Lowest risk if there is potential for latent claims as liability is fully extinguished [½]
- . . . although this may make it harder to place [½]
- Investment income is also being transferred
- May have to realise assets at unfavourable time
- Potential reputational risk
- Potential tax disadvantages
- May need to buy from reinsurers as well
- Needs a willing third party
- Capital advantages

Option B:

- May generate over-riders and / or PCs [½]
- May already have relationships from their fronting activity [½]
- Might be easier than an LPT [½]
- Can start reinsuring less amounts of these lines as retain renewal rights [½]
- Risk of default from reinsurer means the risk falls back to Harp. i.e. credit risk [½]
- Lose div benefit/synergies MA Director speaks of [½]
- Might not be possible to find 100% reinsurance so must retain some small risk [½]

[10, Max 6]

[Total 47]

[Paper Total 100]

(i) and (ii) were generally well answered as they were recurring course content
(iii) and (iv) were recognised as more challenging parts of the paper and whole marks were available for offering reasonable suggestions (although many candidates offered similar points multiple times)
In (v) candidates scored better if they offered a range of aspects affecting diversification rather than focusing on aspects impacting class of business diversification.
In (vi) candidates scored better when they thought properly through the mechanics of a purchase and the factors affecting cover ratio
(vii) was looking for brief outlines of multiple ways diversification could be estimated. A number of candidates either provided a longer description of how you would model in an internal model (more suited to a "describe" question) or even missed the question entirely by not writing down anything that would actually result in an estimate of diversification.
(viii) was almost universally well answered provided candidates wrote down enough types of data
Whole marks were available for (ix) in expectation that this would be a lower scoring section as it had not previously been examined but candidates were mostly able to give a good range of suggestions
(x) was reasonably well scoring as a recurring bookwork question but many candidates looked to have managed their time badly and left themselves limited time for one of the easier question sections to score well on

END OF EXAMINERS' REPORT

