

INSTITUTE AND FACULTY OF ACTUARIES

EXAMINERS' REPORT

April 2014 examinations

Subject SA3 – General Insurance Specialist Technical

Introduction

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

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

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

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

D C Bowie
Chairman of the Board of Examiners

July 2014

General comments on Subject SA3

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

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

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

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

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

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

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

As such we aim to design exam papers which require candidate to display 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.

We strongly recommend that candidates step back and take the time to thoroughly think about what is actually going on in question situations proposed, rather than simply considering numbers to be analysed with standard techniques. For example, candidates might stop to think about what claims actually are for a particular class of business, considering factors such as what actually causes the claim, who brings the claim, how it is dealt with once brought, what makes one claim small while another is substantial etc.

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

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.

Comments on the April 2014 Paper

Overall, this was a relatively straightforward SA3 paper covering core course material, with less esoteric situations requiring reasoning from first principles than average. This reflected a higher pass mark than some historical papers with a lower miss factor from candidates simply answering the wrong question, but still generated a significant range of performance between stronger and weaker candidates. Overall, there are few specific issues to highlight and performance on this paper appeared to be more driven by the level of preparation than any nuances of understanding of questions.

The main question focused on asbestos and latent reserves. Many candidates had clearly revised selectively and appeared to be unfamiliar with the course content on latent reserves, with this topic not having come up for several recent exam sessions. A number of those candidates made decent attempts at the reserving methods section, however, giving good thought to some of the operational challenges around latency without necessarily articulating clear methods.

Many candidates (even those who had clearly learnt the latent claim material well) struggled with considering how it could be represented within the capital model, or with really demonstrating an understanding of the aims of capital modelling within a business. This difficulty is a recurring problem; we advise candidates not to panic about capital content but to think about the underlying and related issues. Many candidates are capable of doing so in the context of a reserving exercise and this process will often generate a number of issues that would be relevant for considering capital modelling.

A similar challenge with capital modelling questions impacted the second question on this paper, although in most instances candidates performed well with the bookwork sections.

- 1** (i)
- Latent: A risk not allowed for by the underwriter when selling or pricing the original policy.
 - Claim types
 - Asbestos related claims
 - Mesothelioma, Asbestosis, Asbestos related lung cancer, pleural thickening, pleural plaques.
 - Pollution / chemical contamination type claims
 - Agent orange, benzene, diethylstilbestrol, lead paint or others.
 - Occupational hazards
 - Deafness, VWF, RSI or others.
 - Products type claims
 - Tobacco, Thalidomide, HIV infected blood, PIP breast implants, latex gloves etc.
 - Abuse claims
 - Other miscellaneous - e.g. Y2K, toxic mould, BSE etc.
 - Potential new latents - may not be holding provisions as yet
 - Territorial comments
 - Asbestos comments, e.g. Widespread across UK, N. America, other industrialised European countries; less so, to date, in areas such as Ireland, eastern Europe and beyond / Potential for claims in developing areas e.g. BRIC. Usage has dramatically declined in N America and W. Europe and there has been increased regulation. E Europe, Asia and S America however have seen usage of asbestos increase massively in the same period.
 - Pollution comments - e.g. particularly material in US or Japan, reduced exposure now as cover moving to sudden & accidental etc.
 - Occupational hazards comments - e.g. deafness on increase in UK, VWF reduced etc.
 - Products comments - e.g. tobacco emerging issue in Canada with class actions, lower level of new medical claims coming through etc.
 - Abuse comments - e.g. recent significant spike, potential reduction going forward as high publicity has flushed out a number of legacy cases

- Insurance products affected
 - Employer's Liability / Workers Compensation
 - Appropriate comments - impacts most except product, pollution and abuse types
 - Public / General liability
 - Obvious products impacted – e.g. pollution & abuse types
 - More unusual impacts – e.g. washing clothes with asbestos fibres
 - Products liability
 - Appropriate comments – obvious tobacco / drugs etc.
 - Property
 - Appropriate comment – e.g. cost of removal of asbestos as preventative
- (ii)
 - General latent methods
 - Approach used will be a function of available data which may be limited, and the stage of emergence of the particular latent claim type
 - Traditional methods such as chain ladder are generally not appropriate
 - Should be a reconciliation between top down and bottom up approaches
 - Stages are: unknown/potential/emerging/emerged or closed
 - Unknown stage - Pricing basis
 - Potential stage - benchmark against similar events
 - Emerged stage - mix of top down / bottom up / market models etc
 - Closed stage - cape cod / BF
 - Top down
 - Often high-level methods and reliant on
 - external benchmarking
 - market information
 - actuarial research e.g. UK Asbestos Working Party
 - Global estimate of the cost to the economy/insurance market
 - Allocate cost to individual insurer
 - Survival ratio:
 - number of years that current reserves will suffice if average future payments equal average current payments
 - Market indications of survival ratios can be applied to company average payments to get a range for the reserves.
 - Less useful if payments have been nil/near-nil or significantly volatile
 - Other simple factor approach:
 - multiplier applied to paid, outstanding or incurred based on market benchmarks

- ACPC methods
- Additional marks for more detailed simple factor description at marker discretion
- More detailed (bottom up) modelling
- Depending on available data, could be determined in aggregate across the whole book or by considering each insured in isolation
- May be feasible for industrial type claims e.g. asbestos and deafness
- Stochastic approaches / ranges etc.
- Frequency / severity approaches
- Stochasticity could be incorporated by introducing distributions and variables for the key inputs.
- This would require appropriate data, systems, testing and understanding of the model and parameter error.

- any modelling / analysis would need to factor in or consider:
 - Thresholds
 - class actions
 - coverage issues
 - particularly policy wording / trigger point issues
 - basis of claim
 - Claims made vs occurrence basis
 - Legal costs will be a significant component of claims cost
 - also internal claims handling & other management costs
 - Some claims will include large international risks; hence there should be suitable allowance for exchange rate impacts.
 - economic factors e.g. inflation
 - Legal / regulatory issues
 - Insolvent insurers
 - Untraceable insurers (reduced by e.g. ELTO)
 - FSCS or similar schemes & timing
 - Longevity issues / changes
 - Treatment of cases with multiple employers / insurers
 - PPO issues
 - Reinsurance default / dispute
 - Reinsurance - method of accumulation of losses

- Data Issues:
 - Sparse data may necessitate approximations
 - e.g. subjective parameterisation of fixed points on the distribution and fitting the rest of the distribution
 - e.g. best case scenario, prudent best estimate, pessimistic etc.
 - input from claims experts may assist
 - In view of sensitivities, important to consider range of sensitivities in the approach and a range of reasonable estimates
 - Likely to also be material data issues with original insureds
 - e.g. lack of knowledge of employee numbers by year
 - or of exposure to hazardous materials

- Asbestos specifics
 - Often modelled in detail using market models, factors for which would include:
 - Exposure data e.g. Asbestos import volumes
 - A more complicated model might also incorporate a measure of the level and duration of exposure
 - Breakdown between types of asbestos i.e. blue asbestos, the most hazardous type, brown and white
 - Latency period – the duration between exposure and diagnosis (as long as 50 years for mesothelioma), this would depend on level and duration of exposure
 - Official statistics on reported asbestos related deaths or illnesses e.g. UK Health & Safety Executive
 - A more complicated model might incorporate more detailed data
 - E.g. referencing year of birth, regions, industries worked in etc.
 - Propensity to claim
 - Inflationary issues
 - . . . Of claims and legal costs
 - Claim notification delays
 - Settlement patterns
 - Average cost of claims (indemnity vs legal costs; for each type of asbestos)
 - Reinsurance/other recoveries
 - Separate projections for different jurisdictions e.g. UK asbestos, US asbestos etc.
 - Model output would include
 - Projected deaths/illnesses from different types of asbestos disease
 - Future claim numbers
 - Notification and settlement patterns
 - Projected cashflow extending as far as 2050
 - The model should be assessed by comparing actual vs expected output
 - Goodness of fit calculations could also be determined
- For a deafness model, similar principal, instead consider
 - employees working in identified jobs for specific types of industries that may be exposed to industrial noise
 - official statistics on deafness diagnoses
 - age related data would be important and the need to allow for genuine industrial related deafness rather than age related deafness
 - additional marks available for explicitly relating the approach to other latent claim types.

- (iii) Latent claims will have a significant tail risk given the potential long term nature of the risks and the material uncertainties associated with the claims
- Particular attention is therefore required when allowing for these risks in capital modelling
 - General principle is to determine the amount that must be set aside to cover the possibility of an event at a set threshold (e.g. 1 in 200 years) occurring over a defined time horizon (e.g. one year)
 - Latent claim impact on the capital modelling will generally be limited to the reserve risk i.e.
 - risk of a change in the best estimate of the latent claims provision from the balance sheet date until ultimate settlement of all the claims
 - covers outstanding claims, IBNR (pure and IBNER), reopened claims, reinsurance recoveries, claims handling expenses
 - There will also be additional impacts in relation to
 - Correlations between latent claims and other risks (i.e. diversification benefits)
 - market risk e.g. inflation (both traded and non-traded)
 - exchange rates
 - smaller impact in relation to reinsurance credit default if the latent claims are subject to any reinsurance recoveries
 - smaller impact in relation to operational risk
 - Should not be a big feature of underwriting except through an allowance for emerging latent claims and the extent to which these claims or potential claims are priced.
 - Typically there will be insufficient internal data to generate, calibrate and validate the capital modelling latent claims
 - Issues arising from the reserving of these risks will be compounded in relation to capital modelling, given the tail risk considerations
 - Consideration of level of granularity will need to balance
 - data issues,
 - ease of parameterisation
 - benefits from improved modelling (reduced distortions),
 - practical considerations such as run time and complexity of model
 - may be the level of granularity used in the reserving, but more data are generally required to assess variability compared to best estimate
 - so likely to group by latent claims type, perhaps grouping some of the smaller claim types together

- deterministic vs stochastic modelling
 - as a large company, expectation would be that they would employ stochastic modelling
 - perhaps in addition to deterministic assessments i.e. stress and scenario testing
 - deterministic modelling unlikely to capture the full extent of the interactions and complexity of the latent claims
 - Deterministic approaches better able to assess impact of emerging as yet unidentified latent claims
 - Deterministic approaches also useful for validation and sensitivity testing of key assumptions used in the stochastic model
 - Additional stress or scenario testing may be appropriate to allow for additional shocks e.g. binary events, not in the data
 - Stochastic modelling likely to result in significant parameter and model error and may impart greater certainty than is the case
 - Careful communication of the results is required
- Standard reserve uncertainty approaches will not be appropriate e.g. bootstrapping, Mack
- Possible approaches might include a frequency severity model or auto-regressive modelling, or combination
- Application of any distribution flowing from the reserving model may also be considered, but consideration needs to be given to the robustness of the approach at the extremes of the distribution
- Consistency between the best estimate reserve and the capital model can be achieved through scaling factors, but material scaling will call in to question the appropriateness of the modelling
- Calibration of the model will require considerable expert judgement in addition to external market benchmarks and market analysis
- Validation
 - The modelling of latent claims by necessity involves a number of subjective assumptions which should be tested
 - The methodology applied should also be subject to validation
 - Sensitivity testing – e.g. impact of a slight change in inflation or the propensity to claim – will help to identify the key assumptions and will generate a range for the estimate
 - Stress testing – test the impact of a change in a parameter at the 1 in 200 level e.g. to see impact on reserve risk
 - Scenario testing – e.g. impact of economic downturn which might impact a number of parameters
 - Will be a requirement for SII in the UK
 - E.g. inflation, propensity to claim,

- High level of subjectivity
- Whichever approach adopted, reflects many uncertainties for the claims e.g.
 - unknown manifestation of illness/injury;
 - outcomes of court rulings; landmark rulings
 - lack of data;
- Other Reasons to model
 - Internal understanding & reporting, better to see separately
 - Market perceptions
 - May expect to see as know is material
 - Alternatively may be a way to signpost that it is not material
 - or that it is contained and manageable if it is material
 - Regulatory perceptions similar comments
 - Other sensible comments
 - Propensity to claim
 - increasing awareness/compensation culture
 - increasing number of claims from unimpaired cases e.g. pleural plaques
 - UK following America in this regards
 - Explicit allowance for this required in the models, else estimates may be understated

(iv)

- Likely to fall into one of four main categories - analysis was wrong before, analysis is wrong now, different basis has been adopted or there has been a genuine change in risk in a short time
- Wrong before
 - More market research with updated market wide data and assumptions e.g. UK Asbestos Working Party, which may have concluded that previous estimates were insufficient
 - Data and information at the time of the review may not have been sufficient for a robust assessment of the claims.
 - Data available for external analysis may have been wrong or incomplete
 - There may not have been a good understanding of the recently acquired liabilities
 - Insufficient time to engage with local experts
 - The acquired business may have lost key resources
 - Assumptions may have been made that the business is in line with the pre-existing latent liabilities which may have proved incorrect
 - The review at the time of the acquisition may have relied on the assessment carried out by the acquired business, which may not have been to an appropriate standard or may have been out of date.

- May have simply been errors
- Wrong now
 - External actuaries may have had access to better benchmark data
 - or broader expertise than the internal actuaries
- Genuine change in risk
 - Increased propensity to claim – e.g. sexual abuse, ambulance chasers for deafness
 - There may have been a re-basing since the last review of one or more latent claim type e.g. court ruling such as a decision on Pleural Plaques to become compensable in England and Wales
 - Experience (internal and/or external) since the last review may have necessitated an uplift in estimates
 - Additional previously unknown claims may have emerged
 - Additional and more onerous regulatory requirements for reserving may now be in force
 - If the provisions are discounted, a reduction in discount rates will lead to an increase in the liabilities
 - Change in accepted basis with the underlying insurance contract responds for one or more claims/claim types e.g. claims made vs exposure vs manifestation may have an adverse impact on the estimated ultimate costs
 - A reduction in assumed recoveries will lead to an increase in the net liabilities.
 - This may be due to:
 - Default or failure of a reinsurer
 - Reinsurer dispute over coverage/liability
 - A change in the assumed/expected basis for the reinsurance contract to respond may have an adverse impact on the estimated recoveries e.g. failure to accumulate claims for passing to excess layers
- Change in basis
 - The liabilities are extremely uncertain and subject to a large number of variables, i.e. The range of reasonable estimates is likely to be large
 - The company may have been at the bottom of the range – a change in view of a key assumption could lead to a material impact on the assessment of the sufficiency of the provision
 - Different actuaries will have a different view of the liabilities – arguably, external view may take a more conservative approach
 - Differences in actuarial judgements should not have given rise to a "substantial" deterioration however, unless one or both analyses is at the extreme end of the reasonable range

(v)

- Implications would depend on the extent of the identified shortfall i.e. would need to understand what is meant by “substantial”
- It also depends on the extent to which the company was holding margins within its reserves which could be used to offset against the shortfall
- If a strengthening of reserves is required, this will have an impact on
 - profit and
 - potentially NAV
- Solvency and capital levels may be impacted
- Action required if solvency falls below certain levels, including
 - Notification of regulators
 - Sale of investment assets, reinvestment of assets
 - Additional reinsurance purchase
 - Capital injection (e.g. from a parent company)
 - Sale of the latent claims or some other part of the insurance business

 - Internal restructuring to increase diversification benefits
- May impact ability to pay dividends
- May impact ability to meet business plan
- May require a change in short term strategy e.g.
 - reduced inorganic and organic growth
 - move away from capital intensive lines of business
- Potentially this may require a profits warning to the market
- Ultimately may lead to a downgrading by rating agencies
- Impact borrowing costs
- Possible liquidity implications
- Market dissatisfaction may force senior management change
- Tax implications
- Decision to increase capital
- Post-transaction legal action e.g. sue advisors
- Write-down of goodwill in purchase price

- Sell less / more lapses
 - Get taken over
 - Rate increases required
 - Regulatory interference / distraction
 - Reinsurer costs increased
 - Competitor actions
 - . . . Depending on extent that competitors also impacted
- (vi)
- Re-valuation of the liabilities
 - Reject the external review
 - Initiate a further review
 - Re-assess the reserving and capital bases to eliminate any implicit margins held in relation to the latent claims e.g.
 - Introduce discounting for balance sheet reserves
 - Remove any implicit prudence
 - External auditors and CRO team will want to understand that any changes in bases are justifiable
 - Additional cost and delay of further reviews
 - May buy the company some time
 - May not have a significant enough impact on the ultimate result
 - Senior management may question the credibility of a further review leading to another estimate
 - May be difficult to communicate a third view of the liabilities
 - Instigate initiatives to improve reserve and capital position e.g.
 - negotiations with reinsurers for a more advantageous basis for recoveries
 - claims cleansing initiatives – close claims more quickly and more aggressively
 - challenging more claims

- cost challenges
- may lead to increased re-opened claims, and delayed cost recognition
- additional claims activity may lead to increased claims handling costs
- potential reputational damage if perceived in the market to be aggressively refuting claims
- distorting effect on data will need to be carefully managed when using for reserving and other analyses
- may not have a significant enough or immediate enough impact on the cost of the liabilities and the extent of the shortfall
- Transfer out some or all of the latent liabilities
 - Reinsurance e.g. adverse deviation cover
 - May extinguish some or all of the companies liabilities depending on the terms of the reinsurance
 - Reinsurer may assume responsibility to administer and settle all future claims
 - Where the insurer maintains this responsibility the admin and cost of admin may become onerous
 - Reinsurer may require claims to be capped
 - Or may only wish to cover claims once they exceed a lower limit in aggregate
 - Or a proportion of the claims between the thresholds
 - Terms and options will depend on
 - ◆ market appetite and capacity
 - ◆ negotiating power of Company X
 - Company X remains ultimately liable for all claims e.g. in the event of reinsurer insolvency/default
 - Cost of the reinsurance may be significantly in excess of the provisions held reflecting
 - ◆ reinsurer market premium
 - ◆ supply/demand for such transactions
 - ◆ investment conditions
 - ◆ uncertainties in the book

- cost will have a P&I impact
- Will lead to a reduction in net provisions and required capital, but extent of the benefit will depend on the agreed terms
- Engagement with regulators and auditors will be necessary to ensure the actions taken and allowances made are understood
- Part VII transfer
 - Complete transfer of a ring-fenced section of the business pertaining to the latent claims
 - Company X will have no further contractual liability for any future claims payments arising from the transferred policies
 - Defining the business to be transferred may not be straight forward and will mean that claims other than latent claims may also be transferred or that some residual latent claims remain
 - Required capital and reserving will be substantially free from the latent liabilities (i.e. lower), but care must be taken to ensure any residual liabilities are allowed for
 - The economic capital will lose the benefit of the diversification that these claims will have brought to the business.
 - Achieves finality for Company X
 - Can be a lengthy process
 - Cost may exceed held provisions and reflect same factors as above
 - Maintains cover for the policyholder
- Commutations / Schemes of Arrangements
 - Commutations
 - Scheme of arrangement
 - Novation
 - Key difference is that schemes don't need full shareholder approval
 - Commutation may be challenging on regulated EL business
 - although this may not apply to overseas or non EL business

- Commutation strategy could be pursued in combination with other activities

[Note: No additional marks were awarded for saying the same things under different exit options]

- Complete sale of impacted businesses
 - Sale of part of the business only recently purchased may not be well received by the market
 - May lead to lack of confidence in senior management
 - Price achieved may not be attractive
 - Lengthy process
 - Significant costs incurred in such a transaction
 - Depending on how the businesses are structured, may result in sale of attractive business as well as latent business being sold.
 - Achieves finality for management
- Practical complexities:
 - Not straightforward to ring-fence the totality of the latent claims.
 - May only be particular claim types which are causing the issues, yet likely to need to group by policy and therefore pay for the cost of exiting more than the required liabilities
 - If the policies to be transferred or reinsured are grouped by policy and year, there may be some residual latent claims that are not captured
 - There may be significant data issues and attempting to extract and value the relevant data may prove to be challenging
 - Loss of diversification benefits
 - Costs of arranging the solution could be significant
 - Could be timely and resource intensive
 - Key staff may be lost before the process is complete resulting in loss of necessary expert knowledge

(vii)

- No clear link or liability has been proven
- No established claims and no precedent
- Therefore no data or robust basis for establishing an explicit provision
- Consider T&Cs / exclusions
- Depends on general reserve margins / prudence
- The likelihood of these emerging as actual claims may be deemed to be so small as to be immaterial
- In certain jurisdictions, the establishment of a provision may be used against the insurer in any court procedures
- In certain jurisdictions, the establishment of a provision may be deemed to be excessively prudent and incur tax charges
- Prudence elsewhere in the provisions or an implicit allowance may be deemed to offset any potential cost

(viii)

- May be allowed for explicitly, either as individual potential claims or in aggregate as emerging claims i.e. binary events
- High level approach, using market information and considerable expert judgement
- Implicit allowance to the extent that the historic modelling delay is capturing the emergence of now known latent claims.
- However, latent claims are likely to be stripped from the data and analysed separately therefore the implicit allowance will not likely be made
- Additionally data likely to be limited to a relatively small number of years therefore reducing the ability to capture such an implicit allowance
- Stress Test e.g. significant court ruling establishing a particular emerging risk as an actual claim type requiring provisioning
- Scenario test e.g. severe economic downturn (increased latent notifications, including in respect of new latent claim)
- Underwriting policy
 - Incorporate exclusions

- Incorporate explicit loading
- Avoid certain exposures or risk areas e.g. pharmaceuticals, telecommunications industries, local authorities, territories
- Capital modelling
 - Include in risk register and monitor through regular expert panels
 - Parameterised to pick up extreme outcomes
 - Impact on reserve risk, underwriting risk, possibly operational risk
 - Additional burden on reinsurance recoveries. Suitable allowance for Reinsurance credit default in the capital model. This may be compounded at the extreme of the distribution with other risk factors e.g. market/economic factors. Also need to allow for concentrations of reinsurers
 - Appropriate correlations required

2

(i)

- Protect policyholders and beneficiaries
- Align solvency requirements to actual risks held
- Encourage robust risk control
- Harmonise standards with those of nearby markets, including the EU
- Ensure requirements are not excessive relative to nearby markets
- Improve the international competitiveness of insurance
- Ensure consistency of calculations with other companies in Country X
- Ensure consistency in the valuation of assets and liabilities
- Ensure greater stability and rigour in the market by imposing higher capital requirements and a process to allow phased and timely interventions by the local regulator
- Have regard to Basel II for banks
- Not be too onerous to operate for smaller companies.
- Promote confidence for buyers and investors

- Overcome weaknesses of previous regime
- Address a wider variety of risks rather than just insurance
- Arguably reduce systemic risk (at least as a goal)

(ii)

- Easily understood
- Easy to determine/apply
- Objective
- Transparent
- Comparable between different jurisdictions
- As a factor applied to the insurance liabilities it is risk sensitive to some degree
- Consistent with pre-existing regime
- Back-testable
- Consistent treatment of insurers / reinsurers
- Some recognition of insurer size & performance
- Easy to regulate, leading to lower costs

(iii) Advantages:

- More reflective of and sensitive to the risks assumed
 - Simple approach has charge against insurance liabilities only
 - Simple approach has no charge against market, credit or operational risks
 - Calibrations behind the simple factor approach may not be appropriate for Company X
- Incentives for good risk management e.g. capital add-ons for governance failings
- Harmonisation with wider region
- Trade / relationships with EEA
- Encourages good data management

- MCR and SCR supports ladder of supervisory intervention
- Policyholder reduced risk
- May encourage greater investment transparency
- May result in increased use of professional experts such as actuaries

Disadvantages:

- May be resistance to change
 - e.g. if process/governance requirements prove to be more onerous
 - e.g. if capital requirements prove to be more onerous
- Supervisor will need significant increase in capability and resource to introduce and oversee the new system
- The regulated companies will need significant increase in capability and resource to implement the new requirements
- May result in skills shortage
- The extent of the change may mean it takes a considerable amount of time before the changes can be agreed and implemented. This may mean a long transition period and/or significant period of uncertainty
- If the capital requirements are more onerous, it may mean that a number of companies will be technically insolvent under the new regime – a situation that will be difficult for the regulators to manage
- May need to charge higher premiums to earn required return on capital
- May impact the stability of the financial markets with negative reactions in equity markets
- Insurers/reinsurers may feel disadvantaged relative to other insurers/reinsurers in neighbouring countries that are not adopting such a regime
- May lose current commercial edge
- May result in higher premiums for policyholders

(iv)

- Not just a reporting framework, but a risk management framework, which may mean companies will need to create/boost a risk function e.g. 3 lines of defence
- This may result in enhanced risk identification, risk mitigation, capital allocation techniques and understanding
- Implications for product design e.g. avoiding guarantees, automatic renewals
- Optimal product mix for the company may lead to a different strategy
- Optimal asset mix may result in different strategy as particular asset classes may attract higher or lower capital charges
- An organisation may seek risk diversification opportunities e.g.
 - More diverse lines of business
 - Increased reinsurance
 - Explore/increase life business
 - Merger/acquisitions/disposals
 - Internal re-structuring
- Rate of planned growth may need to be re-assessed in light of capital implications
- An organisation may consider the changes to be too undesirable/disadvantageous and pull out of Country X
- A regulated entity will need to engage with the supervisor at an early stage to discuss any such proposed changes/plans
- Rush to safer assets may impact investment returns
- Discounting => tax implications => strategic change
- Stakeholder management challenges, e.g. around best estimate reporting
- Invest more in data /. Systems / expertise / reporting

(v)

- Use test:
 - the organisation should demonstrate that the model is widely embedded throughout and is actively used for key decision making, risk management and internal governance
 - consideration would need to be given to introduction/integration of
 - appropriate capital metrics
 - sufficiently granular and frequent management information
 - should extend in to all aspects of the business including
 - business planning
 - pricing
 - M&A/strategic activity
 - Business performance monitoring
 - Remuneration structure and metrics
 - Investment strategy
 - Reinsurance strategy
 - In addition to
 - Capital allocation
 - Stress and scenario testing
- Statistical quality standards:
 - Appropriate actuarial and statistical techniques
 - Separate consideration of dependencies approaches
 - Based on credible information and appropriate assumptions
 - Based on appropriate and accurate data
- Calibration standards
 - Entity must be able to demonstrate that the output from the model produces a capital requirement calibrated to the Value-at-Risk of its basic own funds subject to a confidence level of 99.5% over a one year time horizon
- Validation standards
 - To demonstrate the validity of the capital model there should be a regular cycle of validation to
 - monitor the performance of the capital model
 - review the ongoing appropriateness of the model specification
 - testing the results against experience
 - use of expert knowledge as appropriate

- Data standards
 - Necessary to support the quality of the
 - Calibration
 - Results
 - validation
 - Consideration of internal and market data
- Profit and Loss attribution
 - An organisation needs to be able to explain the source and causes of profit and loss
 - And relate this to identified risk categories in the capital model
- Documentation standards
 - Robust and complete documentation of all aspects of the model, including
 - Design
 - Choice of methods
 - Calibration
 - Expert judgement
 - Evidence the full integration and understanding of the model within the organisation

END OF EXAMINERS' REPORT