INSTITUTE AND FACULTY OF ACTUARIES

EXAMINERS' REPORT

September 2021

SA2 – Life Insurance
Specialist Advanced

Introduction

The Examiners' Report is written by the Chief 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.

Sarah Hutchinson
Chair of the Board of Examiners
December 2021

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

The aim of the Life Insurance Specialist Applications subject is to instil in the successful candidates the ability to apply knowledge of the life insurance environment and the principles of the actuarial practice of life insurance to practical situations for a life insurance company.

The Examiners' Report covers more points than would be expected to get full marks. This is so that alternative approaches to questions by different candidates can be accommodated. Whilst candidates are expected to show knowledge of the relevant content of the Core Reading, it is much more important in this exam to tailor answers and apply that knowledge to the specifics of the question than it is in earlier exams.

Candidates who make well-reasoned points, which are not in the marking schedule will receive credit where appropriate and relevant to the question asked.

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

Whilst many candidates were able to score reasonable marks, few scored highly and so the pass mark was adjusted to reflect this.

Candidates that reflected the specifics set out in the questions were able to score higher marks. For example, candidates that recognised that the company in 1iii) used the standard formula and considered both products in 3iv) scored highly.

C. Pass Mark

The Pass Mark for this exam was 59
392 presented themselves and 151 passed.

Solutions for Subject SA2 – September 2021

Q1
(i)

Equity	[½]
Property	[½]
Interest rates	[½]
Credit spreads	[½]
Lapses	[½]
Expenses	[½]
Longevity	[½]
Mortality	[½]

(ii)

Equities down bites	[½]
due to the free assets being lower	[½]
and the unit linked charges reducing	[½]

Property is the same as equities [½]
Interest rates up bites [½]
due to fixed interest assets in the free assets being lower [½]
and the assets backing the annuities reducing [½]
more than the liabilities reduce [½]
due to asset duration being longer [½]
and not offset by any change in the volatility adjustment [½]
for the UL business, the non-unit reserves are negative, and these will be discounted at a higher rate [½]
Spreads widening bites [½]
since fixed interest free assets reduce [½]
and asset backing annuities reduce [½]
not offset by a change in the volatility adjustment – to check [½]
Lapses up bite for UL business [½]
as these will reduce the future charges [½]
Lapses down will bite for the term business as there will be a release of positive reserves
as there is no surrender value on lapse [½]
Lapses up bites at early durations for term assurance [½]
as the reserves will be negative [½]
There is no lapse risk for annuities [½]
Expenses up bites for all contracts [½]
As it will reduce future profits [½]
there may be some offset for UL if charges can increase [½]
but this is unlikely in the standard formula [½]
Longevity improvements up for annuity business [½]
as there will be more future annuity payments [½]
Mortality up for the term business [½]
small impact for UL as have lower charges [½]

[Marks available 14½, maximum 10]

(iii)
There will be more equities on the books [½]
so the stress will increase [½]
There is less property value [½]
so the stress will decrease [½]
The value of fixed interest assets have increased [½]
because interest rates have fallen [½]
this increases the interest rate stress [½]
similarly the credit spread stress will increase [½]
There will be fewer UL policies on the books [½]
so the lapse stress will decrease [½]
for the term business there will be limited impact [½]
Expense base is higher [½]
as new business volumes are lower [½]
so stress might increase [½]
unless the increase is treated as one-off [½]
Fewer annuities in force [½]
So longevity stress lower [½]

There are fewer term in force [½]
meaning the mortality stress will be lower [½]
but interest rates are lower, so the discount rate may be lower [½]
which may offset the longevity/mortality reductions [½]
[Marks available 10½, maximum 8]

(iv)
The regulator may have applied a capital add-on if it thinks that the companies risk profile is very different to the standard formula [1]
or the risk management process might not be adequate [1]
as there appears to be few risk management process in place (reinsurance, hedging) [½]
or the governance arrangements are not adequate [1]
this may be due to the unit pricing error [½]
and this risk may not be captured by the simple standard formula for op risk [½]
the standard formula may not adequately capture the tail risk [½]
Or due to the uncertainty around the virus [1]
it could be higher future deaths as people continue to catch the virus [½]
or have follow on complications [½]
which would not be reflected in the standard formula longevity stress [½]
or it may be that those who survive are healthier, and the ill people just died sooner [½]
this would make the longevity stress more onerous [½]
Lapses may continue to be heavier for the UL business [½]
if people have concerns over the economy [½]
Lapses for term may continue to be lower [½]
as people value the death benefit more [½]
these may not be reflected in the standard formula stress [½]
The company was impacted by an operational risk [½]
the regulator may was to see more detailed consideration of operational risk [½]
It may be as a result of the Regulator's review of the ORSA (or equivalent) [1]
There may be concerns about data quality [½]
There may be concerns about the ongoing viability of the company following the reduction in new business [½]
The add-on may be to ensure that the capital levels are in line with comparable firms [1]
or it may be an industry wide add-on due to changes impacting all firms [½]
[Marks available 15½, maximum 7]

(v)
The quality of data is likely to be a big challenge [1]
as well as historic data being often limited [½]
or is less credible for future use [1]
recent events around deaths [½]
lapses [½]
market experience [½]
and credit experience [½]
could be considered extreme [½]
and it will be difficult to calibrate and know how to use the recent data [½]
Setting dependencies could also be difficult [½]
recent experience may be different to historic data [½]
a lot of expert judgement will be required [½]

particularly around the link between mortality spikes and lapses	[½]
and between market risks	[½]
and market risks and lapses	[½]
and the company may not have sufficient experts	[1]
The company will have to meet the calibration test	[1]

[Marks available 10½, maximum 5]

[Total 34]

Part (i) This was generally well answered.

Part (ii) This was answered well by those who linked the theory with the specifics of the question. For example, those who noticed the mismatched investment position.

Part (iii) Those that recognised how the exposures to the relevant risks had changed over the year, from the information provided in the question, scored well. However, many candidates said, for example, that the property SCR would increase due to the fall in value.

Part (iv) Candidates that were able to combine general reasons with the additional scenario, set out in the question, scored well.

Part (v) Candidates who obtained the highest marks linked the question into the answer by considering how the recent pandemic's impact on deaths and lapses might both invalidate recent historic data used for calibration, but could also mean a much more uncertain future, where past data may not be appropriate for calibration.

Q2

(i)

The policy documents	[½]
these set out the contractual obligations	[½]
Marketing material provided when the policy was sold	[½]
this is likely to include material required by the regulator	[½]
Annual statements	[½]
including any policy projections provided by the company	[½]
Any ongoing material provided by the company	[½]
such as via the company website	[½]
Any documents required by the regulator	[½]
such as the Principles and Practices of Financial Management in the UK or the With-Profits Operating Principles in Ireland	[½]
which describe how the fund is managed	[½]
Any information provided if the company has been transferred from one company to another	[½]

[Marks available 6, maximum 3]

(ii)

Providing policy valuations online may lead to fewer calls to the company	[½]
This, combined with no longer mailing paper copies, will lead to reduced costs	[1]
This would be more in line with modern policyholder expectations	[½]

as many policyholders now expect to be able to see information on their products at any time. [½]
The company may already provide online services for its more modern products [½]
and so this may provide a more harmonised approach [½]
It would encourage policyholders to interact more via the website [½]
enabling the company to provide richer policyholder material [½]
leading to greater policyholder interaction [½]
and so helping with retention [½]
and reduces the risk of losing contact with the policyholder [½]
as does having their email address [½]
It will be quicker to send out [½]
via a range of digital media options of the policyholder [½]
It is possible that it will reduce errors [½]
It will help the company meet its environmental targets [½]
[Marks available 8½, maximum 3]

(iii)
The cost of in-house administration may have become very expensive [½]
as the volume of business has decreased [½]
since it closed to new business [½]
It may be the only product on an administration system [½]
The amount of in-house expertise may be decreasing [½]
or the company may want to divert management attention [½]
as the company focusses on other product lines [½]
Conventional with-profits endowments are reasonably simple to administer [½]
There may be a number of outsource providers that already do this for other companies [½]
enabling the outsource provider to achieve economies of scale [½]
enabling it to provide the services cheaper than the company can do it [½]
The outsource provider may be able to provide a higher level of service [1]
The outsource company will be able to maintain product expertise [½]
The outsource company may already have online capability [½]
saving Company A the development cost [½]
Such an arrangement may reduce future expense risk/uncertainty [½]
[Marks available 8½, maximum 4]

(iv)
The company may review its investment strategy [1]
strategy for asset shares may be to hold constant equity backing ratio [½]
so may buy equities to maintain this ratio [½]
if financial strength damaged [½]
may have to sell equities [½]
If the company has adopted hedging strategy to back cost of guarantees, then review and rebalance hedges [½]
Alternatively, the company may consider the fall to be temporary and wait for assets to recover [½]
The company will consider the size of the estate [½]
which may dictate the pace of any actions [½]
The company may consider reducing regular bonus rates [½]
to reduce the accumulation of guarantees [½]

but this is not likely to have a significant impact in the short term [½]
The Company may consider reducing final bonus rates [1]
depending on smoothing limits [½]
depends where payouts were relative to asset shares before the fall [½]
due to past smoothing constraints [½]
so it may be that payouts are now in line with asset shares? [½]
The company may consider increasing any non-guaranteed charges on its unitised business to meet increased expenses [½]
The company may consider reviewing the surrender value basis [1]
to bring surrender values in line with asset shares [½]
it is less likely that changes in surrender values are smoothed [½]
so more likely to reduce surrender values [½]
The company may consider introducing market value reductions on unitised business [1]
to protect remaining policyholders [½]
from exiting customers receiving significantly more than asset share [½]
If the company is currently distributing the estate or is making charges for costs of guarantees, then it may consider whether these need to be reviewed [1]
to ensure that the approach remains fair [½]
to both remaining and exiting policyholders [½]
The company may increase its monitoring of exit management information [1]
This will be an important input to the decisions above [½]
if exits are low, then pressure to act reduces [½]
and vice versa [½]
The company will consider its documented procedures [1]
PPFM [½]
run off plans [½]
court schemes [½]
past practice [½]
As these will set policyholders' expectations and so guide how they should be treated fairly [1]
The company may decide to suspend shareholder transfers out of the fund [½]
The company will need to adhere to its governance arrangements [1]
consider the required authority [½]
does the Board have to decide? [½]
Consult with With-Profits Actuary (or equivalent) [½]
Consult with With-Profits Committee (or equivalent) [½]

[Marks available 26½, maximum 12]

(v)
The fall in local equities has not led to a significant fall in asset shares [1]
because asset shares for unitised business are not heavily invested in equities [½]
or because asset shares are not heavily invested in the local equity market [½]
and the fall is not reflected more widely in the global equity market [½]
or other assets classes have risen [½]
to negate the fall [½]
The company may anticipate a rapid market recovery [1]
The company has reduced final bonus rates in response to the fall [1]
in line with smoothing policy [½]
and the change in final bonus rates has brought payouts into line with asset shares [½]

so market value reductions are not required [½]
A significant proportion of the unitised business has no-MVR guarantees [1]
so that market value reductions cannot be applied at this time [½]
or policyholders would defer exits until the guarantee applied [1]
The company has experienced low levels of exits [1]
and so the impact of claim values exceeding asset shares in not material [1]
to the remaining policyholders [½]
and the cost can be absorbed through the usual smoothing process [1]
The contract terms do not permit market value reductions [½]
Local regulation/legislation do not permit market value reductions [1]
The application of the smoothing policy prior to the fall [½]
may mean that payouts prior to the fall were below asset share [½]
so the fall may have brought asset shares back into line with payouts [½]
The volume of unitised business is low [1]
and/or the estate is large [1]
so the cost of not applying market value reductions does not materially impact the size of the estate [1]
in a way that materially impact benefits expectations [½]
or benefit security of remaining policyholders [½]
It will be against policyholders' reasonable expectations if MVRs were not applied in similar situations in the past [1]
There may be a desire to avoid negative publicity that could exacerbate the situation [½]
especially if competitors are not applying them [½]
The administration systems may not have applied them recently and there is concern that there will be errors [½]
and so may apply them at a later date if conditions remain the same or if exits increase [1]

[Marks available 23½, maximum 12]

[Total 34]

Parts (i) (ii) and (iii) were generally well answered.

Part (iv) Candidates who considered the wide range of with-profits management actions scored well.

Part (v) Candidates who considered both reasons why MVRs may not be required in the scenario presented and practical reasons why they might not be applied, scored well.

Q3

(i)

The government could provide tax relief on premiums paid [1]
this would effectively make that product cheaper [½]
and so more attractive to customers and so increase demand [1]
The government could offer tax breaks to employer that offer group life products to employees [1]
The government could consider how the benefits are taxed [1]
it is unlikely that there is tax on the death benefit itself [½]
but it may fall within the inheritance tax calculation [½]

so government may change this [½]
but as inheritance tax only incurred by the affluent [½]
this may not be the target segment of the population [½]
The government could look at the way the life insurance company is taxed [1]
simplifying the tax regime [½]
or it could allow more "E" to be included in the calculation, for example by not spreading initial costs [½]
The government may conclude that greater competition between insurance companies is a greater priority to achieve its aims [½]
so taking term insurance business out of the BLAGAB regime may be preferable [1]
to level the playing field [1]
The government may opt for a combination of the above [1]

[Marks available 12½, maximum 9]

(ii)
The regulator will wish to balance policyholder protection [½]
and ensuring that the public has faith in the stability of the insurance industry [½]
and making it easier for companies [½]
The regulator will consider its authorisation regulations [½]
to make it easier to get authorised [1]
Will it simply authorise a company to write the class of business [½]
or will it require each new term insurance product to be authorised? [½]
the latter is not likely to help achieve the aim [½]
as it will slow innovation [½]
The regulator will consider its business standards [½]
Regulator unlikely to relax management standards [½]
As term insurance is a simple product [½]
may be able to simplify conduct rules [½]
such as simplifying rules to encourage e-commerce [½]
unlikely to relax rules on making complaints [½]
The regulator may look to simplify the supervisory reporting regulations to make it easier for new entrants [½]
Ensure the valuation requirements [½]
and capital requirements are appropriate for term insurance [1]
appropriate limitations on asset types [½]
and valuation of assets [½]
the treatment of reinsurance rules are likely to be significant [½]
Ensure that the management meet the fit and proper persons test [½]
including the statutory actuarial roles [½]
that they are suitably experienced in term insurance [½]
Regulators may wish to consider the extent to encourage foreign companies to operate in the territory through it regulations for groups [½]
Or whether it wishes to deter them [½]
Encourage reinsurers into the market [½]
Remove/reduce restrictions on product design [1]
in order to encourage more innovation [1]
Remove prescribed premium rates/remove caps [1]
Relax any underwriting restrictions [½]
Impose a level of mandatory minimum protection cover [1]

for example employers to purchase cover for employees [½]
Provide standard wording so easier for customers to compare prices [½]
No gender/genetics pricing to achieve wider social aims [1]
[Marks available 21, maximum 12]

(iii)
Company A is likely to be structurally XSE as a company [1]
due to the volume of term insurance written [½]
which has low reserves and low asset yields [½]
The single premium savings product will be XSI [1]
so in the company's "I-E" calculation, all the "I" can be offset against "E" [1]
either enabling gross roll up in pricing the product [½]
making the product attractive to customers [½]
or enables greater profit for company A [½]
Company A will limit sales to ensure the company's XSE position is preserved [1]
this would be especially true if the company has passed the tax benefit to the customer [½]
[Marks available 7, maximum 4]

(iv)
The company will have to consider whether its pricing remains appropriate [1]
The company's main product line is term insurance currently, it is likely that company A is XSE [½]
The future term insurance business will no longer be BLAGAB calculation [1]
so will not contribute to the "E" in the BLAGAB "I-E" [½]
so the savings product will now be taxed as XSI [1]
so the company would also need to consider its strategy for this product [1]
the company could limit the volumes further [½]
ultimately, it might have to stop selling the product [½]
or it may consider selling it on a net of tax basis [1]
but there is likely to be more competition [1]
The company will want to consider the strategic changes that might take place in the industry [1]
will there be new entrants [1]
will that impact company A's distribution source [½]
or there may be product innovation that makes company A's product look unattractive [½]
So company A may seek to launch innovative new products [½]
before the change date [½]
in order to be ahead of the competition [½]
The company is likely to carry out projections of the company cashflows [1]
on different new business scenarios [½]
focussing on the tax implications [½]
on profits before and after tax [1]
The company may consider product diversification [1]
or it may consider taking over another life insurance company [½]
or to purchase blocks of business [½]
in order to manage its ongoing business [½]
Equally, it may conclude that the best option is to seek a buyer for the company [½]
The company will have to update systems [1]
and processes [1]

It will need to review pricing terms and premium rates [1]
It may seek expert tax advice to understand the implications [½]
and review competitor actions [1]

[Marks available 23, maximum 10]

[Total 32]

Part (i) This was generally well answered. It was important to propose realistic and targeted suggestions. "Reducing the rate of corporation tax", for example, would not target the protection market alone and would have much wider consequences.

Part (ii) Again, targeted suggestions scored well. More "scattergun" proposals that did not address the specific question did not gain marks.

Part (iii) Few candidates recognised the synergy possible writing an XSI product in an XSE company.

Part (iv) Many candidates did not recognise the big impact this would also have on the savings contract sold by the company – that it would now be the only product taxed under BLAGAB and so would lose the competitive advantage. The company would, at least, have to reprice or consider its strategy more widely.

[Paper Total 100]

END OF EXAMINERS' REPORT

