



Institute
and Faculty
of Actuaries

EXAMINERS' REPORT

SP2 - Life Insurance
Specialist Principles

April 2023

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.

For some candidates, this may be their first attempt at answering an examination using open books and online. The Examiners expect all candidates to have a good level of knowledge and understanding of the topics and therefore candidates should not be overly dependent on open book materials. In our experience, candidates that spend too long researching answers in their materials will not be successful either because of time management issues or because they do not properly answer the questions.

Many candidates rely on past exam papers and examiner reports. Great caution must be exercised in doing so because each exam question is unique. As with all professional examinations, it is insufficient to repeat points of principle, formula or other text book works. The examinations are designed to test "higher order" thinking including candidates' ability to apply their knowledge to the facts presented in detail, synthesise and analyse their findings, and present conclusions or advice. Successful candidates concentrate on answering the questions asked rather than repeating their knowledge without application.

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
July 2023

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

The aim of the Life Insurance Specialist Principles subject is to instil in successful candidates the principles of actuarial management and control that are relevant to life insurance companies, as well as an understanding of the market and business environment for life insurance products, and their associated risks. The candidate should gain the ability to apply the knowledge and understanding, in simple situations, to the operation, on sound financial lines, of life insurance companies. The life insurance products covered by this subject exclude health and care insurance products covered by the Health and Care Specialist Principles subject.

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. The Examiners may also award marks for valid points that are not included in the marking schedule, or alternative examples where an example is given in the schedule.

Candidates are expected to show knowledge of the relevant content of the Core Reading and be able to apply this knowledge where appropriate. To achieve a good pass mark, candidates must be able to utilise their applied knowledge and analyse the best outcomes as specifically required by the exam question.

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

Overall, candidates found this paper slightly harder than usual. This is reflected in the pass mark of 55%.

Most candidates scored well on the mid-length questions that required application of direct core reading material (e.g. Question 4) or questions that required candidates to generate relevant risks (e.g. Question 7(ii) and Question 8(i)). Questions that required less standard application of knowledge to specific data given in the question (e.g. Question 2 and Question 3) proved more challenging – with better answers making full use of the data provided in the question rather than giving a more generic response.

Question 5(i) responses were varied, given the need for knowledge of specific material and the technical nature of the calculation. However, most candidates who attempted Question 5(i) were able to calculate the required figures. Many were awarded close to full marks for clear workings and method even if minor errors were present.

Full marks are not expected to be awarded across the questions in the exam paper - this is intentional in order to allow differentiation between candidates.

Passing candidates met the question requirements by showing an understanding of the material in the core reading and the ability to apply this in sufficient detail to a particular scenario. These candidates tended to score well across the paper as a whole. However it was still possible to for a student to pass with a lower score on one or two question parts provided they scored well in other sections.

C. Pass Mark

The Pass Mark for this exam was 55
580 presented themselves and 272 passed.

Solutions for Subject SP2 - April 2023

Q1

The asset share is the accumulation of premiums less the deductions associated with the contract, all accumulated at the actual rate of return earned on investments [1]
 So, if more is paid out on surrender over time, then the company would make a loss [1/2]
 and this loss would then be passed onto other policyholders' asset shares as a deduction [1/2]
 Bonus distributions should be consistent with policyholders' reasonable expectations [1/2]
 e.g. expecting surrender values to move broadly in line with the asset share [1/2]
 Bonus distributions should be equitable between different categories and generations of policyholders [1/2]
 Paying out more to surrendering policyholders would not be equitable to those remaining [1/2]
 and if policyholders were made aware of this more might surrender [1/2]
 meaning even more deductions to those remaining [1/2]
 This would not be sustainable [1/2]
 and so either surrender values would reduce or shareholders would make a loss [1/2]
 In the early years of a policy the asset share could be negative due to high initial expenses. The surrender value would be 0, which would technically exceed the asset share, as you could not have a negative surrender value. [1/2]

[Marks available 6½, maximum 4]

Most candidates were able to pick up some marks in this question from covering the basics of asset share. Stronger candidates explored not only the implications for the company of paying more than asset share on surrender, but also the implications of the choice of surrender value on the funds available for the remaining policyholders.

Q2

(i)

	No. of contracts	Total sum assured (\$m)	Total annual premium (\$m)	Average Sum assured	Average Premium
Data at previous investigation	65,000	8,125	3.90	125,000	60
New business	2,040	296	0.14	145,098	70
Surrenders	3,620	1,629	0.16	450,000	45
Maturities	250	38	0.02	152,000	80
Other terminations	600	69	0.04	115,000	65
Close based	62,570	6,685	3.82	106,840	65

on data					
Unexplained	0	1,085	0.37	17,341	2
Data at current investigation	62,570	7770	4.19	124,181	67

Marks for correct figures:

No, of contracts = $65,000 + 2,040 - (3,620 + 250 + 600) = 62,570$	[½]
Total sum assured = $8125 + 296 - (1629 + 38 + 69) = 6,685$	[½]
Total annual premium = $3.9 + 0.14 - (0.16 + 0.02 + 0.04) = 3.82$	[½]
Calculation of untraced/unexplained on above three values	[½]
Calculation of average sum assured per policy at start and end	[1]
Analysis of average premium per policy at start and end	[1]
Calculation of premium per sum assured at start and end	[½]
Additional calculation of interim ratios	[½]
Demonstrable spot checks - e.g. noting surrendering sum assured (1629) is high	[½]
	[Marks available 5½, maximum 4]

(ii)

The unexplained element of the number of policies is zero	[½]
Which could make sense if the analysis is complete	[½]
Alternatively, could indicate that there is unexplained being hidden somewhere else in the analysis	[½]
There a large unexplained item on the total sum assured	[½]
which may indicate an error in the data/analysis	[½]
or a missing step in the analysis (e.g. if sum assured is inflation linked)	[½]
The average sum assured on surrenders is very high	[1]
and the total sum assured on surrenders is also high	[½]
This could indicate an issue with high net worth policyholders	[½]
or some extremely large policies distorting the data	[½]
The average premium is very low compared to the average SA on the surrender step, and may indicate an error	[½]
There is a large unexplained increase in the annual premium	[1]
which may indicate an error in the data/analysis	[½]
and may be linked to the issue with sum assured	[½]
The average premium over the period has increased	[½]
by a large amount (over 10%)	[½]
this is partly explained by the high average premium on new business	[½]
The average premium has increased over the period, but the average sum assured has reduced, which seems odd	[½]
	[Marks available 10, maximum 4]

[Total 8]

The table provided in the report is an example analysis for illustration - candidates were not required to repeat this in full, marks were awarded as per the marks after the table.

Most candidates were able to score marks by offering some relevant calculations in

part (i) and using these to inform specific comments in part (ii). Stronger candidates drew comparisons across the different calculations (e.g. comparing premiums to SA), rather than considering the results in isolation.

Q3

The company may not be treating both surrendering and continuing policyholders equitably	[½]
Those policyholders who have already surrendered will have already incurred the higher penalties	[1]
Whereas those who have continued with the policy are going to benefit from reduced penalties	[1]
With the current reductions, there is a discontinuity at maturity, so the proposed change improves consistency between late surrenders and the maturity value	[½]
The company may not be taking account of policyholders' reasonable expectations	[½]
Policyholders are unlikely to expect such a large change to their policy terms	[1]
However, given the change improves the values provided, this will not exacerbate this issue	[½]
An issue could arise with newly surrendered policyholders if the change is not clearly communicated in advance, and policyholders surrender before the date of change	[½]
At early durations, the surrender value should not appear too low compared with premiums paid, taking into account any projections given at new business stage	[½]
Early durations are no longer relevant, given all policies now have less than 15 years remaining	[½]
However, the SV for those with 10-15 years remaining may still appear too low compared to premiums paid	[1]
The company may not be taking account of surrender values offered by competitors	[½]
Difficult to say if this is the case, so it is possible it may not be complied with	[½]
The surrender values may be subject to significant discontinuities by duration	[½]
The scale still has significant discontinuities by duration at 5,10 and 15 years	[1]
Given the fund sizes for these policies will be quite substantial at this stage	[½]
The surrender values could be subject to frequent change, which is not dictated by financial conditions	[½]
This is unlikely to be a frequent change, but if the company is regularly changing penalties by such a large amount this could be an issue	[½]
The reason for the change is not set out, and may not be consistent with the financial environment	[½]

[Marks available 12, maximum 8]

Marks were only awarded for noting relevant principles and how they may not be applied with, rather than listing the principles without further context.

Most candidates were able to list relevant principles and make some high-level judgements as to whether the company was in compliance. Stronger candidates examined the principles one at a time and gave specific examples of how the company did (or did not) comply.

Q4

(i)

An illiquidity premium will result in a higher valuation interest rate [½]
 which will result in lower liabilities [½]
 and improve the solvency position of the company [½]

[Marks available 1½, maximum 1]

(ii)

The illiquidity premium is generally restricted to long-term predictable liabilities [1]
 for which assets can be matched [½]
 and held to maturity [½]
 Therefore the insurer is not exposed to the risks associated with the sale of illiquid assets [1]
 although is still exposed to default risk [½]
 It may be permitted to increase the risk-free discount rate accordingly [½]
 The liabilities under annuities are more predictable than other products [½]
 as they are paid until the member, or spouse, dies [½]
 Also annuities cannot be surrendered [½]
 and do not pay a sum assured on death [½]
 If the company has a large portfolio of annuity business then this helps in terms of the predictability of outcomes [½]
 Therefore, assets can be held which match the expected duration of the annuity payments [½]
 which is based on the expected lifetime of the member or spouse [½]
 For other products where the liability profile is less predictable, assets would typically not be held to maturity [½]
 Hence the insurer would be exposed to the illiquidity risk of having to sell the assets before maturity [½]
 So the illiquidity premium will normally only apply to annuities. [½]

[Marks available 9, maximum 5]

(iii)

Corporate bonds are the most likely asset the illiquidity premium will typically relate to [1]
 as they can be used to match the liabilities [½]
 and are relatively illiquid [½]
 Government bonds are more liquid [½]
 and therefore typically no illiquidity premium applies [½]

[Marks available 3, maximum 2]

[Total 8]

This question was generally well answered. In part (ii), most candidates showed a good understanding of annuity characteristics and stronger candidates were able to explain the relevance of these to the illiquidity premium.

Q5

(i)

Units created exceeds units cancelled and has for some time. i.e. net creation of units [½]
 So unit pricing will be based on appropriation price [½]

Calculation of appropriation price:

Market offer price value of assets = 225,000 [½]

Plus expenses in purchase of assets

$225,000 * (0.05\%) * (650 - 575) = 8,437.50$ [1]

Plus current assets (cash) = 3,000 [½]

Plus investments sold not yet settled = 2,450 [½]

Less current liabilities (loan) = (2,200) [½]

Less investments purchased not yet settled = (3,000) [½]

Plus accrued income = 450 [½]

Less accrued tax = (412) [½]

Total: $225,000 + 8,437.50 + 3,000 + 2,450 - 2,200 - 3,000 + 450 - 412 = 233,725.50$ [1]

Appropriation price = $233,725.50 / 27,750 = 8.42254$ [½]

Offer price = appropriation price + spread [½]

= $8.42254 / (1 - 4\%) = 8.77348$ [½]

Bid price = appropriation price = 8.42254 [½]

Prices are rounded in favour of customer i.e. offer price rounded down to 8.77 [½]

and bid price rounded up to 8.43 [½]

Value of units created: $650 * 8.77 = 5700.5$ [½]

Value of units cancelled: $575 * 8.43 = 4,847.25$ [½]

Net transaction value: $5700.5 - 4,847.25 = 826.25$ [1]

[Marks available 11½, maximum 8]

(ii)

The number of units cancelled now exceeds the number of units created. i.e. net cancellation of units [1]

So (in theory) the company may move to pricing on a bid basis [1]

This means prices will be based on the expropriation price [½]

This is similar to the appropriation price, except that the starting point is the proceeds of selling assets (i.e. the market bid price) [½]

and the expenses from selling are subtracted [½]

The offer price will be expropriation price + spread [½]

and the bid price will be the expropriation price [½]

If they did switch to a bid basis the unit price would fall [½]

In practice, the company is unlikely to switch their pricing basis daily [1]

Especially since the fund has been consistently expanding for a year [½]

This change is small so may not represent a significant shift towards bid pricing [½]

Instead they might take a broad equity approach [½]

i.e. they might only switch their basis [½]

if there is a significant movement against the existing basis. [½]
 Or they might operate a management box to avoid frequent switching of the basis [½]
 [Marks available 9, maximum 5]
[Total 13]

For part (i) the alternative approach of calculating the offer price using a factor of $(1+4\%)$ for spread instead of $1/(1-4\%)$ for spread was awarded full marks. This would give an offer price of 8.75944 rounding to 8.75 in favour of the customer. The value of units created would then be $650 \times 8.75 = 5,687.50$ giving a net transaction value of $5,687.50 - 4,847.25 = 840.25$.

Marks for part (i) were varied, but any mistakes made earlier in the question were not penalised providing the method for later steps was correct, hence candidates who logically worked through the calculation could still score well. The calculation of the expense on the purchase of assets proved the most difficult part of the calculation to calculate correctly.

In part (ii), many candidates were able to explain the impact of moving from an offer to a bid basis. Stronger candidates gave a balanced view as to realistic actions the company would take based on a small one-day change.

Q6

(i)

Experience may have been deteriorating on their portfolio of business	[1]
Company A may have experienced large reinsurance losses from a single event and now seeking to recoup losses	[1]
For example due to covid	[½]
Given Company A is recently established, the initial rates may have been set based on expected experience	[1]
The mix of business may have been different than expected	[½]
Company A has more data now and has a better understanding of the risks that it has taken on, compared to when it initially set premium rates	[½]
Initial rates may have been designed as loss leaders to generate business	[½]
or could have been too low due to error or lack of understanding	[½]
Company A may have expenses higher than expected	[1]
For example administration expenses may have increased	[½]
Expectations of expense inflation may have changed	[½]
Company A may have experienced a loss of other business from ceding companies	[½]
or higher than expected policy lapse rates	[½]
which means fixed expenses need to be spread across fewer policies	[1]
Company A may have solvency issues, and needs to boost income to help	[½]
or may simply want to increase its profit margins	[½]
There may have been general changes in regulations or tax that require Company A to pass on any increases within reinsurance rates	[½]
For example, an increase in capital requirements for reinsurers, or the reinsurer has had a capital add on	[½]
There may be a general increase in rates across the market	[½]

and company may have decided to follow the trend [½]
 For example due to an increased demand for reinsurance [½]
 [Marks available 13, maximum 7]

(ii)
 Company B may decide to change reinsurers [1]
 Company B may research the market to look for similar reinsurance from other companies [½]
 Company B might consider a range of factors in its market review [½]
 For example, the availability of technical assistance, the potential to benefit from preferential rates due to an existing arrangement [½]
 Company B may discuss with Company A whether any changes to existing arrangement can be made to reduce new rates [1]
 For example, changes to basic underwriting questions used online [½]
 For example, tighten policy wording [½]
 Company B may decide to keep more of the risk [1]
 or change to an original terms arrangement [½]
 The company may decide it does not require reinsurance anymore [1]
 if it has now grown large enough to self-insure [½]
 or the capital benefits don't warrant the extra costs [½]
 or wants to retain all profit on the product [½]
 Company B may decide to accept the change in rates [1]
 particularly if the increase is small [½]
 or still represents good value [½]
 or if other reinsurers in the market have similarly increased their premium rates [½]
 If it accepts the rates it needs to agree if it is to pass the increase on to new customers [1]
 or absorb the increase from within its own profit [½]
 Before increasing rates for new policies Company B would want to check competitor actions [½]
 and the potential impact of premium increase on its sales volumes. [½]
 The company would also want to do a re-pricing exercise to check the profit margins on online term assurances [1]
 and whether there are margins elsewhere in pricing assumptions that can be reduced [½]
 The company may consider stopping selling the term assurance if changes to reinsurance rates mean the product is less profitable [½]
 or continuing to sell but focusing on other products [½]
 It could also explore a coinsurance arrangement with another insurer [½]
 It may instruct its underwriters to limit the number of cases accepted by size of sum assured to limit its exposure to reinsurance costs [½]

[Marks available 17, maximum 11]

[Total 18]

Part (i) was answered reasonably well, with most candidates able to offer several general reasons for the increase in rates from company A. Stronger candidates supplemented these generic reasons with points specifically related to the information in the question (e.g. the fact that the company is recently established).

In part (ii), most candidates were able to suggest some possible actions. Stronger candidates prioritised breadth and considered a wide range of possible actions that the company could take, rather than focussing too narrowly on one or two points.

Q7

(i)

Whole life assurance:

Whole life assurance is unlikely to be an acceptable group product	[1]
As there would not seem to be a consumer need for a group version of this contract because it is a long-term product	[½]
and the policyholder will not benefit from the whole life part after leaving work	[½]
It is not annually renewable	[½]
It is likely to be more expensive than a group term assurance due to limited availability	[½]
and it is possible that it does not exist on the market	[½]

Term assurance:

Likely to be a good fit for a group policy	[1]
Since it provides a benefit to dependants on the death, whilst in employment, of an employee	[½]
which is a desirable benefit for employees	[½]
It can be reviewed annually	[½]
allowing the company to allow for changes in personnel	[½]
and likely to be cheap due to the low risk of anti-selection	[½]
and a competitive market which will lead to lower prices	[½]

Convertible and renewable term assurance:

There would not seem to be a need for a group form of these contracts other than a continuation option following cessation of employment	[1]
As these are likely to be more expensive than a term assurance	[½]
due to the cost of the option	[½]
and the market is likely to be less competitive	[½]
and it is possible that it does not exist on the market	[½]
Most healthy people leaving work might simply take out their own insurance	[½]

[Marks available 12, maximum 7]

(ii)

Mortality is the key risk	[1]
The company may not be large so there is a risk of volatile experience	[½]
and there is a risk that there is a lack of data on the workforce	[½]
There is a risk of anti-selection	[1]
as less healthy staff are likely to take the product	[½]
Compounded with this there will be a lack of underwriting for specific lives	[½]
and for group policies the premium rates are unlikely to vary by age	[½]
Given that the drivers spend much of their time in a car there is more risk of their mortality being higher due to accidents	[½]

and health related mortality factors due to the nature of the work	[½]
Older lives have higher salaries	[½]
It is possible that the executives are older than the drivers and phone operators	[½]
The risk that the business mix is not as expected is high as a result of these factors	[½]
There is a concentration risk due to all members having the same workplace	[½]
There is a risk of low take up in the workforce	[½]
Meaning the expenses of setting up are not met	[½]
and it may be older staff are more likely to take it up, increasing the average age	[½]
Expenses may be higher than expected	[½]
For example, due to higher than expected turnover of staff, or due to higher than expected inflation	[½]
Persistency could be an issue - i.e. the taxi company could cease cover	[½]
meaning the insurer would lose access to all individuals insured under the scheme	[½]
Competition with other providers could be an issue	[½]
by limiting the profit margin that the insurer can achieve whilst retaining the scheme	[½]
Investment risk is unlikely to be material	[½]
Regulations could change altering the ability of the insurer to offer the product and maintain a profit margin	[½]
The policy introduces operational risks	[½]
For example, fraud could be more prevalent	[½]

[Marks available 14, maximum 6]

(iii)

The insurer may be able to make a profit from the contract	[½]
Due to economies of scale	[½]
The insurer may already offer a similar product	[½]
and hence does not have significant development expenses	[½]
The insurer may consider offering the product as enabling the company to market to similar companies	[½]
or to cross-sell other products to the company or its employees	[½]
or to gain experience in a new market	[½]
So it has an advantage over competitors	[½]
The product may diversify the risks of the insurance company	[½]

[Marks available 4½, maximum 3]

(iv)

Make an assumption on the business mix taking up the policy	[½]
In terms of sex/age/occupation/smoker status (<i>½ per example, maximum 1</i>)	[1]
factoring in the limited data available from the employer	[½]
and the percentage in ill health	[½]
Assume that percentage have ultimate experience	[½]
or a higher % of base table	[½]
or age is $x+5$ say	[½]
or add a loading	[½]
Use own experience if available	[½]
Apply policy restrictions:	
For example restrict the maximum age or potentially the maximum sum assured available on the product to limit exposure	[½]

[Marks available 5½, maximum 3]

[Total 19]

In part (i), most candidates were able to identify the key features of each product and list the benefits that they offer to policyholders in general. Stronger candidates considered the suitability of each product for the specific purpose of a group policy and noted that some may not be available at all.

Part (ii) was generally answered well, with most candidates able to generate a broad range of risks and discuss their implications.

Part (iii) was more mixed in response, with many candidates focussing on one or two reasons while stronger candidates generated a broader range of points.

Part (iv) proved more challenging. Many answers here focussed on the principles and reasons for avoiding anti-selection, or in revising product design, rather than practical steps that could be taken to manage anti selection when pricing the contract.

Q8

(i)

Mortality risk is the main risk for term assurance	[1/2]
They have lots of experience with their existing customer base and pricing will be based on this experience	[1/2]
The new platform may introduce a different class of life, potentially with higher mortality	[1/2]
and with a different range of ages (most likely younger)	[1/2]
Anti-selection may be an issue	[1/2]
as underwriting is likely to be more limited in an online product	[1/2]
Data risk	[1/2]
As this is a new distribution channel, they may have a lack of data for pricing the products appropriately	[1/2]
Expense risk	[1/2]
Expenses of setting up the platform may be higher than expected	[1/2]
Expenses of maintaining the website may be higher than expected	[1/2]
Persistency risk	[1/2]
Lapses may be higher than expected using the new platform	[1/2]
There is a risk of lapse and re-entry from existing policyholders if rates are lower than those already issued via intermediaries	[1/2]
Counterparty risk	[1/2]
External servers, website engineers etc may not be reliable	[1/2]
Existing advisors may choose to stop recommending the product	[1/2]
New Business Risk	[1/2]
The volume of new business from the website may be higher than expected, leading to new business strain	[1/2]
or lower than expected, leading to difficulty in meeting expenses	[1/2]
or the mix of business may be different than assumed, meaning assumptions around mortality/persistency etc. are not as expected	[1/2]

Competition risk	[½]
It will be easier for competitors to compare prices, features etc.	[½]
and easier for customers to compare prices independently	[½]
This may attract customers who switch frequently by searching for the most competitive product	[½]
Operational	[½]
There may be additional risks around data security using an online platform	[½]
and in errors with the new admin system/sales process	[½]
Legal/Regulatory/Reputational	[½]
Policyholders may not understand the product if purchasing without advice, leading to risk of mis-selling	[½]
though this should be minimal as term assurance is a straightforward product	[½]
There may be regulatory restrictions on the features of products that may be sold directly	[½]
or on the information that must be released to policyholders directly	[½]
	[Marks available 16½, maximum 8]

(ii)

Mortality:

The rates used will need to reflect the differences in the expected future mortality experience	[1]
Their existing data may not be suitable and will require adjustments	[1]
This may require external expertise (e.g. reinsurer data or assistance)	[½]
Mortality may be lower (or higher) if this platform attracts a different demographic group to their existing business	[½]
For example, younger professional people, or those unable or unwilling to use an intermediary (<i>any suitable example for mark</i>)	[½]
If existing data is considered unsuitable, they may need to use standard tables with an adjustment	[½]
or competitor/industry data	[½]
If they sell any other products via their website, they may be able to base adjustments on the class of life they have experienced through this channel	[1]
The impact of anti-selection should be considered	[½]
Differences in the expected mix of lives should be considered	[½]
Mortality may also be different due to changes in underwriting when going online	[1]

Reinsurance:

The insurer may need technical assistance from reinsurers to amend their underwriting approach	[½]
and will need to review any reinsurance treaties to allow for this change	[½]
This may also affect the costs of reinsurance	[½]

Investment:

Overall, investment is unlikely to be a significant assumption as reserves are low for term assurance	[½]
It may be that a different mix of business is sold meaning potential adjustments to returns could be made	[½]
but this assumption could be left unchanged	[½]

Risk Discount Rate:

This is not likely to be a terribly significant assumption [1/2]
 and it is likely that the assumptions from the existing product will remain suitable [1/2]

Expenses:

Initial expenses: consider the cost of onboarding for a new policy via the website [1/2]
 This is likely to be lower than initial cost with an advisor [1/2]
 Renewal expenses could also be lower due to automation [1/2]
 or may be higher as more work is required to remind/convince the policyholder to renew [1/2]
 If they sell any other products via the website, they may be able to use these as a starting point for understanding the expenses [1/2]
 They will also need to consider expense inflation, which may be different to expense inflation on the advisor products [1/2]
 For example, if any website services are carried out overseas - inflation may differ to domestic advisor rates [1/2]
 Differences in business mix may alter the per-policy renewal expense assumption due to changing the level of cross-subsidy between policies [1/2]
 or the average size of a policy [1/2]

Commission:

It is unlikely that direct commission payments will be made for online sales [1/2]
 But, there will be other costs of distribution that need to be included in pricing [1/2]
 For example, web hosting and security costs (*any suitable example for this mark*) [1/2]

Persistency:

Persistency experience is likely to differ between the two distribution channels [1/2]
 Persistency may be worse as policyholders can easily compare and may be more inclined to switch insurer [1/2]
 on the other hand, it may be better as the new policyholders are not receiving advice and may be less inclined to review their products regularly [1/2]
 They can refer to persistency data for any existing online products they sell [1/2]
 or use adjusted industry data [1/2]
 Persistency for one channel may be harmed if the other is significantly cheaper [1/2]

Margins and Profits:

Consider the target profitability for the new channel [1/2]
 This is likely to be much narrower than the existing channel due to high price competition [1/2]
 This may mean there is little room for margins for uncertainty or adverse experience in assumptions [1/2]
 Expert judgement will be required [1/2]

Regulation:

There may be regulatory requirements requiring a level of prudence in pricing assumptions, or otherwise limiting the assumptions used [1/2]

Other Considerations:

With all these considerations, they must also be aware of consistency between the

two distribution channels	[½]
Large pricing discrepancies may lead to reputational damage	[½]
However, this may be more relevant to setting premium rates than the underlying assumptions	[½]
	[Marks available 25, maximum 14]
	[Total 22]

Part (i) was generally well answered, with most candidates covering a range of risks in addition to mortality. Well-prepared candidates took an organised approach by considering categories of risk and exploring each to pick up several marks.

Part (ii) was set to be more challenging. Most candidates were able to generate a reasonable number of points, with the strongest candidates considering how pricing will differ from their experience with existing business and giving the level of detail required for the number of marks available.

[Paper Total 100]

END OF EXAMINERS' REPORT



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