EXAMINATIONS

September 2002

Subject 402 — UK Fellowship Life Insurance

Paper Two

EXAMINERS' REPORT

Introduction

The attached subject report has been written by the Principal Examiner with the aim of helping candidates. The examiners are mindful that a number of interpretations may be drawn from the syllabus and Core Reading. The questions and comments are based around Core Reading as the interpretation of the syllabus to which the examiners are working. They have however given credit for any alternative approach or interpretation which they consider to be reasonable.

The report does not attempt to offer a specimen solution for each question — that is, a solution that a well prepared candidate might have produced in the time allowed. For most questions substantially more detail is given than would normally be necessary to obtain a clear pass. There can also be valid alternatives which would gain equal marks.

K Forman
Chairman of the Board of Examiners

26 November 2002

1 *There was an error in one of the figures in the question (the Direct FPM should have been stated as104.5, not 100), and consequently candidates could have spent time trying to reconcile their own workings with the information in the question. Due consideration has been given in cases where scripts indicated that this might have impacted the candidate's performance.*

It should be noted that it was not necessary to reproduce the figure in order to answer the question fully, and that the error did not invalidate any of the conclusions which candidates should have drawn from the information.

(i) It makes no allowance for the difference in actual to expected commission paid.
A similar treatment of commission over or under spend should be made.

It makes no allowance for tax relief on expenses. As these expenses are distribution related, the tax relief will be spread over seven years. This means that the above adjustment should be multiplied by (1 – tax rate/7 * a due 7), or (1 – tax rate) where the tax rate is lower to allow for the spreading of relief.

Expense loadings are expressed as a percentage of premium, whereas in practice part would be normally fixed. Hence the relative under or over-spend would be influenced by sales volumes, which is impacted by the cap on bond sales.

Most candidates commented on the omission of commission from the calculation, but very few mentioned tax.

(ii) The use of 100% for the term assurance is fine as the cash flow leads directly to distributable surplus for the shareholders. The use of 10% for the with profit fund is worth more thought.

The additional spend on distribution is either a cashflow out of the estate of the with profit fund, or reduces asset shares. The shareholders have a 10% stake in the estate only when it is distributed. Using 10% to value this assumes that the estate is distributed immediately via terminal bonus. This is unlikely to be the assumption in the embedded value calculation.

It is more likely that the embedded value assumption is that the estate is assumed to be distributed in one of the following ways:

(a) The current terminal bonus scale is multiplied by a factor so that the estate is distributed by terminal bonus pro rated by the expected emergence of terminal bonus.

(b) The same approach is taken only using the reversionary bonus rates.

(c) A mixture of the above.

Alternatively, a reduction in asset share will feed through to the shareholders via the declaration of lower terminal bonus, lower reversionary bonus or both.

The first of these will certainly defer the distribution and so a lower value than 10% should be used as the discount rate is likely to be higher than the projected earned rate. The second would defer the distribution but the shareholder value of reversionary bonus distribution is effectively greater than 10%. This is due to the fact that the shareholders transfer is based on the value of bonus at the statutory valuation rate of interest. Because this rate of interest is low, this increases the value of the shareholders' transfer.

It is likely that the deferral will be the more dominant feature so, again, the shareholder value is again likely to be less than 10%. However, a more realistic value can be taken from the embedded value calculation. In a mature company this factor is unlikely to vary significantly from one year to the next — unless the philosophy for distributing the estate alters.

Most candidates appreciated the point that the 10% is not necessarily appropriate for with-profits, but then mentioned only the uplift due to the prudent cost of reversionary bonus basis. Relatively few candidates discussed the impact of deferral, and most candidates simply did not produce a level of analysis sufficient for a 14 mark question.

(iii) Whilst the value of a sales channel must be taken as the shareholder value of that channel, the efficiency of a channel to acquire business should not be affected by the mechanics of the products they sell, especially when this is affected by an artificial sales mix.

The efficiency of a sales channel can either be measured as the ratio of total expenses to the volume of business written, or more properly the ratio of total expenses to the expenses assumed in the pricing basis.

Total costs assumed in the pricing basis:

Direct – 100m*80% + 500m *60% = £380m
IFA – 500m * (70% +10%) + 300m*(50% +10%) = £580m

Total actual costs
Direct – 85m + 325m = £410m
IFA – 380m + 70m + 175m + 35m = £660m

Expense to volume ratio
Direct – 410/600 = 68%
IFA – 660/800 = 82.5%

Overspend Ratio
Direct – 410/380 = 108%
IFA – 660/580 = 114%

On both of these ratios the direct channel can be seen to be more efficient.

The financial performance measure used does not reflect the commission overspend or the effect of the mix of business. Whist the financial performance measure is a valuable measure on an ongoing basis, when it comes to a close down decision it fails to show the true position.

More than one year's worth of results should be analysed before making decisions such as this. On the rationale above, one might question the validity of the IFA channel, but on balance, a mixed distribution strategy is beneficial to the company by way of diversification of risk.

Given the competitiveness of the intermediary market, it is questionable whether sales could be increased sufficiently without compromising the profit margins. For these reasons, closing one channel would likely lead to lower volumes overall and hence higher overheads per policy. Closing a channel would cost money in terms of redundancies, and could lead to poor persistency.

Serious consideration should be given to removing the cap on bond sales, as a switch of business within the direct channel from term to bonds would be beneficial, or linked to further investment in the direct channel to allow incremental bond sales rather than substitution of bond sales for term sales.

The company could expand the product range or could open a new distribution arm, e.g. internet-based. The success of this investment initiative would depend on any inefficiencies that might arise within the direct sales force due to increased training, lack of focus on high performers by sales management due to recruitment programme and so on.

Investigations should be performed as to the cause of the over-runs, and either actions should be taken to address this or the pricing basis should be reviewed.

Most candidates were able to list a number of practical issues arising from the proposal, but many did not use the information given in the question to identify that the direct channel is ***not*** *less efficient than the IFA channel. The better answers combined a comprehensive explanation of why the sales director's view is inaccurate (including numerical justification, and explanation of why the FPM gives a misleading impression) with suggestions regarding the way forwards.*

(iv) The low charges, especially no front-end load, should be popular with policyholders. The simple structure should make it easier for policyholders to understand the product.

The company can cross-sell to existing policyholders; this product gives diversification. The charging structure will however mean that this is a capital intensive product.

Investment freedom may be affected if the free estate is reduced significantly. The free asset ratio will be reduced, making the company less attractive to insurance intermediaries. Consequently, there may need to be a limit on the volume of such business that can be sold.

One would also take into account any other calls on the free estate — for example supporting other lines of new business. One should ensure the company can meet its future solvency requirements by performing model office projections.

The PRE of with profits policyholders would be considered — how does this relate to the free estate? It depends on whether it has been attributed between policyholders and shareholders or not. If policyholders do have an interest in the estate, the risks associated with, and financing of, the new product may not be consistent with PRE. They should be rewarded through higher bonuses – but when will these rewards emerge?

Overall what is the profitability of the new product — is the risk/reward relationship satisfactory? Should this product be written outside the with profits fund?

Since the only charge is a fund management charge, there is investment risk. How volatile are future profits on the new product? There may be a significant lapse risk — this is not a problem if lapses are generally stable and the lapses are properly allowed for in the product pricing.

One would probably undertake scenario testing to analyse the potential impact of variations in future experience to assess the volatility of profits and hence the risks.

What are the initial development and launch costs? Over and above normal costs, there may be significant one-off costs launching the new product — for example new systems and establishing unit linked funds. The recovery of these costs will probably depend on the volumes of new business sold. However, it may be that some of the issues could be overcome by using alternative sources of capital, for example financial reinsurance. Initial costs could be reduced by using third party administrators and/or fund managers.

One would probably also consider what design changes might be possible to make the product less capital intensive — but of course this may make the product less marketable. However, one would also take into account competitors' product designs.

This part was generally answered reasonably well, but relatively few candidates discussed the expectations of the with-profits policyholders and how they should be rewarded for putting their capital at risk.

2 *What follows is one possible approach to the solution that deals with most of the areas that need consideration. Assumptions are made where information is not given in the question, and the making of any contrary assumptions was not penalised. Similarly well-argued cases for different conclusions were also given credit.*

(i) I am required by professional guidance from the Institute of Actuaries to keep you informed of my interpretation of Policyholders' Reasonable Expectations (PRE). PRE is relevant where there are areas in the financial management of insurance business where the company is given discretion over variable charges and benefits. Regulation requires that such discretion be exercised in accordance with PRE.

The primary expectation of policyholders is that the promised benefits will be paid, and therefore that the company will still be solvent when a claim arises. At a lower level PRE is driven by three factors:

- Comments made in marketing literature or in other communications to policyholders.
- The past practice of the company.
- General practices in the insurance industry.

For a company writing only unit-linked business the areas where discretion can be exercised are limited. This contrasts with companies writing solely with-profits business. The areas pertinent to discretion within unit-linked business are:

- Investment policy and the determination of unit prices.
- Appropriate deductions for taxation in the fund pricing.
- The circumstances under which variable charges might be altered.

Few candidates gave a comprehensive outline of the key issues, with many simply listing the usual sources of PRE.

(ii) *Investment policy and the determination of unit prices*

All our contract literature includes brief descriptions of the types of investment that each internal fund will hold. There is thus a clear expectation that investment will only be in the asset types disclosed. The guidelines we give to our investment managers need to be unambiguous in this area, and we need to have an established procedure for reporting breaches of them.

Discretion exists whether to price units on a bid (selling) or an offer (buying) basis. The latter is appropriate for an expanding fund and the former for a contracting fund.

The objective is to ensure that the creation or liquidation of units is at a price that does not disadvantage other policyholders in the fund. In other words, in order to ensure fair treatment of each policyholder, transactions not involving that policyholder should not impact their unit holding. This is the basic equity principle of unit pricing.

A decision needs to be taken at what point it is appropriate to switch from one basis to another. This is not an area that is covered at all in our published literature, nor do other companies indicate their practice. A change in basis may generate a price movement very different from the market movement on the day of the change. Thus changes need to be relatively infrequent.

Clearly considering the cash flow on a daily basis is inappropriate: premiums are not paid evenly throughout a month (they are concentrated on the first and last days), while the frequency of claims payments is more even.

I believe that we should consider a rolling four-weekly period to consider whether each fund is in a net cash inflow or outflow position, and set the pricing basis appropriately every week.

I also note that we hold a management "box" of unallocated units. This is used to absorb net inflows and outflows up to a certain extent, and hence avoids the need to change basis so frequently.

A final aspect of PRE is that if any errors occur in unit pricing, policyholders will expect us to rectify these as quickly as possible and provide appropriate compensation.

Many candidates listed the key points but gave limited explanation. Many gave detailed descriptions of the calculation of appropriation and expropriation prices. Such "formulae" are not particularly suitable for a report of this purpose, and the time could well have been better spent expanding on points elsewhere.

(iii) *Appropriate deductions for taxation in the fund pricing*

This is another area that is not covered in detail in published information about our contracts, other than to state that tax will be deducted from the funds "appropriately". There is normally no allowance for tax in pension funds, except for non-recoverable tax paid on overseas assets. Deduction of tax on income and realised gains in life funds is generally uncontroversial in the market: the full rates of income tax and capital gains tax are used. Relief is given for expenses charged directly to the fund.

In order to be strictly fair it is necessary to use a slightly discounted rate of tax to reflect the time between the transaction and the date the company would pay the tax, or to retain the tax deducted in the fund as a creditor.

Unrealised investment gains and losses generate more difficulty in determining PRE. The over-riding principle is that the tax charge should treat policyholders equitably.

If no provision is made for tax on unrealised gains, an investment decision to trade a particular security generates a change in price. Unit prices cannot be changed retrospectively for policyholders who have already left, so in these circumstances the tax cannot be reclaimed from all the units on which the gains arose. This is an undesirable feature and not in accordance with general equity principles. Therefore some provision should be made, for example using a discounted rate of tax on unrealised gains, with the discount reflecting the mean time taken to turn over the portfolio and allowing for indexation (net real rate of return).

This approach requires a number of assumptions to be made, and again investment trades will likely change the price. However, using the full rate of tax does not mirror the position that would exist if running the fund were the only activity carried out by the company, unless the fund is contracting rapidly. A similar situation arises regarding funds where there are net realised or unrealised losses.

On a stand-alone basis tax relief could be calculated using a discounted rate as for unrealised gains. Since there is no indexation on realised losses, the discount rate would be a nominal rather than real rate, unless the loss is expected to revert to a gain in future.

If there are other funds in a net gain position the company could achieve immediate tax relief as it is assessed in aggregate. In each case there is an argument for and against each course of action. To meet PRE, the company needs to define its policy and apply it consistently over time and across all funds.

This part was reasonably well attempted, with most candidates able to reproduce the bookwork aspects of allowing for tax within unit pricing under different scenarios. However, in many cases there was little attempt to link the theory to PRE.

(iv) *The circumstances under which variable charges might be altered*

Some of the older contracts are genuine non-profit contracts: they have no variable charges that can be altered. More modern contracts have at least one way charges can be increased: either by increasing the expense deduction or the annual management charge.

Where allowed by the contract terms, the variability of expense deductions is clearly mentioned in published literature. Furthermore, increases have been implemented from time to time. I believe that PRE would permit further increases. The past uneven timing of such increases should be replaced by regular annual or biennial increases to clarify expectations.

The deductions are specified as expense charges so there is an expectation that increases will be limited by the company's expense experience. It is likely that the expense inflation might fall between price and earnings inflation. If this is the case then the increase in the deduction should be limited to the company's expense inflation rate. It is not within PRE to use the greater flexibility of deductions linked to earnings to subsidise those policies with no increases or with increases limited to price inflation.

No changes have been made in the past to the annual management charge, although this charge has been increased in the past elsewhere in the industry. The charge is also stated to be variable in all literature. Notwithstanding this, I do not believe that PRE has been established that the charge will be increased in normal circumstances. There is, however, the overriding expectation of continued solvency mentioned above. It is my view that if solvency is threatened, an increase in the annual management charge is acceptable. Any such increase in these circumstances should not increase the profitability of any contract above the level assumed when the contract was issued.

This part was reasonably well answered but not all candidates related their answer to the specific circumstances described in the question. Few candidates made the point that solvency considerations would normally over-ride other aspects of PRE.

Drafting marks

Length of answer

An appropriate length of report is in the region of 700-900 words, with fewer marks being allocated for shorter or longer reports on a sliding scale.

Format of answer

Viewed as a whole, the document looks like a board report and has:

- (To:_____) From_____; Date_______; Subject _______
- Contains a suitable opening and reason why the report is being written.
- Has a conclusion, although in this case no action is being proposed or recommendations made.

Language Used

The report is being written for educated businessmen who have some knowledge of life insurance and of this company in particular. The language should assume that the reader is intelligent but not expert in actuarial matters.

Any technical terms or abbreviations should be clearly explained the first time they are used. Jargon (as distinct from technical words which have been explained) must be avoided.

Grammar, spelling and punctuation must be reasonably correct.

Planning and Presentation

Ideas are logically grouped and clearly separated. Appropriate use should be made of paragraphs and headings.

There is no repetition or irrelevant detail.

Sentences are kept brief.

The number of marks allocated for drafting was relatively high compared with previous papers and it was therefore expected that candidates would spend a reasonable proportion of their time on this aspect. Some candidates clearly did not even attempt to produce the answer in draft format, and consequently missed an opportunity to pick up some relatively straightforward marks.

Even simple drafting techniques were often missed, such as the use of headings, a relevant introduction and conclusion, and explaining abbreviations. A wide range of language was also demonstrated, varying from overly patronising and/or familiar, to indiscernible from that used to answer question 1.