

REPORT OF THE BOARD OF EXAMINERS ON THE EXAMINATIONS HELD IN

September 1998

Fellowship Paper (Subject F)

Paper One

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.

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Chairman of the Board of Examiners

24 November 1998

Examiner's Comments

F1

Part (i)

Generally well answered. Credit was achieved for explaining why (a) unisex rates and (b) level charges would be more risky for the insurer, and how this would affect pricing. In (b) few candidates mentioned the advantages which might arise.

Part (ii)

In (a) the key points were generally given correctly. Some answers to (b) concentrated on profit-testing assumptions, not the information relating to the "product structure" that was asked for. In (c) the main points, relating to sales volumes, unit costs and lapses, were usually given accurately.

F2

Part (i)

Generally well answered, although the effects of expenses and inflation were only covered superficially in many cases.

Part (ii)

In (a) the required minimum margin was explained well by most candidates. Many answers to (b) were superficial on the importance of mix of business and investment strategy, but the other points were generally made correctly. In (c) many candidates failed to mention further investigations that would be needed.

Part (iii)

This was not generally well answered. Many answers assumed that the changes in asset mix resulted from matching the liabilities, and other possible explanations were not given. Drafting marks were given for appropriate language, clear structure, and avoidance (or explanation) of technical terms. Many answers did not show these qualities.

LIFE INSURANCE

F1 (i)

- (a) Male and female mortality rates are demonstrably and significantly different, and no unisex table can alter this fact.

The use of a unisex table may still be possible but would introduce cross subsidy — males would pay more than at present for annuities and less for life assurance, and vice-versa for females.

The introduction of the product could itself affect the experience.

Existing policyholders may lapse and re-enter in order to benefit from unisex rates.

There are difficulties in constructing an aggregate table, it is sensitive to the male/female mix used:

- the proportion would vary up the table as the effect of the different underlying rates showed through
- the proportion suitable for one purpose or one contract may not be suitable for another
- the proportion might change over time

The use of aggregate tables would create options that could be exercised against the office. Some extra margins may be needed and the overall costs to the public could very well increase.

It is likely that some purposes would still need a split by sex, e.g. the analysis of experience and valuations.

Unisex pricing already applies to Protected Rights annuities in the UK.

It may also be relevant that factors other than mortality vary with sex — e.g. proportion married, age of spouse, etc. and these also affect premiums for some pensions contracts.

Offices would need to consider how this business is sold and to whom — should they withdraw from some or all of the market?

- (b) The front end loading is there to recover the heavy initial costs suffered at the point of sale of a contract and in particular to recoup these expenses in a capital efficient way and from plans that may leave early.

The alternative approach is to have a surrender penalty but this also is not being allowed.

The loadings could be removed, or at least modified, if the expenses could be reduced, or spread more across the contract duration.

The largest item is often the initial commission and this can only be changed if there is an overall change in market practice.

It is also quite possible to make assumptions about rates of withdrawal and through an equation of value to respread the initial expenses over the life of the remaining contracts. However, lapse rates can be volatile being affected by factors such as the economic situation.

Other considerations include:

- the financing strains on the office are heavier and more initial capital may be needed
- there is a cross-subsidy from those who choose to stay to the early leavers
- extra margins (and so extra costs to the policyholders) would be required to allow for the risk of many early surrenders
- the combination of initial commission and no front end loading opens the door to abuse by agents
- any one Office acting on its own would attract an undue proportion of likely early leavers and probably suffer losses

A half-way approach can be used (and is) where the allocation can be altered to reflect the varying degrees of commission which different agents are willing to accept.

In practice, unless the consumers are putting pressure on the brokers, then it is likely that higher renewal commissions and thus lower allocations could become the norm. This could reduce maturity values.

This proposal would have the benefits that:

- the products may be more marketable
- fewer complaints about poor returns
- greater comparability with other instruments such as unit trusts
- higher sales may reduce unit costs

The costs for an individual company would depend on its persistency experience at early durations. Offices with high persistency may not find the proposal too expensive.

- (ii) (a) The tax-free structure of the product should make it easy to sell.

The gross roll-up will result in higher management charges than for a similar "net" product.

The level unit allocations are not normal for this type of policy.

The fact that there is no reduced allocation in the first year means that initial expenses need to be recouped out of subsequent years' margins.

The office would in these circumstances normally have a surrender penalty to reduce its exposure to early surrenders. Thus profitability will be sensitive to actual withdrawal experience.

The product needs to be profit-tested using realistic assumptions.

The office will make a profit or loss on the expense loadings depending on whether it has higher or lower than average expenses.

The expenses of the new contract will not be known. The office will probably be able to estimate the costs for similar contracts it sells currently.

It may be difficult to estimate the sales volumes.

This will be particularly so if the office sells through independent advisers because of the similarity with other companies' products.

The actions the office could take to improve the profitability are:

- reduce its expenses by and/or increasing commission :
 - reducing commission and/or increasing commission clawback
 - making systems more efficient to limit renewal costs
- take actions to reduce surrender rates
- reduce investment expenses, for example using passive fund management

(b) The principal items of information are:

Sums assured — are there to be any minimum or maximum levels?

Mortality — will there be any restrictions or mortality deductions?

Investments — are there to be any restrictions or investments?

Tax — will expenses still receive tax relief?

Switches — are switches permitted to and from other investment vehicles?

Premiums — are there to be any minimum or maximum premium levels?

Single premiums — will these be allowed?

Product providers — will there be any restrictions on the number of policies that a client can hold with different product providers?

Contract term — is there to be any restriction on the terms?

(c) The principal implications are:

The office could lose future new business as clients switch to other companies' products.

This could mean increased unit costs.

The situation could be exacerbated by surrenders of in force policies as clients switch products.

If the office has a tied salesforce, the salesmen may find themselves unable to sell to some clients because of "best advice".

This could lead to salesmen becoming demotivated and switching companies.

Ultimately this could lead to problems of solvency for the company.

F2 (i) Factors Influencing Bonus Rates

The amount of the investment return earned by the assets in which the with-profits policyholders' funds are invested is the biggest factor in determining the bonus rates for an office.

However the nature of the return is also important in deciding what form the bonus rates should take.

If the return is achieved by high investment income the reversionary bonus system is more appropriate, but if there is a high proportion of capital returns, terminal bonuses will be more suitable.

Terminal bonus is suitable for investment returns that are likely to be highly variable, such as capital gains or returns from foreign currency assets.

The amount of future returns depends on the selection of assets, particularly by allocation category but the selection of individual securities also plays a part.

This will depend on the long term investment strategy of the office and on the quality of its day-to-day investment management.

The bonus rates declared by an office are usually smoothed, both by the term of contracts and between declarations, so that the amounts receivable by policyholders will not necessarily be an exact reflection of investment returns achieved over the life of the policies.

The higher the level of expense incurred by an office, the lower the level of bonus rates which can be supported.

Initial expenses will be known fairly accurately at the outset of each policy but there is greater uncertainty about renewal expenses.

The expense experience of the office can be improved by increasing volumes of business due to economies of scale and by improving efficiency, such as greater automation of policy transactions.

Over long periods of time high rates of inflation tend to produce high nominal rates of return, particularly if real assets continue to hold their value and to produce wealth in addition.

However periods of rising inflation are often associated with financial uncertainty and reductions in capital value, so the normal relationship between high nominal bonus rates and high inflation is only reliable over long periods of time.

High rates of inflation will also increase renewal expenses for business already written and will tend to reduce bonus rates if the effect is to increase the expenses incurred above those originally assumed. Expenses are largely salary related and so may rise at greater than RPI.

For longer term contracts in which a significant reserve is accumulated this factor tends to be less important than the increased nominal rates of return.

Increases in taxation, either in relation to investment income or capital gains, reduces the bonus rates which may be supported for life business.

There is a partial offset in that the value of the relief of initial and recurring expenses may also increase if the rates of taxation are increasing.

Surpluses from miscellaneous sources include mortality profits, profits from without-profits business and surrender profits.

Profits from without-profits business may also be boosted by higher asset returns or lower expenses than originally anticipated.

Proprietary offices' bonuses will be affected by the transfers to shareholders.

The level of profits achieved from surrenders or early withdrawals will depend on the payments made to policyholders in comparison with the asset shares which have been accumulated under their contracts.

- (ii) (a) The minimum solvency margins are stated in the Insurance Companies Regulations 1994. These require that the excess of assets over liabilities plus the share capital and reserves plus any implicit items (at the discretion of the DTI) should cover the solvency margin.

The required minimum margin is normally defined as 4% of the mathematical reserves for non-linked business (less a maximum of 15% in respect of reinsurance) and 0.3% of the capital at risk (less a maximum of 50% in respect of reinsurance).

For policies of term less than 5 years a lower percentage of sum at risk is applicable.

No margin is normally required in respect of the reserves for linked business unless there are investment (4%) or expense (1%) guarantees.

- (b) This ratio gives a rough estimate of financial strength, but must be used with care when analysing particular companies and in making comparisons.

Due to the nature of the valuation of liabilities and assets in the statutory returns, there are a number of factors which could give rise to a distortion of the underlying picture and hinder any comparisons.

The following factors should be borne in mind:

Valuation bases — offices may calculate the valuation of the liabilities on published bases which are more severe than the minimum statutory basis (in terms of all aspects including interest rates and use of a Zillmer).

A more conservative valuation basis will produce a lower apparent standard of financial strength.

New Business Growth — offices which have been growing more quickly will generally suffer a reduction in apparent financial strength (although this can be ameliorated by the use of a Zillmer).

As this business matures it may contribute substantially to the strength of the office and consequently need not be a true cause of weakness.

Business Mix — a lower level of apparent financial strength is appropriate for some classes of business, such as unit-linked or low risk business.

In contrast, with-profits business normally helps build up large reserves which may be required to meet bonus expectations/allow investment freedom.

Bonus Philosophy — offices which choose to pay out a large proportion of their bonuses as terminal bonuses, but do not specifically reserve for these, will exhibit an apparently greater financial strength.

Asset Admissibility — under the Insurance Companies Regulations 1994, assets may be restricted in some circumstances in the extent to which they may be included in the valuation (and excluded altogether in certain circumstances).

Nevertheless inadmissible assets may still retain considerable value and would add to the financial strength of the office.

The amounts excluded for these reasons would appear in the DTI returns.

Investment Mix — the composition of assets will influence the minimum valuation basis which may be used.

In general, a high proportion of equities will require a more stringent valuation basis and an apparently lower level of financial strength.

Whether such an investment policy is justified will depend on future circumstances (although equities have tended to out-perform fixed interest investments over the longer term).

But an office which can demonstrate financial strength and enjoys a high equity content has the flexibility to move to a high fixed interest content if the circumstances require it.

The reverse option is not available to an office which needs a high proportion of fixed interest investments to demonstrate solvency.

The exact date of valuation is also crucial as equity prices are variable — and any difference between the dates of valuation used by the two offices must be taken into account.

Subordinated Loan Debt — mutual companies can issue subordinated loan debt which can be used to increase the solvency margin as the assets will be increased without a corresponding increase in the liabilities on issue (due to the debt being subordinate to policyholders' liabilities).

The maximum debt which can be taken credit for in these circumstances is 50% of the required minimum solvency margin.

Solvency Margin — the nature of business written and the valuation basis used also affect the size of the required solvency margin. To some extent this is double-counting in the formula used.

- (c) It is generally more useful to study the trends of ratios in assessing the financial strength than restricting the view to the position at any one particular point in time.

At first sight, the downward trend is worrying and merits further investigation. The following factors may explain the movement, and the outcome of investigating these aspects will determine the degree of concern. Nevertheless, it should be noted that the ratio may not be allowed to decline much further.

The factors are as follows:

The market value of assets may have declined due to poor stock market performance. It would be desirable to investigate the underlying investment performance of the office, particularly in comparison with its competitors.

The figures suggest that the office may have been writing significant amounts of new business which have been imposing strain on the valuation basis.

The nature and terms of this new business should be investigated further, together with the treatment of new business under the valuation basis used.

The valuation may have been strengthened or reserves had to be increased e.g. due to misselling provisions.

The bonus policy and claims experience of the office should be investigated over this period.

There may be an increase in inadmissible assets.

If the office has been paying out more greater bonuses than have been earned, or if claims are higher than anticipated, this is a matter for concern.

- (iii) (a) The office may have moved into a higher proportion of fixed interest investments for a number of reasons.

It may prefer the immediate prospects for fixed interest investment in comparison with equity investment and regard this as a good tactical move.

The office's with-profits business may be maturing, so that more fixed interest investment is needed to match guaranteed benefits.

The ratios may also have been influenced by the recent investment returns of these sectors, and high returns for fixed interest would have improved the percentage which these represent the total — this factor is likely to have accounted for the rise in the equity content in 1993.

It has commonly been experienced in the past that equity investments produce superior returns to fixed interest investments over long periods.

Unless the office expects this position to alter, the move would be likely to have an unfavourable impact on policyholder returns over the medium to long term.

A higher proportion of fixed interest investments will normally allow a less stringent valuation basis to be adopted for liabilities, thus improving the apparent financial strength and making it easier for the office to demonstrate solvency.

This works in two principal ways, by allowing a higher rate of interest to be adopted and by satisfying the resilience test more easily.

The office may have written substantial amounts of new non-profit business, e.g. immediate annuities, and has matched this change in its liability portfolio with a corresponding increase in fixed interest investments among its total assets.

- (b) The principal reason for the greater investment in equities is likely to be the expectation of superior returns over the medium to long term (as has been the case historically).

It is important that the office achieves as high a return as possible to declare bonus rates which will ensure competitiveness.

There is no strict requirement to match guaranteed liabilities with fixed interest securities and the freedom to vary the investment policy depends on the existence of sufficient free reserves.

In the event of a change in circumstances, the cushion provided by these free reserves should allow a switch to a policy of closer matching if required.

Indeed, a stronger valuation basis is required as a result of the higher proportion of equities in the assets.

A change in the bonus structure of the office will probably have taken place over recent years, giving greater weight to terminal bonuses.

The greater freedom permitted by terminal bonuses allows a higher proportion of investment in equities.

Consequently, the principal risk is of a general slump in equity prices rather than significant falls in a particular industry or country.

Over the five year period mentioned the change in proportions between gilts and equities may be partly due to the relative performance of these sectors as well as changed investment policy.

Any over-performance by equities not reflected in declared bonuses will also increase investment freedom.