Faculty of Actuaries **Institute of Actuaries**

EXAMINATIONS

September 2000

Subject 402 — UK Fellowship Life Insurance

Paper Two

EXAMINERS' REPORT

1 (i)

Administration

The life office has no experience of the personal pensions market. In addition, personal pensions are more complicated than either endowment assurances or immediate annuities, the products it currently markets.The life office will therefore need to develop or acquire the technical expertise to market and administer a completely different product to those it is currently selling.

This includes ensuring that the level of premiums collected and the form of the benefits paid on death and retirement satisfy the relevant legislation. In addition, some policyholders may wish to use their personal pension to contract out of SERPS, or to take advantage of the carry forward and carry back provisions. In this case the company will require systems to record and collect the tax relief due from the Inland Revenue. The presence of an income withdrawal facility under the policies adds to the complexity.

The life office will need to develop the capability to administer unit-linked policies. This includes allocating units to policies, providing unit statements, switching between funds and calculating the benefits on death and retirement.

The life office may be able to use its existing systems to collect premiums. However, it will either have to develop its own system for handling units, or purchase one from an external supplier. An internal system will integrate better with existing systems, but is likely to take longer to deliver.

An administration system will also be required to hold employment details and to handle income withdrawal payments. It may be possible to adapt the system currently used to make payments under its immediate annuities. However, there are a number of additional features with income withdrawals. These include the encashment of units to make payments, alterations to the income level at the request of the policyholder, ensuring that the level of income is maintained within the GAD limits and performing triennial reviews.

In addition, there is likely to be a requirement from the policyholder for ongoing advice, which is not present under the immediate annuities.

It will be necessary to recruit and train suitable sales and administration staff in respect of the new products and the new systems to administer them.
The facility will be required to produce the information for items such as the annual Report and Accounts, the published valuation and the Supervisory Returns.

Suitable marketing literature will have to be written and systems developed to issue Key Feature documents to prospective policyholders. In addition, the life office's With Profits Guide will have to be amended to allow for the unitised contracts.It will be important when doing this to ensure that the approach the life office intends taking towards the new with profit contracts is clearly communicated, so as to be consistent with PRE.

This was reasonably well answered. Those that highlighted the necessary differences between the existing and the required systems and the legislative difficulties scored particularly well.

Funds

The proposal also entails entering the unit-linked market for the first time.The life office will therefore have to decide whether to launch its own internal funds or to use a variety of external unit trusts. Internal funds will be cheaper, but external unit trusts more convenient. They will also have an existing track record.Either way, the range of funds to be made available to policyholders will have to be determined.

The life office may decide to start with a relatively narrow range, such as a managed, a UK equity and a fixed interest fund. Such an approach is viable, given that the policies are not to be sold through independent advisers.In the longer term however, pressure is likely to arise from the salesforce to widen the range to include overseas, tracker, ethical and a variety of other specialist funds.

If it uses internal funds, the life office will have to decide whether to use its own investment managers for the funds, or to appoint external managers. Using its own managers will be cheaper. However, external managers may bring greater credibility and facilitate widening the fund range in future.

It will be necessary to decide how frequently to value the internal funds for the purposes of publishing prices. Normally the market expects daily pricing, except for funds investing in real property.If external fund managers are being used, they may provide some assistance with pricing. If not, the life office will have to establish the infrastructure itself.

The life office will have to decide whether the new unitised with profit contracts should be invested in the same fund as the existing with profit contracts, or whether a different asset allocation should be adopted. A shared investment approach is the more likely. However, it will be necessary to check that the relative level of guarantees under the two types of contract are sufficiently similar for this to be equitable.

There was, generally, insufficient attention paid to the source of investment management and the pros and cons of internal versus external managers.

Pricing

A suitable charging structure will have to be set for the policies, for both regular and single premiums.

Information will be required on the remuneration structure for the salesforce.

It will need to consider what business it will continue to sell through IFAs. This requires determining assumptions for items such as investment returns, expenses and withdrawal rates.

It will also have to predict sales volumes based on a new product and a new salesforce.With no experience of the market, the life office will have to use industry statistics, or possibly obtain help from external consultants or reinsurers.

It will need to consider how to recoup the initial development costs. A suitable profit criterion for the with profits policyholders, who are providing the capital for the proposal, will also be required.

A charging structure will then be derived, which is marketable and delivers the required level of profit. If this is not achieved the viability of moving into the pension market is called into question.

This was reasonably straight forward and did not cause too many problems.

Bonus distribution

The life office will have to decide how to distribute surplus under those policies invested on a unitised with profit basis. This is likely to be by means of an accumulation rate applied to the unit price, although a system of bonus units could be used instead. In addition, a terminal bonus will be payable through an addition to the value of units on encashment. The terminal bonus would bring the guaranteed benefits up to the smoothed asset share

A decision will be required over the initial level of the accumulation rate. This will depend on

- The life office's view of likely future returns.
- The target terminal bonus proportion.
- The bonus rates under the conventional with profit contracts.
- The size of the free assets and hence ability to support a high accumulation rate.
- The general level of the accumulation rate under competitor contracts.

The guaranteed minimum accumulation rate will also have to be set. Given the expected low levels of future returns, this will probably be zero.

Pay-outs are likely to be based on asset shares. However, the life office will need to decide the approach it will take towards smoothing the returns and whether to pay full asset share on switches, transfers and partial encashments for income withdrawals. This includes how active it intends to be over the use of a market value adjuster in such circumstances.

The overall approach will be influenced by the attitude taken under the existing with profit contracts. However, there are issues such as switching and income withdrawals which do not arise under conventional endowment assurances.

A suitable scale of terminal bonus will have to be set. This is likely to be different to that applying to the endowment assurances, because of the different tax treatment and different structure of the benefits. In addition, premiums will be more variable under the new personal pensions than the existing endowment assurances and will include single premiums.

The presence of switches into or out of with profits and the facility to take income withdrawals also add complications. As a result, a more sophisticated method of setting terminal bonus is likely to prove necessary. This might be based on the calendar year each premium was paid or by use of a system of shadow units.

Although a scale of terminal bonus rates will not be required immediately the new product is launched, it will be necessary to ensure that sufficient data is being recorded to enable the proposed method to operate in the future. In addition, account will have to be taken of the requirement to add terminal bonus to fund values and income payments when developing the administration system.

This was, generally, well answered.

(ii) By selling the product through its own salesforce, the life office will be directly responsible for the quality of the advice given, in contrast to the current position of selling through independent advisers. It will therefore be liable to regulatory censure and possible fines should the advice given not be appropriate.

The disadvantage of developing a new salesforce is that the life office has to go through the costly and time-consuming process of training its salesforce thoroughly and putting in place a system for closely monitoring its activities.This is an area in which it has no prior experience, given that its previous sales have been entirely through independent advisers.

The advantage of buying the existing salesforce is that it will already be trained with a management structure in place. In addition, depending on precisely what is being sold, it may also include the recruitment, training and monitoring functions. Hence, potentially the life office will be able to acquire a complete package to meet its requirements. However, one would need to allow for the fact that it is quite likely that some of the "sold" salesforce may choose to move to a different company.

It may also be able to reach an agreement with the overseas company to utilise some of its investment funds, with which the salesforce is familiar. This would help with the development of the new product.

Recruiting and training a salesforce itself, in contrast, will be a much longer exercise, with a greater potential for mistakes, particularly as the life office will also have to develop the infrastructure required to support it. However, it does have the advantage of enabling the salesforce to be developed at the pace chosen by the life office. It also avoids the possible clashes of corporate culture that may arise between a UK mutual life office and a direct-selling subsidiary of an overseas financial services company.

In addition, whilst the existing salesforce will be experienced, it will still need some training, as the products it will be selling will be different. For example, it has no experience of with profit products.

Given the different background, there is scope for misunderstandings to arise within the salesforce between the new products it is selling and its previous products.

There may also be problems with the salesforce's existing client bank. The salesforce previously sold a wider range of products than the personal pensions it is now proposed to sell. It may therefore find itself no longer able to meet the needs of its existing clients with the more limited product range.

It will be necessary to establish why the overseas company has decided to withdraw from the UK market. It may be that the salesforce is of low quality, with high rates of turnover. There may also have been compliance problems in the past. The mutual life office will not wish to be associated with a salesforce carrying a poor reputation.

The mutual life office will also wish to protect itself from the possible loss of large numbers of key staff shortly after acquiring the salesforce.

Other factors of relevance include:

- The price the life office has to pay to acquire the salesforce.
- The size of the salesforce.
- The urgency of implementing the proposal.
- The capital the life office has available to finance the exercise.

This was reasonably well answered although some candidates believed that the free asset ratio would be reduced to the extent of the purchase price. This would only be the case if the value on the balance sheet for the purchased sales force was considerably lower than the purchase price. Whilst it may be written off at some point in the future if the salesforce failed, it is unlikely to be immediately written off.

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(i) It is helpful to consider each design factor in turn.

<u>Profitability</u>

If the additional features are accurately costed then there is no reason why the design should not be profitable.

<u>Marketability</u>

Supporters may be attracted to buy the product because of this feature.The purchase will be reinforced each year as the new season begins and so lapses may be less likely.

Supporters who travel to watch their team may consider the product affordable as they could earmark premiums from their travelling budget knowing this would be supplemented from the policy if European travel were required.

The product will appeal most to the supporters of the more successful clubs but as these are likely to attract the most support sales will be maximised.

Supporters of teams that are relegated will know that they will be unable to benefit from the premium refund for 2 years and so their policies may be susceptible to lapse.

The premium increase required to fund the main feature would be of the order of 12.5% of the basic endowment premium. (6 months premiums refunded to 25% of clubs each year (5 out of 20) apart from the first year. Grossing up for the 12.5% increase in the benefit effectively offsets the loading on the first year's premiums. This also ignores the implications of relegation.This loading may be considered too great for an incidental feature to the product.

The secondary feature of a refund to unsuccessful clubs is only payable in 7.5% of cases ($(.75)^9$) if all clubs have an equal chance of success. It would be funded by a further loading of approximately 0.55% on the premium. This is likely to be an acceptable cost for this feature.

In fact the loading would probably need to be greater than 13% of premiums since the majority of sales are likely to be to supporters of those clubs who qualify for Europe more times than would be the case if all clubs had an equal chance of success. (Success breeding success). Crudely, were a team to qualify every year, the premium would effectively double.

If sales to supporters of this club represented half of all sales then the overall loading would be of the order of

$50\% \times 100\% \times 50\% + 50\% \times 4/19 \times 50\% = \text{c } 30\%$

Even if the top club only qualified every other year the loading would be of the order of:

$50\% \times 50\% \times 50\% + 50\% \times 4.5/19.5 \times 50\% = \text{c } 18\%$

This would possibly be expressed as a product design feature of a reduced investment percentage (less than 100% of each premium invested in units). An invested percentage of only 70 to 85% may meet some marketing resistance.

The additional benefits might also make the policy "non qualifying" with consequently reduced appeal to higher rate tax payers.

<u>Competitiveness</u>

At least at the commencement of sales this will be a Unique Selling Point and give the company a competitive advantage.

<u>Financing Requirement</u>

If the premium increase to cover the feature is correctly costed then there will be no additional financing required since additional premiums collected in the first year will be used to pay the premium refunds in the following year.In fact there may be a financing requirement in the second year as in the short term the successful clubs may well continue their success and trigger payments above the long term average.

<u>Onerousness of Guarantees</u>

The premium refund payments could be considered a guarantee and could become onerous if volume sales are only made with the successful clubs and these remain successful.

<u>Sensitivity of Profit</u>

Profit will be very sensitive to the weighted accuracy of the pricing of the premium refund feature.

<u>Cross Subsidies</u>

If the same premium is charged to supporters of all clubs then there would effectively be cross subsidies from supporters of the less successful clubs to those of the more successful clubs.

<u>Administration Systems</u>

Although life insurance companies will have arrangements in place to make regular payments to annuitants, they will not generally have the administration in place to make payments during the lifetime of an endowment contract (except possibly IB offices where some contracts would have included 5 or 10 yearly payments). Administration systems would therefore need further development.

This was reasonably well answered. Those that attempted to quantify the required loading (as requested in the question) scored particularly well.

(ii) **Basis**

Mortality

The death benefit for the product has not been specified although as a savings endowment it is probably based on a product which might be expected to have the minimum sum assured for qualification. A standard table is required adjusted for any appropriate, reliable past experience of the company on endowment savings business.

If data is available it might be appropriate to adjust the mortality in line with the socio economic groups understood to support football. A further adjustment might be appropriate as the supporters of particular clubs may well come from specific geographical locations. However, as data is likely to be difficult to obtain in respect of these last two factors and mortality is not a major feature of this product it may not be worth pursuing these aspects initially.

Assumption 80%–100% AM 80 ult with explicit AIDS allowance.

Unit Growth Rate

The central FSA growth assumption might be an appropriate starting point.

Assumption 6 to 8% gross

Non Unit Interest Rate

Assumption 3 to 5% gross

Renewal Expenses

Expenses are possibly the most important element of the basis apart from the probability of payment of premium refunds.The assumptions would be based on the results of a recent investigation of the company's expenses for this type of endowment contract. These would need to be increased to allow for the additional expenses of verifying and paying out annual refunds.

Assumption £20-35 per annum
0.1% pa investment costs
Renewal commission as paid

Initial Expenses

These are probably even more important that renewal expenses.Again they would be based on the results of a recent investigation into the company's expenses for this type of policy.

The product is likely to be sold without advice but "commission" may still be quite high as the company is almost certainly paying a fee to the National League and to the individual clubs as "introducers".

Assumption

Administrative Expenses	£100 to £200
Commission	as paid

Inflation of Renewal Expenses

This assumption is likely to be somewhere between the current assumptions for RPI and NAE since not all expenses are pay related and companies would expect to reduce real costs each year.

Assumption 3 to 4% per annum

Withdrawals

The starting point for the withdrawal assumption will be that for other endowments although this may need adjusting in relation to the success of the football team with lower withdrawal rates for successful clubs and higher rates for more successful clubs. Even if only one price is offered the interaction of the withdrawal assumption and the benefits paid will need to be investigated.

Assumption 10% first year
6% second year
3% later years

Probability of Payment of Premium Refund Benefit

As discussed above this is unlikely to be as simple as 25% since more sales are likely to be made to supporters of the more successful football clubs.

Assumption 35–50% based on 25% plus margin

Tax

If the contract can be designed to be written within the life fund then tax will be payable on investment income and relief will be available on expenses (with relief on initial expenses and commission spread over 7 years) The assumption will be based on a current assessment of the tax position of the office.

Assumption	Renewal	21%
	Initial and Commission	17%

Risk Discount Rate

Given the uncertainty of the accuracy of the assumption for the payment of the premium refund benefit the risk discount rate will possibly be greater than for a normal unit linked endowment, which will itself be greater than the risk free rate depending on the structure of interest rates.

Assumption 9% - 12%

This caused few problems.

(iii) **Possible Changes**

(a) Consider incorporating the premium refund on promotion as well as qualifying for Europe. As well as eliminating the disadvantage on relegation it would encourage more sales to supporters of lower division clubs.

(b) The size of the premium increase required could be overcome by reducing the value of the premium refund on qualification for Europe.

A reduction would however see the benefit reduced to a level where it would no longer provide a meaningful sum in terms of provision for travel abroad. (Even at £50 per month premium the refund in a successful season would only be £300.)

(c) It may be that premiums or charging structures would need to be varied by football club to reflect the likely success of that club.

Rather than price the product individually the product could be priced for different groups of clubs, for instance top, middle, lower clubs in the national league and, even "cheaper" for clubs in lower leagues.

This would, however, produce an even lower invested percentage (since cross subsidies would be reduced) which might meet even more market resistance.

(d) The emphasis of the whole product could be changed from that of a savings vehicle with an incidental additional benefit to one specifically designed to pay out on football success and with no expectation of any investment growth being paid at maturity. The target might simply be a return of premiums at maturity. This might even be guaranteed.

(e) The short term financing requirement for sales linked to successful clubs could be offset to some extent by reducing short term surrender values.

(f) The initial selling expenses might be more easily recovered by extending the term of the contract to 15 or even 20 or 25 years. This would reduce the effective cost of the maturity bonus for "failure" and, thanks to inflation, the effective cost of any maturity guarantee. This would also give a longer timespan over which the fortunes of the different football clubs might change, thus allowing a reduced loading for sales to supporters of (initially) successful clubs.

(g) Changing the premium refund benefit to a premium holiday for six months might allow the policy to remain qualifying for all but the most successful clubs.

Some candidates were very imaginative here and marks were awarded for a host of suggestions not mentioned above. Some candidates were very keen to see proof of allegiance to their chosen club and proof of travel to overseas games. This does little to reduce the anti-selection as the successful clubs are the most supported; requiring evidence of support would significantly increase the administration costs.