

Presented to the Institute of Actuaries Students' Society

on 2nd February 1982

**PERSONAL LIFE ASSURANCE –
WHAT THE PAST TELLS US**

by

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1. INTRODUCTION

What has happened will happen again and what has been done will be done again and there is nothing new under the sun. Is there anything of which one can say 'Look, this is new?' No, it has already existed, long ago before our time.

Ecclesiastes Chapter 1 Verses 9 and 10
(The New English Bible)

- 1.1 Life assurance has for many decades been one of the major long term savings media in the U.K., from the long-established humble with-profits endowment to the more recent sophisticated unit-linked contracts. The importance of life assurance in the savings market is recognised by successive Governments in a tangible form - Life Assurance Premium Relief.
- 1.2 The popularity of life assurance continues to grow, with sales of individual life contracts last year reaching new peaks in both ordinary and unit-linked business. Life assurance salesmen have been extremely busy these days, since life assurance is still a form of savings that has, in general, to be sold to the public rather than the public seeking the savings product offered by life companies.
- 1.3 The saver, coming to the life assurance market, has before him a comprehensive array of savings contracts marketed by a host of life companies. Only unit trusts can offer such a range. The savings schemes from banks and building societies have a very similar look about them, with little variation in return. It is easy to compare contracts and the choice of building society or bank is not really crucial.
- 1.4 It is quite different with life assurance. The saver's choice of contract and of life company is vital to his ultimate return. Unlike some bank and building society schemes, the cost of switching between life companies can be expensive. One minor objective of this paper is to highlight the differences in return, in case anyone feels

that selection is immaterial. So how does the saver or his adviser assess the prospects of the various contracts and the prospects of the life company in making his choice. Almost invariably, they fall back on past results and project into the future.

- 1.5 Those of you close to the marketing side of life assurance will be familiar with the with-profit maturity quotation or the fund performance projection. Forward projections and past performance tables are the tools which the adviser uses in recommending a contract to a client. The paper endeavours to look at the efficiency of such tools to see how reliable they have been in the past in predicting the future.
- 1.6 Actuaries are well aware of the uncertainties of predicting the future, being familiar with Redington's "expanding funnel of doubt" and are thus sceptical of projecting the past without reservations. Intermediaries have no such qualms and rush in where actuaries fear to tread.
- 1.7 The paper first looks at with-profits, then at the unit-linked market. It goes on to look at past results as they affect the continuing controversy between with-profits and unit-linked schemes, a controversy that still continues between advisers, even if the leading protagonists have been quiet of late. Finally, the paper concludes with some observations on switching between funds for linked savings contracts.
- 1.8 It has concentrated solely on individual life contracts, since these have been marketed for longer periods than pension plans, and there is now a growing amount of information available, but similar considerations would also apply to such personal pension plans.
- 1.9 The paper has drawn heavily on the regular surveys made by the magazines Planned Savings and Money Management. In certain instances I have had to break with tradition and mention certain life companies by name, otherwise the particular point being made would be meaningless, but wherever possible, I have endeavoured to save blushes or to avoid embarrassment.

2. WITH-PROFITS SCHEMES

Until recently, conventional life companies only offered one type of with-profits contract for saving over a specific

period - the fixed term endowment assurance. The introduction of flexible endowments and low cost endowments has added some variety to the product range, but if the adviser is recommending investment in a with-profit contract, he is concerned with choosing the life company - effectively a two dimensional situation. The policyholder has no choice in the investment media. He accepts the underlying investment strategy of the life company, investing in a fund that is a mix of fixed interest, U.K. and overseas equities and property.

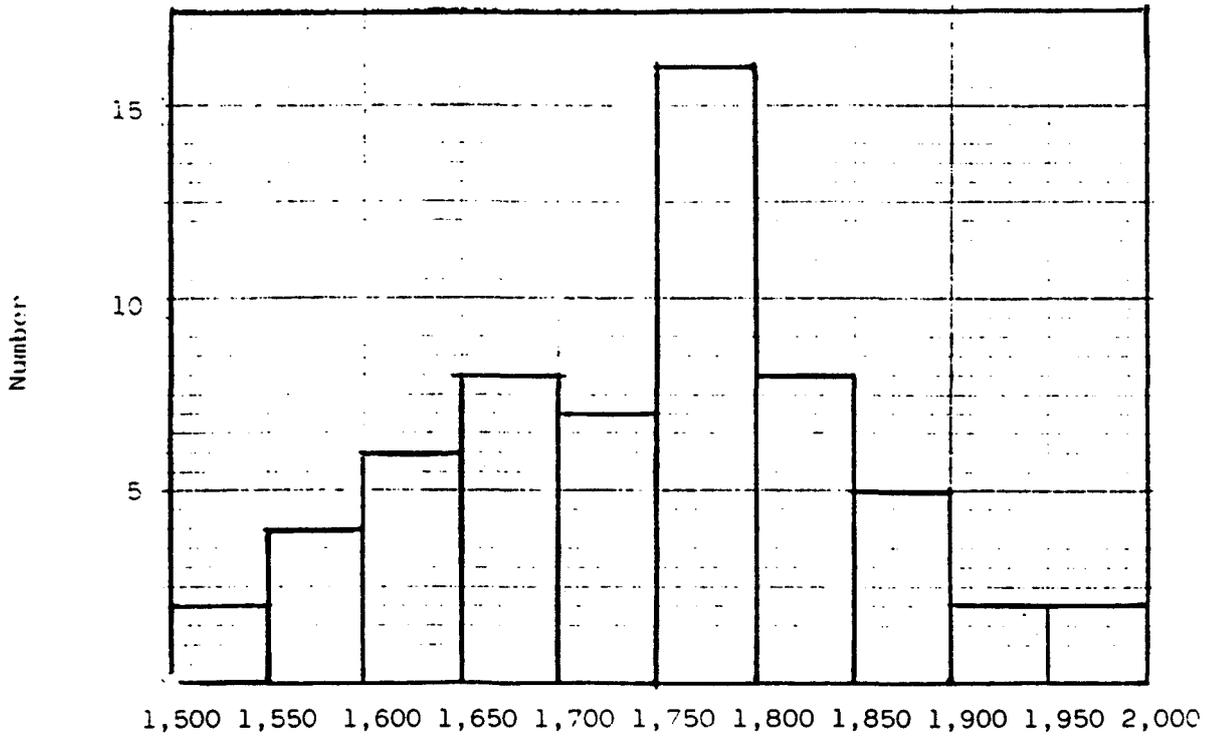
On this basis, this section looks at life company selection on past performance and future projections.

2.1 PAST PERFORMANCE

- 2.1.1 Selecting a life company on its past performance is quite a simple exercise, providing one has the maturity figures available for all the life companies operating in the with-profits market. Fortunately, these figures are published once a year by Planned Savings and Money Management and the Economist, besides the insurance press. Since these tables usually appear at different times during the year, the adviser can keep up-to-date.
- 2.1.2 Table 1 summarises past performance for 10, 15 and 25 year policies maturing early in 1981 and the figures are taken from the May 1981 edition of Money Management. They are based on contracts that were taken out by a man aged 30 next birthday paying a gross monthly premium of £10. The Money Management survey is, in my opinion the most comprehensive with-profits survey made by a periodical, but it does lose something by going for maturity values so early in the year. Nevertheless, it still enables one to make a comprehensive analysis of the situation with little loss of accuracy.
- 2.1.3 The charts show the extent of variation between companies and the wide gap certainly caused me some surprise when I first started reviewing with-profit performance. These charts should help dispel any lingering doubts that traditional life companies are much of a muchness and their products the same.
- 2.1.4 I have calculated the mean and standard deviation of the returns to discover how the pattern changes with term to maturity. It would be instructive to trace the histograms back over the years, but that would have

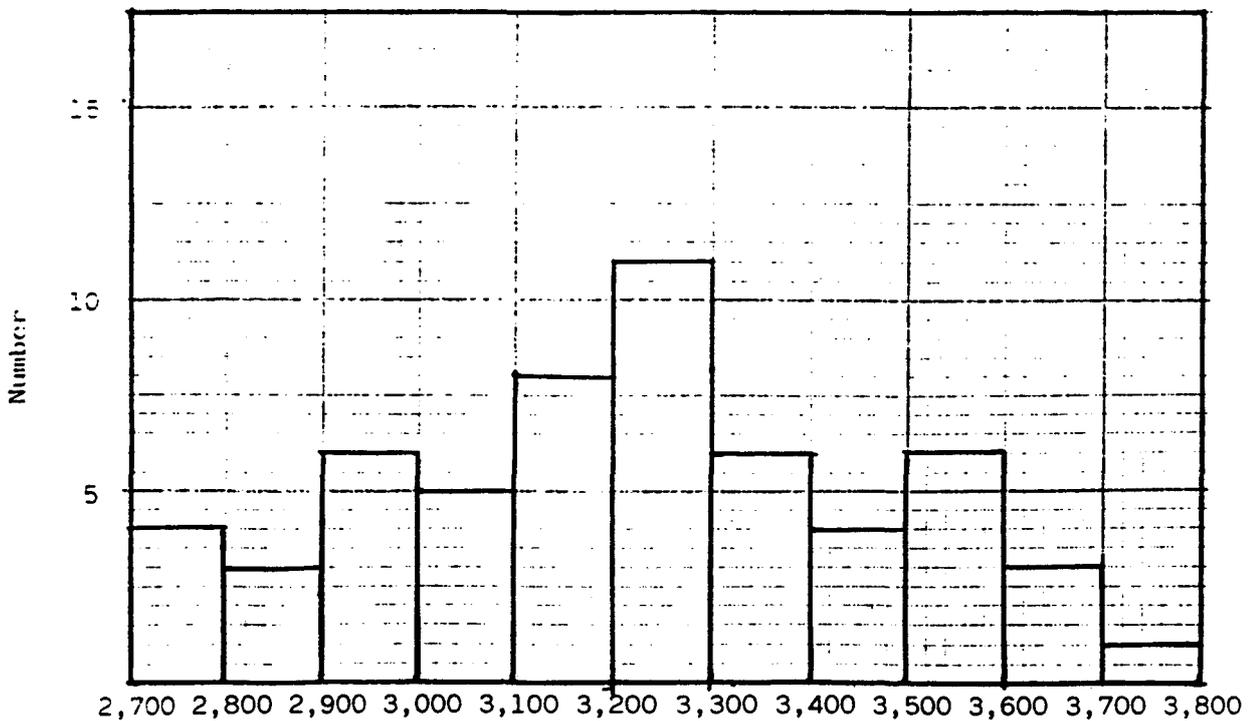
TABLE 1

10 YEARS



MATURITY VALUE (£)
 Mean £1,742 S.D £106 Median £1,755 Range £479

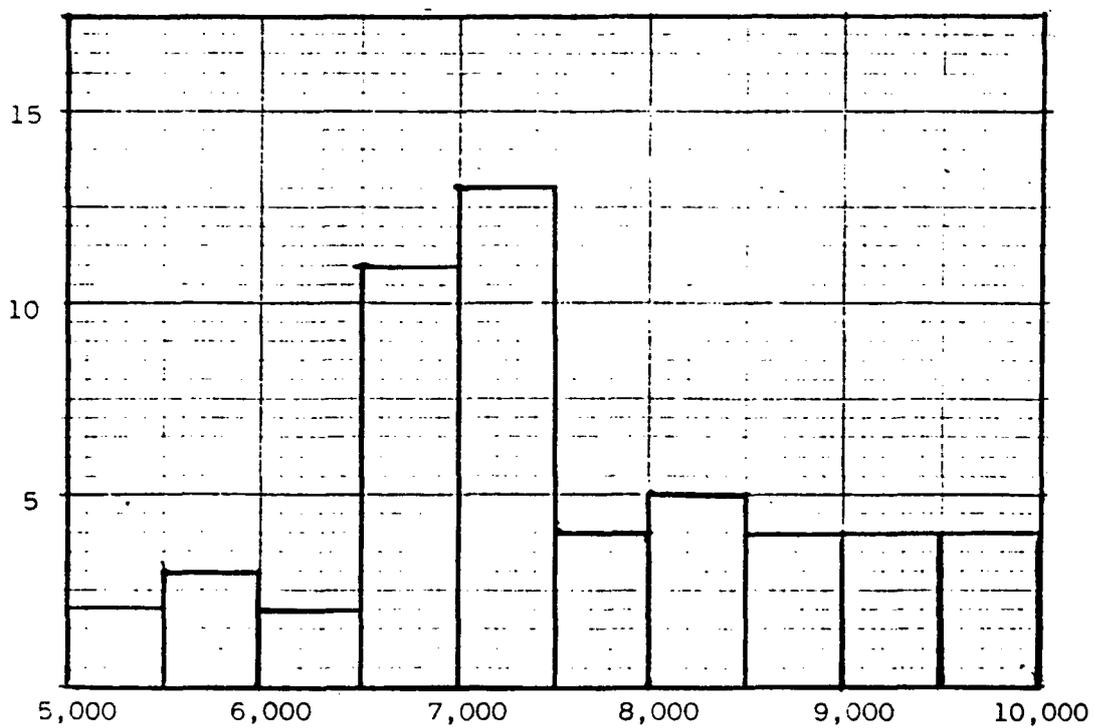
15 YEARS



MATURITY VALUE (£)
 Mean £3,217 S.D £248 Median £3,215 Range £975

TABLE 1 (continued)

25 YEARS



MATURITY VALUE (£)

Mean £7,524 S.D £1,125 Median £7,243 Range £4,520

been a daunting task with only a pocket calculator. I have not attempted to draw any conclusions from the statistics, perhaps a reader has some interesting ideas.

- 2.1.5 The underlying premise in using past performance is to reach the opening quotation. The intermediary selects a top performing company assuming that it will continue to do well. This assumes, though it is never stated, that a bottom company will stay at the bottom. Indeed, looking at the figures, one wonders how on past results some companies get any business at all. One also admires their frankness in making their performance known for all the world to see.
- 2.1.6 The tables highlight, if such proof was needed, just how important it is to select the life company and that prospective policyholders should not necessarily take the first with-profit contract offered.
- 2.1.7 There is a certain logic in selecting a life company solely on past performance, no matter how naive and simplistic such an approach appears to the sophisticated. Conventional life companies have been in business for a long time, during which a tradition for good performance has been acquired. That reputation is jealously guarded by the present generation of employees and somehow gets rubbed off on to succeeding generations.
- 2.1.8 But while a top company prides itself as such and endeavours to stay at the top, there are strong signs that other companies are no longer satisfied with being second best. Life companies are being more competitive in trying to secure a larger share in a market that is not expanding as fast as it should - possibly due to the impact of unit-linked life assurance, unit trusts and other forms of savings. Bonus rates are a major weapon in this competition between life companies, as well as between traditional life assurance and other forms of savings.
- 2.1.9 Higher bonus rates can come from an improvement in investment performance, tighter control of expenses by the company and a less conservative distribution policy by the actuary, or a combination of these factors. But a life company that has pulled itself round and improved its bonus rates as a result, does not have this reflected in the results at once as with unit-

linked. Its position in the performance tables rises slowly, often agonisingly slowly, as a result of the inherent stability of the reversionary bonus system. If one looks at the various performance tables going back several years, one can pick out examples of this happening.

- 2.1.10 Thus a company rising in the tables from year to year ought to be worth a closer examination by advisers. But all too often, the company has to get into the top ten before being recognised by intermediaries as worth including in their list of companies.
- 2.1.11 The whole issue has been complicated by the introduction of terminal bonuses. Actuaries are familiar with these bonuses and the history of their development over the past 10 years. It is a fascinating story, but that is another paper. The scope of this paper is to consider the impact of terminal bonuses on marketing.
- 2.1.12 Terminal bonuses were introduced a decade ago to reflect unrealised capital appreciation of the underlying assets, primarily equities, and thus they should rise and fall with the market. During the short period they have been in existence, these bonuses have undergone a transformation. Now they provide a means of lifting the maturity values very quickly, and the connection with market values is very loose.
- 2.1.13 Terminal bonuses are now an integral part of the bonus system for with-profit life contracts. The system has settled into a two tier structure - a stable reversionary bonus plus a more volatile terminal bonus on top. Most companies now announce their terminal bonus rates once a year at the same time as reversionary bonuses are declared. Only a handful of life companies increased terminal bonus rates during 1981, despite the U.K. equity market reaching its highest ever - as measured by the FT - Actuaries All Share index.
- 2.1.14 Such a combination provides more flexibility in distributing surplus than reversionary bonuses by themselves. The maturity value can be increased by lifting the terminal bonus rate, while leaving the underlying reversionary bonus rate unchanged. Presumably this will be much less painful when the reverse has to happen and bonus rates have to be cut because of lower interest rates. The reversionary bonus rate need not be cut until the terminal rate has been reduced first. It is a pity that there has been very little written on the subject of terminal bonuses

and their position in distributing surplus since the early days of their introduction.

- 2.1.15 A full demonstration of the use of this increased flexibility was seen in the 1980 declarations. Maturity values on 10 year contracts rose between 5 and 15 per cent overnight, while on 25 year policies, the increases were even more dramatic in the 9 to 25 per cent range from the leading companies. Two specific examples highlight the effect, but it must be emphasised that some other companies adopted similar tactics.

Scottish Life introduced terminal bonus payments at the start of 1981

	10 Year Policy Maturing		25 Year Policy Maturing	
	1980	1981	1980	1981
	£	£	£	£
Sum Assured	1,076	1,065	2,695	2,700
Rev. Bonus	528	608	3,255	3,741
Term. Bonus	-	170	-	1,620
	<hr/>	<hr/>	<hr/>	<hr/>
Total	1,604	1,843	5,950	8,061

Equity & Law

	25 Year Policy Maturing	
	1980	1981
	£	£
Sum Assured	2,812	2,812
Rev. Bonus	3,796	3,718
Term. Bonus	1,982	3,134
	<hr/>	<hr/>
Total	8,590	9,664

The total reversionary bonus has declined because of the effect of special bonuses declared around 1960, whose effect is wearing off. Policy details as in 2.1.2.

- 2.1.16 It would now appear that one of the basic foundations of with-profits contracts - a smoothing-out of fluctuations in experience - has been modified, so that bonus rates and hence maturity values do not progress as smoothly as hitherto. Indeed, one understood that

the valuation methods had been designed to ensure a steady release of surplus to ensure a smooth progression.

One accepts that violent fluctuations in return are inherent in unit-linked contracts, though a 25 per cent change in unit price overnight is extremely rare, but with unit-linked the timing of movement related to market changes, whereas the latest changes in with-profit maturity values are man-made (perhaps one should say actuary made), occurring between 31st December and 1st January.

Incidentally the All Share Index moved 0.4% from 291.99 to 293.19 between 31st December 1980 and 2nd January 1981. The moral would seem to be not to take out a with-profits contract in December, but wait until January.

- 2.1.17 This shows the determination of certain companies to get into a top position. Healthy competition between life companies is to be welcomed, because the beneficiary is the policyholder, but there are nagging doubts, in the back of my mind at least, that actuaries are giving undue weight to immediate market considerations in determining their bonus rates.
- 2.1.18 Anyway the extent of the Money Management tables is such that one can form a judgement as to the consistency of a top performing life company going back over 10 or more years.
- (a) 10 Year Maturities. Only five companies in the 1981 top spots were also top in 1971. None of them were in the top ten in all the intervening years, with at least one year being missed.
 - (b) 15 Year Maturities. Again only five companies in the 1981 top positions were top in 1971, with only one company consistently in the top ten in all the intervening years.
 - (c) 25 Year Maturities. A more stable picture is seen here with seven companies top in both 1971 and 1981, with five companies consistently in the top positions in all the years.
- 2.1.19 While a more detailed analysis of the Money Management tables show that certain companies never slip more than

a few places outside the top ten and soon return, there are other examples of a few companies top in 1971 that have dropped steadily in performance. One would conclude, as actuaries already knew, that past performance is a good indicator, but is not an infallible guide.

2.2 PROJECTIONS

- 2.2.1 Everyone who has worked in a traditional life company will be familiar with preparing quotations which show projected maturity values based on current bonus rates. Such quotations fulfil two purposes:-
- (a) They indicate to the prospective policyholder what the bonus system means in terms of the actual return on his outlay. We all know that a bonus rate of £5 per cent does not mean a return of 5 per cent.
 - (b) It enables intermediaries to compare the prospects of different life companies.
- 2.2.2 Intermediaries go much further on this second point and select a life company solely on the highest projected return. No other factor is taken into account. It is a simple means of selecting what is considered the most favourable with-profits plan and the layman can understand why a particular company is being recommended.
- 2.2.3 The justification for such an approach is that the history of reversionary bonus rates since the war is one of steady upward progression - even if the progression of the actual rate of return over inflation is rather the reverse. The intermediary feels he can confidently quote such projections knowing that the ultimate payment is almost certain to be far greater, in money terms, than the figure quoted in the projection.
- 2.2.4 Indeed, by projecting current bonus rates, one immediately reflects the improvement made by a life company in its profitability, compared with the delay in getting such improvement into past results, as discussed in 2.1.9. Large and medium size intermediaries use projections almost exclusively, rather than past performance, in selecting a with-profits plan.

- 2.2.5 The introduction of terminal bonuses, referred to in 2.1.11 has upset this theory by introducing a volatile element in the projections. This was discussed in the previous section in detail. Such volatility should have severely curtailed the widespread use of projections by intermediaries, or at least induced an element of caution. But apparently this has not happened for two reasons.
- 2.2.6 First, as seen in the previous section, the whole purpose of terminal bonuses has undergone a complete transformation and they are now an integral part of the bonus system. Actuaries are fixing their terminal bonus rates at levels which they feel confident can be maintained for some time in the future, irrespective of the movement in the market. Thus rises in rates are far more in evidence than falls. Indeed, there have been few, if any, cuts in terminal bonus rates since the debacle of 1975 when actuaries, still true at that time to the original principles of terminal bonuses, made widespread cuts in rates to reflect the 1974 bear market at a time when the equity market was recovering strongly. The ensuing fury of the marketing side ensured that actuaries would, in future, give more consideration to the marketing consequences of their decisions in fixing bonus rates.
- 2.2.7 There is now an inherent stability in terminal bonus rates in that while life companies are likely to put them up sharply, as seen in 1980, they are not likely to bring them down. This gives intermediaries confidence to use current terminal bonus rates in projections, a confidence boosted when one life company openly proclaims, at least to the Press, that it has not cut its terminal bonus rates since inception 20 years ago.
- 2.2.8 The second reason referred to in 2.2.5 is that intermediaries would calmly ignore the volatility anyway and use current rates, if these were high, and a moving average of past rates if current rates were low, in order to get the highest projection.
- 2.2.9 It needs to be emphasised here that I am not condemning such developments. From the investing public's view they are likely to be acceptable. Those using with-profits as a savings media do so because they want security and stability, with a good return on their investment. They do not want the ups and downs of the linked market, and naturally, these features are

continually emphasised by the marketing side in selling with-profit contracts. The present system that has evolved provides what the public is looking for - security and stability. In addition, it is probably a fairer method of distributing surplus between generations of policyholders, so actuaries tell me, but how many intermediaries really understand this.

- 2.2.10 Nevertheless, investment conditions can change. Interest rates can come down, even if there have been so many predictions in the past few years of falling interest rates that have not materialised. Predictions now being made are being treated by the public as the villagers treated the shepherd boy who cried "Wolf" too often. Certain intermediaries disregard the possibility of falling interest rates and make hay while the sun shines, but if and when bonus rates have to be cut, it is very likely that it will be the terminal rates that will be cut, perhaps even eliminated, before reversionary bonuses are reduced.
- 2.2.11 Many life companies, particularly the Scottish ones, were concerned with this aspect of quotations in that prospective policyholders were being misled into regarding terminal bonuses as stable in the same manner as reversionary bonuses. They felt that it would be more realistic to project solely on reversionary bonuses in indicating what the policyholder could anticipate as maturity. These companies refused to include terminal bonuses in their quotations.
- 2.2.12 But many English life companies did not share the inhibitions of their Scottish counterparts. We have seen in the Money Management tables that terminal bonuses can account for one-third of the maturity value with certain companies and that this situation is likely to continue. If intermediaries insist on choosing life companies purely on the highest quotation, then these life companies were prepared to project terminal bonuses in order to produce as high a quotation as possible.
- 2.2.13 Life companies cannot ignore the market place. Many intermediaries can produce their own quotations including terminal bonuses, and with the use of mini computers it is straightforward to store premium rates and bonus data for all life companies in the market and to produce instant quotations. I am aware that this is specifically barred for registered insurance brokers who must use only quotations produced by the life companies. I am also aware that no one has a clue

how to monitor such a specification. Anyway, intermediaries never worry about comparing like with like. They simply compare a quotation without a terminal bonus with one which includes it and pick the latter. The Scots, having failed to get the industry to discourage collectively the showing of terminal bonuses in quotations, had no choice but to acquiesce and go along with the other companies if they wanted to stay in the market place.

2.2.14 The Life Offices Association has produced a code of practice on issuing quotations that is well intentioned in that the attention of prospective policyholders should be drawn to the limitations of projecting bonus rates. But I feel that the LOA should have gone much further and insisted that life companies should show two figures that would have made quotations much more meaningful:-

- (a) The quotation should show the yield that the maturity value represents to the policyholder, allowing for the cost of life cover. This not only enables the policyholder to judge for himself whether such a quotation is optimistic, but also enables a direct comparison to be made with other forms of saving such as building society shares.
- (b) The investment return needed on future investments to maintain the bonus rates shown in the quotation. This would act as a warning that bonus rates could fall and enable the intermediary to form some judgement as to the likelihood of such a cut.

One Scottish Life company did just this when it announced its latest increase in terminal bonus late in 1980, that a net return of 11 per cent was required to maintain the rate.

2.2.15 Meanwhile, we are stuck with projections using current bonus rates. One can put a host of disclaimers on the quotation form explaining that bonus rates are not sacrosanct. The policyholders "reasonable expectations", enshrined in the 1974 Insurance Companies Act, will still regard those bonus rates as being maintained in the future. After all, those expectations have been boosted by a generation of salesmen emphasising the guaranteed aspect of with-profits business.

2.2.16 One feels that it is perhaps fortunate for actuaries that the brief of the Insurance Ombudsman excludes

matters relating to surrender and maturity values. The Bureau is receiving a steady stream of complaints on this subject from policyholders despite its exclusion. It is perhaps as well that such complaints are not within his brief, otherwise he would be called on to give his interpretation of reasonable expectations.

- 2.2.17 But at the end of the day, a rationalisation of the use of projections will come about only when life companies do start to cut bonus rates. But this relies on the present Government's policies actually working, so perhaps the past few paragraphs have been merely theorising.
- 2.2.18 Returning to practical considerations - just how effective have projections been in the past in selecting top companies? Here I ran into problems. One would have thought that since intermediaries make considerable use of projections, then they would keep a check on the ultimate results. I was unable to find any intermediary who could produce projections made in the past and none of them ever checked on what they had been recommending. Money Management has not been monitoring with-profit performance for 10 years - the minimum period over which one can check.
- 2.2.19 So I had to resort to asking the companies themselves to reproduce quotations they would have made in 1971 for 10 year with-profit contracts. In order to cut down on the amount of work, I took the top 30 companies for actual results from the Money Management tables, excluding those companies whose products are not available to the general public. I then obtained the projection for 1971 from each life company and despite the rather unusual request obtained very prompt service for each.
- 2.2.20 I have set out in Table 2 the ranking of the projection and the actual result. I felt that comparing the actual amounts paid against the projected amounts would be spurious - all companies would have paid out substantially more than projected. Since the purpose of projections is to select the top companies, I felt that an analysis of ranking would be sufficient.

TABLE 2

10 Year With-Profit Contract effected in 1971 by a man aged 30 nbd, gross monthly premium £10.

Ranking of Companies

Projected Result	Actual Payment
1	4
2	19
3	1
4	7
5	24
6	2
7	5
8	22
9	28
10	26
11	16
12	29
13	8
14	17
15	21
16	6
17	11
18	30
19	3
20	15
21	23
22	10
23	13
24	14
25	20
26	12
27	25
28	27
29	18
30	9

Rank correlation coefficient 0.20

2.2.21 The result does not really indicate the exclusive use of projections. The actual payments were very much affected by terminal bonus payments. Some of the projected values were within a pound or two of each other, and a slightly different arrangement would have produced a higher correlation coefficient, but not by much.

Although more investigations are needed into this subject, one hopes that this exercise has demonstrated the need for caution in using projections.

2.3 ALTERNATIVE MEANS OF ASSESSING LIFE COMPANY PROSPECTS

- 2.3.1 This is a digression from the main theme of the paper, but if one is putting question marks over the use of past and present results in selecting life companies, one ought at least to indicate some alternatives.
- 2.3.2 Stockbrokers frequently publish profit forecasts for those few quoted life companies. This presupposes some attempt in projecting life company surpluses. One firm calculates mutualisation values and has published its findings to the Student Society (1). Jack Plymen in a paper also to the Faculty (2) has set out a method of analysing the profitability of life companies. Consulting actuaries have done a considerable amount of research on the subject, but little has been published, none in a form that the intermediary could adapt to working life.
- 2.3.3 Even so, intermediaries ought to look much more closely into the life companies they are recommending, and perhaps even more so into those they ignore. They need to deal with such features as the projected returns on the existing portfolio and the return arising from current investment strategy, the level of new business and the expenses of securing that business plus the cost of servicing existing contracts. One sees here a wide field for in-depth research.

(1) Evaluation of Proprietary Life Assurance Shares by
P.J. Darby and P.A. Rice

(2) Life Assurance Profitability, Performance and Prospects
TFA 37 Part 2 by J. Plymen

3. LINKED LIFE ASSURANCE REGULAR SAVINGS

- 3.0.1 The advent of unit-linked life assurance added several dimensions to saving through life assurance. It gave the investor flexibility over the length of savings period and a choice in the investment medium used. Although the original investment links were equity funds, this was followed by property funds, managed funds, fixed-interest funds, cash funds and international funds.
- 3.0.2 The choice of investment media does not end there. By linking with unit trusts, investors have a variety of equity funds from which to make their choice - general U.K. funds, capital funds, income funds, specialist U.K. funds and a repeat performance for overseas equity funds. There are specialist property funds, such as agricultural funds and now we have the latest venture with the recent launch of a fund investing in luxury flats in London's West End and other select areas. Like the many headed hydra, there seems no end to the proliferation of funds. Indeed, one could now describe unit-linked savings as offering an n-dimensional situation, with n approaching infinity.
- 3.0.3 The adviser offering unit-linked life assurance for investment has to make a dual recommendation - which product with which company. And there is the added complication of which recommendation comes first - the company or the investment medium.
- 3.0.4 One cannot be dogmatic about this, but one can make a strong case for deciding on the type of investment first and then choosing the company. If selection was solely on merit, then the adviser may well recommend one company for U.K. equities, another for international equities and so on. If an adviser is tied with one life company, this decision does not arise.
- 3.0.5 Similar types of choice face the investigator endeavouring to review past performance and draw some meaningful conclusions from his investigations. He needs to be clear in his own mind precisely what he is trying to establish. It is so easy to treat performance measurement as an end in itself.
- 3.0.6 In broad terms, he can compare performance between the various investment links. Or he can compare the investment efficiency of the various life companies. All this indicates an investigation on the lines of

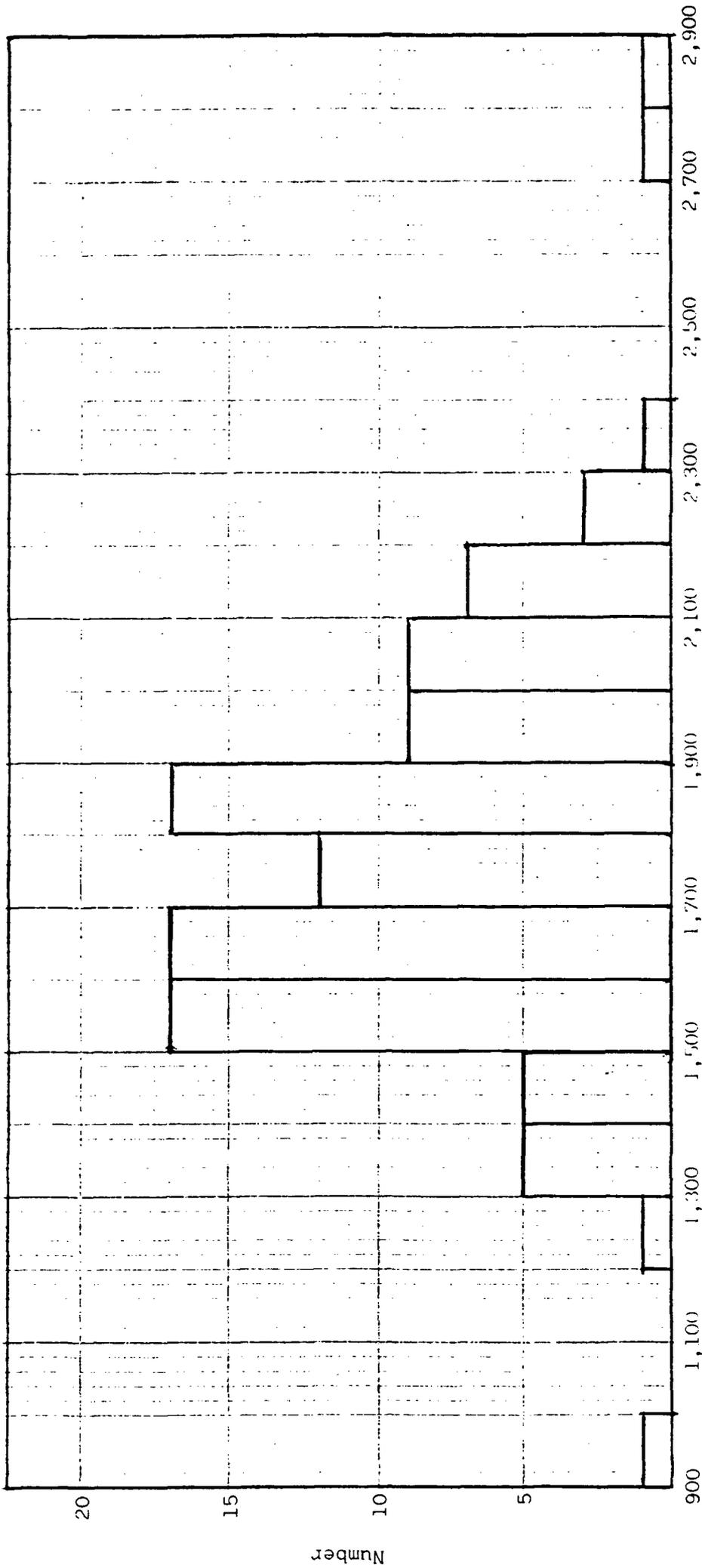
an analysis of variance technique, aiming to show whether the investment media or the company are the more important choice.

- 3.0.7 The minimum period over which regular savings appears to be measured is 10 years. This is partly historical - 10 years is the minimum investment term because of LAPR considerations. But 10 years ago, the majority of the linking was still to equity-based funds. Property-based funds had only been in existence for a couple of years, while managed funds were just starting.
- 3.0.8 The latest linked regular savings performance in the December 1981 issue of Planned Savings shows 15 Property funds and just two managed funds. Data from the Tyndall group was not provided to Planned Savings, but the group has made available information on the performance of six schemes. These have been added to the Planned Savings data, since Tyndall was the first group to launch a managed fund - the 3-Way Fund - and such an omission from the analysis would have been significant.
- 3.0.9 As the years go by, the volume of data available will swell to several hundreds of funds. This offers exciting possibilities for analysis, though one wonders just how all this information will be collected. A simplistic approach mixing all types of funds from all life companies will run the danger of drawing the wrong conclusions, since the data will be far from homogeneous. But a multi-variance style of investigation would involve a full time research project. So I have confined myself to straightforward techniques in this paper. But I would be extremely interested to hear readers' views on this particular aspect of the subject.
- 3.0.10 It is perhaps slightly unfortunate that the Planned Savings tables relate to performance on 1st October 1981 - a date when equity prices worldwide were somewhat depressed following the September hiccup in equity markets all round the world. A much different pattern would have shown up taking performance to say 1st September 1981.

3.1 PAST PERFORMANCE

- 3.1.1 The first comparison in Table 3 is simply a review of the cash in values after 10 years of the Planned Savings data plus the Tyndall figures - 106 funds in all. The main feature of note is the wide spread of

TABLE 3



CASH-IN VALUE (£)

Mean £1,778 SD. £281.5

Median £1,764 Range £1,886

results. Everyone tends to concentrate on the leaders with the very good results achieved. One tends to ignore the other end and indeed the main body of results. The obvious comparison with 10 year with-profit results is discussed in section 4.

3.1.2 The other point to notice is that the top two funds are both specialist funds, able to invest in very narrow sectors of the equity market. The other equity funds in the top positions are either specialist funds or small general funds giving the investment managers considerable investment flexibility. One has to ask the question, how many advisers put their clients into such funds 10 years ago, and the answer is very few. Clients who were put into a more general fund by their advisers 10 years ago have for the most part received a good return, but a far less spectacular result.

3.1.3 The final point to consider on these results is the effect of the 1974 bear market, when the All Share index fell from its then high point of 219.02 on 10th January 1973 to its low of 62.16 on 6th January 1975. This fall gave a severe fright to many investors and their advisers as they watched unit prices drop steadily, whereas in reality it was the best thing that could happen to investors holding regular savings plans. Their premiums paid during this period enabled them to buy units very cheaply and they benefited when the market subsequently recovered. This phenomenon is playing queer tricks with performance.

For instance, the top performing fund in 1981 over 10 years was the savings plan linked to the M & G Recovery fund with a value of £2,804. This was also the top performing plan in 1980 over a 10 year period, but the maturity value then was £3,659. Thus the cash-in value has declined nearly 25% over the 12 months, while the unit price has fallen only 1.7% over the same period.

3.1.4 Advisers tend to rely very heavily on the performance of the unit prices in deciding which type of fund to recommend for linking. Often the fund chosen is the one whose price has performed best over a given period, which may be as short as three months, though 12 months seems to be the norm.

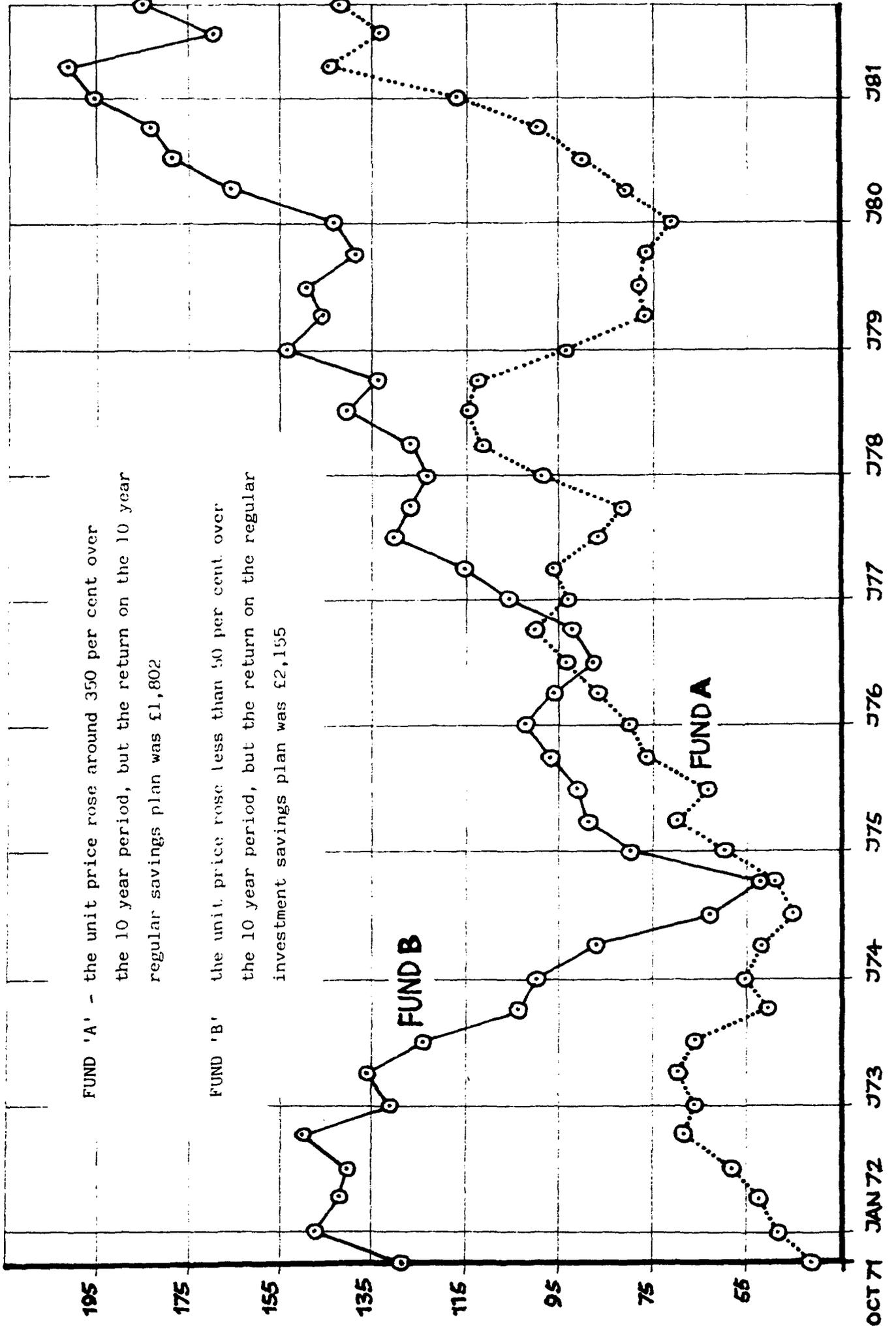
3.1.5 While this approach can be queried for lump sum investment in that one should buy at the bottom of the market, it could be disastrous for regular premium

contracts, at least in theory. The supporters of unit-linked contracts make great play in their selling methods of the 'pounds-averaging' concept inherent in such schemes as if it were philosopher's stone for successful investment. Yet they tend to overlook the simple fact that one buys more units per premium in a falling market than in a rising one. So at the start of a plan, a falling market is preferable to a rising one, yet all too often the investor is recommended a fund that has shown strong growth in the immediate past.

- 3.1.6 But when it comes to cash-in the contract, the investor needs the unit price to be as high as possible. Since he cannot have it both ways, the ideal situation is for the unit price to fall, or at least remain dull over the major part of the investment period and then to stage a strong recovery in the final period. On the other hand the investor will get a poorer performance if the price moves ahead strongly in the early years and then comes back, or remains static over the final period.
- 3.1.7 Supporters of unit-linking refer to the former aspects, while opponents dwell on the latter features. Both produce hypothetical examples of unit price movement to illustrate their point. The two examples in Table 4 are actual examples from the funds investigated over the 10 year period and show that this can and does occur in practice. Indeed, the experience of the two Japanese funds in the analysis from M and G and Save and Prosper are classic examples of an overall good unit price giving a steady lump sum return, but an indifferent return on the equivalent regular savings scheme over the same period. The position was even worse for these funds in 1980 when the unit prices were depressed.
- 3.1.8 But these two examples are extreme situations. Advisers are likely to be more interested in the general experience between unit price movements and the return on regular savings. Table 5 shows the relationship between the return on the regular savings plan as given in Table 3 compared with the return in the same units for a lump sum investment of £1,000 over the same 10 year period, the investment being in the equivalent life bond or the underlying unit trust.

It is appreciated that tax considerations affect lump sum investment and the figures used in the table are not homogeneous. It would have been more consistent

TABLE 4 Offer price in pence



to use the unit price movements over the 10 year period. It would have provided a reliable comparison between unit price growth and regular savings return. But this would have been a mammoth task tracing the unit prices, while the lump sum results were readily obtainable from Planned Savings. Perhaps one might suggest to Planned Savings that it could seek the unit price movement from the life company when it gets the regular savings return.

The correlation coefficient between the regular savings and the lump sum investment for the 106 funds analysed was 0.58. This rather high figure will support the contention that in the long run a steadily improving unit price will give good returns on regular savings as well as on lump sum investments.

When more data becomes available, it will be possible to do a separate analysis of the different funds. One can investigate whether the more volatile equity fund prices show a different relationship to the more stable property fund prices.

- 3.1.9 It has been demonstrated⁽¹⁾ that because of the effect of 'pound averaging', the more volatile the unit price about a given trend line, the greater the return. Property fund prices have tended to be more stable than equity prices, so are the returns lower? The 16 property funds in the 106 funds analysed (15 in Planned Savings plus Tyndall) give the following results compared with the equity funds:-

	Mean £	S.D. f
Property Funds (16)	1,750	210
Equity Funds (87)	1,782	297

(1) Is Pound Averaging a Hoax? T.E. CRANSHAW
Journal of the Society of Investment Analysts
28 Dec. 1970

TABLE 5

Value after 10 years of £1,000 invested on 1st October 1971

£

Value after 10 years of £10 a month gross starting October 1, 1971	1,000 -	1,100 -	1,200 -	1,300 -	1,400 -	1,500 -	1,600 -	1,700 -	1,800 -	1,900 -	2,000 -	2,100 -	2,200 -	2,300 -	2,400 -	2,500 -	2,600 -	2,700 -	2,800 -	2,900 -	3,000 -	3,100 -	3,200 -	3,300 -	3,400 -	3,500 -	3,600 -	3,700 -	3,800 -	4,100 -	4,400 -	6,600 -	Total
2,800 -																																	1
2,700 -																																	1
2,300 -																																	1
2,200 -													2																				3
2,100 -																																	7
2,000 -																																	9
1,900 -																																	9
1,800 -																																	17
1,700 -																																	12
1,600 -																																	17
1,500 -																																	17
1,400 -																																	5
1,300 -																																	5
1,200 -																																	1
1,100 -																																	1
900 -																																	1
Total	2	1	1	-	1	3	7	11	7	7	11	8	10	7	5	1	7	3	-	1	3	1	2	1	1	1	1	-	1	1	1	106	

Correlation Coefficient $r = 0.58$

This table indicates a steadier return on property funds, but the equity funds contain a host of specialised funds. It is probably better to compare the property fund and a general equity fund of each life company that offers both. Table 6 shows comparable results to date, not really enough to draw significant conclusions.

TABLE 6

Company	Property Fund £	Equity Fund £
Abbey Life	2,072	1,773
Cannon	1,525	1,555
Hambro Life	1,976	2,053
Irish Life	2,199	1,500
M & G	1,779	1,827 (General Fund)
Save & Prosper	1,853	1,684 (U.K. Equity Fund)
Target	1,608	1,368
Tyndall	1,706	1,768
Welfare	1,480	2,018 (Investment Trust)

I would not like to even hint whether these results indicate an advantage for equities or property.

3.1.10 I leave readers to judge for themselves the variation between life companies as shown in the Planned Savings survey. A couple of groups do show results that are consistently under average. It would have been interesting, as well as being biased, to investigate how the established conventional life companies have fared in this new field.

3.2 FUTURE PROJECTIONS

3.2.1 Linked life companies adopt a very simplistic approach in projecting cash-in values for their regular savings schemes. They simply assume a fixed rate of return in the calculations, irrespective of the type of fund or the past investment performance. Thus equity funds, property funds, fixed interest funds, cash funds, international funds are all accumulated at the same rate of interest.

3.2.2 A more meaningless approach cannot be imagined. It is little more than a compound interest table adjusted for the effect of the charges made by a particular life

company. Admittedly, life companies call these projections by their correct name of illustrations and often three rates of interest are shown in these illustrations. Thus one can interpolate for a return one feels the fund could earn.

3.2.3 But even as a measure of the scale of charges, there is a danger that the adviser could get it wrong. The temptation is to select the highest value, that is the life company with the lowest charges. This may be sound advice on the surface, but with a linked savings contract good investment is all important and it does not come cheap - advisers should remember the old adage that if one pays peanuts, one gets monkeys.

3.2.4 Some funds have been in existence for several years. For such funds one ought to be able to project past yields on the fund using some sort of averaging process going back several years. Property funds now give projections of expected rental income over the next 10-15 years. This is another subject in which in-depth research could produce useful answers to help the layman select the funds for linking.

3.3 OTHER POINTS

3.3.1 The section has shown that past price performance is a useful guide in selecting the linking funds. But there is really no substitute to advisers endeavouring to continually check out the life companies they use and try to assess the investment expertise within the companies. When an intermediary recommends a linked life contract he is giving financial advice rather than life assurance advice. Stockbrokers are now becoming involved in covering unit trusts and advising on trust selection as they advise on individual equity shares. Leading insurance brokers are seeking expert financial advice from stockbrokers and merchant banks.

3.3.2 The December 1981 issue of Planned Savings also shows 15 year regular savings for 33 funds from 13 life companies - all equity funds. This opens up another avenue of linked investment performance that I have not had time to explore.

4. UNIT-LINKED v WITH PROFITS

4.0.1 These two sectors of the life assurance market have been in competition for long term savings of the public for

the past two decades and comparisons between with-profits endowments and unit-linked plans seem inevitable. Personally, I regard both types of life assurance as having their rightful place in the product range of savings contracts offered by life companies to savers. It is interesting to see that certain long established traditional life companies are now adopting a similar attitude in their development.

4.0.2 However, it would seem that many people still hold to the opposite view that the two products are deadly rivals and argue the pros and cons of each types. Many advisers still concentrate their marketing on either with-profits or unit linked. It is noticeable that the direct salesman of some linked life companies are particularly vehement in attacking the whole with-profit concept, and actuaries along with it, in their marketing of linked-life products.

4.0.3 Before considering comparisons on past performance, one needs to bear in mind the essential differences between with-profits and unit-linked, which relate to the financial guarantees inherent in with-profits contracts. The policyholder knows that the maturity value on his with-profit contract will not be less than the sum assured and the bonuses already declared; and those guarantees have to be paid for, in this case by imposing constraints on the investment strategy and the reserves held to cover the guarantees. With unit-linked contracts, there is much more investment freedom given to the investment manager and the policyholder. This freedom means that in theory at least the value of the investment can plummet as the market declines. I wonder whether the public have the pros and cons of each type fully explained to them at the time of sale.

4.0.4 But any comparison of with-profits and unit-linked should not consider what would happen if either Armageddon or Utopia arrived. It should consider what happens in the real world as we know it. The unit-linked data now available for regular savings schemes is sufficient for meaningful comparisons to be made, and in future years there will be a wealth of information which to analyse.

4.1 PAST PERFORMANCE - GLOBAL

4.1.1 As actuaries are well aware, it is all too easy to make misleading comparisons when comparing performance and drawing the wrong conclusions. Up to now, most published

comparisons have been between the whole range of linked and with-profit contracts, often confining the comparison to the top performance only. But, as seen in the previous section, the variety of funds now available in the linked sector makes linked-life contracts far from homogeneous. A global approach is no longer complete in itself.

4.1.2 In making comparisons, one would measure like-with-like as far as possible and thus one should start with comparing managed funds against with-profit endowments. In both cases, the policyholder is investing in a mixed fund of equities, property and fixed interest, leaving the investment management completely to the life company.

4.1.3 Unfortunately, there are only three managed funds in the results available for linked regular savings and these are given in Table 7. In the next couple of years, more managed funds will complete 10 years since their launch and one will be able to do more than the superficial comparison below.

TABLE 7

Company	Cash-In Value £
Abbey Life	1,989
Hambro Life	2,002
Tyndall	1,524

This compares with the top with-profits maturity value for 10 years of £1,999 from Equitable Life.

4.1.4 The comparison was made on 1st October 1981 when the market was depressed, thus selecting a time least favourable to managed funds. The figures must please Mark Weinberg of Hambro Life, who has always maintained that a well managed fund should always out-perform the best with-profits in all but exceptional circumstances. The Tyndall result from the first ever managed fund must be a disappointment to the company, besides highlighting that investment strategies can go astray. The argument must rest as not proven until there is more data available.

4.1.5 Next, a comparison can be made between with-profits and property funds and some interesting conclusions drawn. Although, with property funds the policyholder is

investing primarily in direct property with a substantial cash holding in the fund, the unit prices of these funds have remained remarkably stable since the 1975 hiccup and have moved steadily upward. This stability compares with that of with-profits policies.

4.1.6

TABLE 8

	Cash-In or Maturity Values - 10 Years			
	Top £	Bottom £	Mean £	S.D. £
Property Funds	2,199	1,480	1,750	210
With-Profits	1,999	1,517	1,742	106

These results are extremely interesting in that the means are virtually the same, but with double the Standard Deviation for Property Funds. I would prefer a few more property funds before indulging in a t-Test on the mean and S.D. Two property funds - Irish Life and Abbey Life (the largest of the property funds) exceeded the best with-profits.

On past performance figures one feels that the top property fund offers something extra than a with-profits contract, but there is nothing to choose between the run-of-the-mill funds. The with-profits guarantee must give it the edge.

4.1.7 For interest sake, a comparison with the equity funds in the survey. The comparison is not unexpected.

TABLE 9

	Cash-In or Maturity Values - 10 Years			
	Top £	Bottom £	Mean £	S.D. £
Equity Funds	2,804	918	1,782	297
With-Profits	1,999	1,517	1,742	106

4.1.8 I leave it to readers to compare the complete body of linked values shown in Table 3 with the 10 year with-profit values in Table 1.

4.2 PAST PERFORMANCE - INDIVIDUAL COMPANIES

4.2.1 Several traditional life companies have had linked-life savings schemes in their product range for many years,

though they have tended to be passive in their marketing of the plans. These were included in the Planned Savings survey, almost invariably linked to a unit trust. These companies did not launch the full range of linked schemes until very recently. The comparisons between the 10 year linked schemes and the with-profits (from Money Management) are shown in Table 10.

4.2.2

TABLE 10

Company	With-Profits £	Linked £
Eagle Star	1,752	1,729
Equitable Life	1,999	2,318
Equity & Law	1,783	1,948
Friends Provident	1,877	2,152
G.R.E.	1,783	1,846
Irish Life	1,819	1,500 (Blue Chip) 2,199 (Property)
MGM Assurance	1,706	2,028
N.E.L.	1,781	1,509
N.P.I.	1,771	1,943
Norwich Union	1,850	1,912
Pearl	1,662	1,762
Provident Life	1,634	2,210
Prudential	1,708	1,863
Reliance Mutual	1,601	1,556
Scottish Life	1,843	1,509
Scottish Mutual	1,700	2,210
Scottish Widows	1,851	2,006
Standard Life	1,821	1,997
Yorkshire-General	1,785	1,797

The majority of traditional life companies managed to record a higher linked return than a with-profits maturity. The investment expertise acquired over the decades is standing the test of the new unit-linked products.

4.2.3

This type of analysis should prove very useful in the years ahead when these companies with a full range of funds will have acquired a 10 year track record and one will be able to compare managed and property funds from the traditional life companies against their with-profits results.

4.3 PAST PERFORMANCE - CONTINUOUS REVIEW

4.3.1 So far we have been comparing performance on one particular date - a static situation. What is needed is a dynamic review to investigate how performance compares over a period of time. Such a review will be feasible in the future as the growing volume of data already referred to becomes available. But if one tries to go back from 1981, one runs into the problem of fewer and fewer linked funds and linked savings plans which have run the 10 year period and can be compared with with-profits.

4.3.2 I have confined myself to comparing the performance of 10 year with-profit and 10 year linked returns of one particular life company - Equitable Life. This company, the top performer for 10 year with-profits, had its first 10 year link plan cash-in in June 1979. Table 11 compares linked and with-profits values on each month from that date up to December 1981. The linking is to Equitable's unit trust Pelican, still a small fund of just over £4m.

4.3.3 I find Table 11 instructive on several counts. First the linked plan has consistently out-performed the with-profits maturity value, reflecting on the investment management of the company and indicating the price that has to be paid for the guarantees. Secondly, it shows in one graph the volatility of equity based linked funds in contrast to the stable nature of with-profits. The 10% drop between September and October of 1981, when the U.K. equity market came back from its peak shows that timing of cash-in is all important.

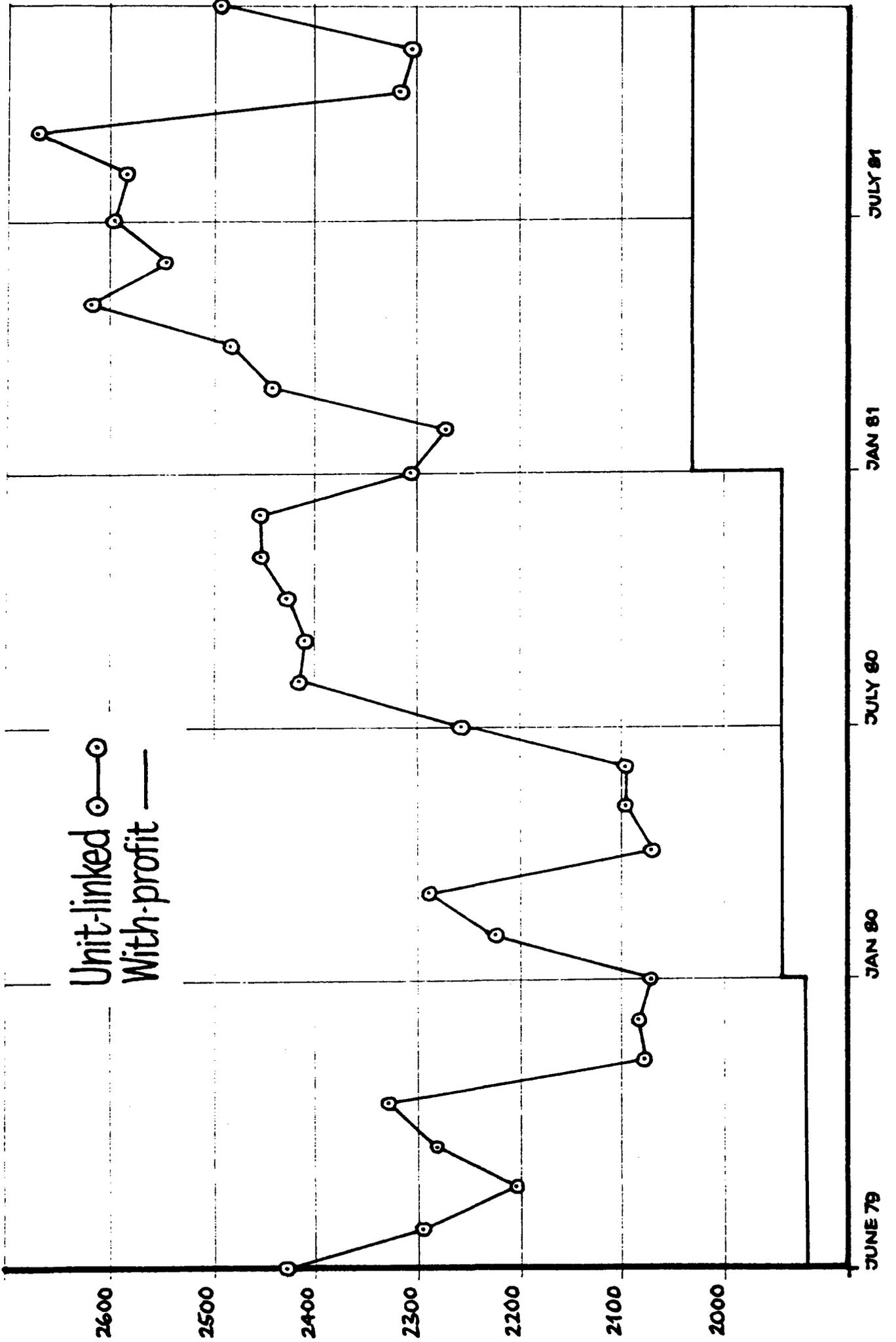
4.4 CONCLUSIONS

4.4.1 The analysis in the previous sections confirms what most of us already knew, namely the volatile nature of linked life assurance and the wide variation in results between life companies.

4.4.2 The results would tend to confirm that a good linked plan will do better than a good with-profits plan, but the difference for the general funds, as distinct from the small specialist funds, is not as great as company literature would lead the public to believe.

4.4.3 The timing of cash-in of a linked contract is all important, the monthly variation can be considerable.

TABLE 11



However, almost all modern linked life savings plans now provide complete flexibility over the timing of cashing-in the policy. Fixed maturity dates belong to with-profits contracts.

- 4.4.4 The evidence in favour of unit-linking is not yet overwhelming. It needs the effects of 1974 to wear off and comparisons made between with-profits and linked contracts that did not have the abnormal once-off boost of the 1974 bear market.

5. SWITCHING

- 5.1 One of the added dimensions in saving through a linked-life contract is the facility to switch investment funds at very low cost. Almost all life companies will allow policyholders to switch freely between funds, with the possible exception of moving in and out of the managed fund. Often the first switch in any one year is free of charges. Such switches do not give rise to a chargeable event for the policyholder.
- 5.2 The theoretical advantages to the policyholder are great provided he knows how to take advantage of them. He can move out of one investment at the top of the market and back in again at the bottom. (The effects and possible dangers to the life company are another story.) It is usual to switch between the equity funds, and the cash fund or the property fund.
- 5.3 I was told by one financial consultant that because of this switching facility, all performance measurements on linked contracts were meaningless, since they assume that the policyholder stays in the same fund throughout the terms of the contract. This consultant claimed that he could double the value of his client's holdings when the market was rising and hold the value when it was falling. He had nothing but contempt for with-profit contracts.
- 5.4 While I very much doubt the extent of the success claimed by this consultant, he does have a point. Switching can improve performance, if one switches into the right fund at the right time. On the other hand, it is all too easy to get it wrong.
- 5.5 There is a strong case to monitor the results of those investment advisers who offer a switching advice service, usually on a full discretionary basis. Planned Savings carries out a six monthly review of certain advisers

prepared to submit data to them. The findings to date show a mixed result - some very good profits and some poor figures.

5.6 Most of the switching advice relates to lump sum investment, where one is concerned with holding and/or improving the value of the investment already made. With regular savings plans the switching requirements are somewhat different. One wants to hold or improve on the value of the units already held - so one would then move into a rising market or into cash with a falling market. On the other hand, one needs to do the reverse with the premiums awaiting investment - ignore a rising market and go for a falling one. Most regular savings plans will allow the policyholder to split his investment to do just this providing the amount in any one fund reaches a minimum amount. The advisers, however, seem to move their regular savings clients in exactly the same way as their lump sum investors. But if one remains completely flexible on switching, the implications for performance measurement are so complex that a monitoring task would be virtually impossible.

6. FINALE

6.1 Performance measurement is now one of the subjects occupying the attention of actuaries, but this is concentrated exclusively on measuring fund performance and rightly so. But the individual policyholder is not interested in the Time Weighted or the Money Weighted Rate of return on his fund. At the end of the day he is concerned with the actual return on his premiums and whether he could have done better with his money.

6.2 Until now, the subject of measuring the return to the policyholder has been the domain of the journalist and the life company marketing personnel. My involvement with this aspect in my working life has shown clearly that nothing is as definite or as clear cut as the commentators have made out. My findings in this paper have been rather tentative and I still regard the use of past results only as a guide to the future. I hope that others will in future go much deeper into this subject than I have been able to do in the time and with the data available at present.

6.3 My conclusion can be summarised not in the opening quotation, in another by George Wilhelm Hegel - "What experience and history teach us is this - that people and Governments never

have learned anything from history or acted on principles deduced from it".

I should to thank all those who have helped me in preparing this paper, particularly the staff at Planned Savings and Money Management who provided most of the data. My thanks to those persons, too numerous to mention, at various life companies who cheerfully and quickly responded to my request for information at short notice.