ABSTRACT OF THE DISCUSSION

The President (Mr T. M. Ross, O.B.E., F.F.A.): This sessional meeting is about pensions, and takes the form of a discussion on a number of current topics on that subject. To concentrate our minds, we have a paper which was prepared by the Pensions Research Group of the Faculty.

The issues surrounding pensions are legion, and many of them are very public. However, the paper restricts itself to matters which are of particular concern to us as actuaries:

(1) There have been some quite deep divisions within the actuarial profession on some of those matters, and some quite strident debates (rather more down south than here) on fundamental points of actuarial principle as they relate to defined benefit pensions. Although these debates and differences emerge in different ways, they tend to revolve around the question of the appropriate balance of risk between members and sponsoring employers and how that is reflected in different funding and investment philosophies. These are actuarial issues, and we do need to get to the bottom of them. I hope that the discussion will help in that regard.

(2) There are many other aspects of pensions reform which are certainly important to those of us who are at the 'coal face', in giving general advice to clients of different kinds. These are of interest to a much wider audience than just to ourselves as actuaries. Perhaps for that reason, important though they are, they can be given a slightly lower priority.

You may be aware that the Faculty and Institute Management Committee is currently considering reforms of how the profession develops and monitors compliance with actuarial standards. Whatever emerges from that discussion — and these are still relatively early days — I feel sure that there will be a need to strengthen the intellectual underpinning of our standards, and part of that intellectual underpinning will be a reaffirmation of a number of basic actuarial principles which should inform everything that we do. As we concentrate so much on our own specialist areas, it is easy to forget some of these. An input into these processes from actuaries other than those in particular specialisms can only be healthy.

I hope that the discussion will give some helpful pointers to the way ahead where pensions issues, and the setting of standards generally, are concerned.

Mr K. O. Gourlay, F.F.A. (introducing the paper)**:** The paper was written in order to provide background reading in some important areas of occupational pension scheme practice. In particular, it begins with some investment issues, with particular reference to the equity risk premium. It then provides some commentary on current practice regarding cash equivalent transfer values from occupational pension schemes. Finally, it focuses on issues around pension scheme solvency. We hope that this paper will stimulate discussion in these areas, but also hope that the discussion will cover some of those questions which affect the public's perception of the actuarial profession.

In order to do this, I now pose some key questions, in order, it is hoped, to focus the debate:

(1) "Should the profession be more proactive in advising or guiding on the maximum equity risk premium which it believes to be appropriate for GN9 valuations for the funding of pension schemes?" Of course, the effect of doing this would be to discourage actuaries from funding on an overly weak actuarial funding basis.

(2) "Should there be a maximum equity risk premium for cash equivalent transfer value calculations?" Again, were this to happen, it would avoid public accusations of treating people transferring out of pension schemes relatively poorly.

(3) "Should there should be a standard GN11 calculation basis for transfer values?" If there were, this would mean that two different schemes with two different actuaries would actually pay comparable transfer values for identical type members.

(4) We do, however, recognise that, within the profession, there is a very strong school of thought that actuaries need to be even more conservative, and, indeed, focused on some of

the fundamental principles of financial economics. We therefore ask: "Should the focus of GN9 valuations be on solvency, and should the funding and contribution plan be set in order to achieve 100% buyout solvency targets?"

(5) The related question to this is: "Should the actuarial profession be more proactive in ensuring that actuaries give their clients' trustees advice on the least risk bond investment portfolio which would be required in order to reduce the volatility of the funding of occupational pension schemes?" Again, on the transfer value side, we questioned whether these should be calculated on the basis of risk-free rates of return.

(6) I end with the question: "Should the Pension Protection Fund (PPF) impact in any way on the transfer value basis?"

Mr C. W. F. Low, F.F.A.: In the President's remarks, he commented that, to date, Faculty discussions have not been quite as aggressive as those that have taken place down south. I might alter that in the way of my approach to this paper.

I found that I was in two minds in looking at the paper. There were certain paragraphs with which I agreed most strongly. These include ¶¶4.13.2 and 4.16.3, particularly the final sentence, where it is stated that it would be wrong of the profession to fall into the trap of assuming that future equity out-performance was a given. I certainly agree with its approach to solvency.

Given that, I was very surprised to find ¶¶3.5.5 and 3.9.4 in the same paper, because I totally disagree with those paragraphs. To try to justify that disagreement, I should like to confine my remarks to Section 3. In ¶3.3.1 the paper mentions that, up until 1997, individual actuaries had significant latitude to determine the basis used to calculate GN11 transfer values. It is certainly true that many people interpreted it as a fact that they had latitude. I personally do not think that they had. The wording was: "taking into account rates of interest." Certain people, I believe, justified equity risk premiums by saying that you started with a rate of interest and added an equity risk premium. My approach was always that, if it said 'rates of interest', then, as dividends and rents were not interest, it should be approached from a bond point of view.

In ¶3.3.2 there are the words: "Apparently actuaries were satisfied that the minimum MFR basis also complied with the fundamental principles of Guidance Note 11." I, for one, never believed that. I believe that GN11 was quite clear in what we were being asked to do. The MFR basis was set down by the Government to give an equal chance that the benefit could be provided or not. The benefits provided on an equivalent transfer value were to be the value of the benefits under the scheme. That is a totally different approach. I believe that the profession — and here, *mea culpa*, because I was certainly heavily involved in the governance of the profession over that period of time — may live to regret the fact that we did allow such latitude to carry on for quite a considerable period of time.

Some of the questions posed allude to how we should progress. One has to think: "Why fund for pensions at all?" If you are funding for pensions and putting them in a separate trust fund, away from the employer's balance sheet, it surely is to be available to provide pensions independent of the employer. That, therefore, leads me to feel that one should be looking at a pension as a pension promise, and that the members, the employers and the trustees should certainly be aware of the solvency state of the scheme measured on a buyout basis. Do not misunderstand me. I am not suggesting, in any way, that employers should fund on a buyout basis, but that all should be aware of the effect on the membership if the scheme were to wind up.

I believe that a well diversified portfolio of equities will, in the long term, produce a greater return than a bond portfolio. Certainly one needs compensation for the volatility that one expects to have in the returns in the short term, but the question is: "Is it prudent to anticipate that hoped for greater return in advance?" I believe that it is perfectly proper for an employer, if he has control over the funding rate, to say that he is going to anticipate that future return, and he is going to fund only at that level, but the trustees and the members should be well aware of the effect on the benefits until that extra return has been achieved, both in the short term and in the long term, if it is not achieved. Therefore, I did very much welcome the approach in

the new GN9, where the actuary does not necessarily have to recommend a funding rate. It has been altered in the slightly later edition from the EXD51 that we had before. There is a big difference between an employer, if he has sole power, or the employer and the trustees, with the trustees taking into account the greater interest of the members, continuing in employment and having a pension scheme provided at all, if they agreed to accept a funding rate, as opposed to an actuary recommending that as his best estimate. So, I therefore cannot agree with ¶3.5.5. We are talking here of an equity risk premium of up to 3.5% before retirement, presumably a diversified bond or maybe some equity holding for a period immediately after retirement, of plus 1.5%. I believe that they would be exceedingly optimistic assumptions for an employer to bank on for setting a funding rate. However, that, after all, would be an employer's decision, where he had the power to decide what to pay. So, I could not agree with that as a recommendation.

Then, when we come to ¶3.9.4, if we make the presumption that the Government, with an overwhelming majority, does, in fact, put into legislation what it announced on 11 June 2003, which was that solvent employers would have to stand by their pension promise, not immediately, but in due course of time, it seems to me that that statement means that there is no doubt about the contractual obligation of the pension promise, and that, therefore, GN11 cash equivalent calculations should be bond based to reflect that. I cannot understand why there is still persistence in arguing against that when the practical effect is that you cannot pay what you do not have, and that values are going to be reduced in the ratio of the total assets to the sum of the bond transfer values. Naturally, it is going to affect the shape, and I very much welcome how that shape has been illustrated in Table 1. One can see how the younger members are greatly disadvantaged by equity risk premiums being assumed in transfer values.

There is an interesting point made in ¶3.9.4, where you look at the employer's solvency and say that it is only an expectation, because the employer might become insolvent and the scheme wind up, and then, if that happens, the PPF is going to cut in. With what we know about the PPF (at the moment we are only speculating), if it is a guarantee of only 90% of the benefits, should it be bond based on 90% and equity based on 10%? I do not want to argue about the *minutiae*, but I feel strongly that bond-based transfer values are correct, and, indeed, always have done.

There is an interesting throwaway line in ¶3.11.2, where it is commented: "Where a member exercises this option'' — that is the cash option of commutation — "it is likely that this will prove advantageous to the scheme's finances''. I am quite happy with that advantage being taken, where the commutation rate is written in as a benefit. If the commutation rate is, as is often the case, set by the trustees on the actuary's advice, I would have to ask whether the actuary's advice is correct and whether the commutation rate is fair? Perhaps we should have a look at that.

Professor R. S. Clarkson, F.F.A.: Not only did I learn a lot from the paper, but it also stimulated my thought processes on the relevant issues in a highly effective manner.

In their introduction, the authors observe that "Pension issues are making the headlines every week,'' and then ask: "although we have berated the Government over its delays, have we done enough to put our own house in order?'' My answer to this rhetorical question is: "Quite definitely, no!'', but — more importantly — my answer to the logical follow up question of: "Will we do enough in the foreseeable future to put our house in order?'' is a very distressing: "Possibly not''. However, I earnestly hope that I shall be proved wrong by the actual course of future events.

In my view, by far the most serious threat to the future status of the United Kingdom actuarial profession is the appropriateness, or otherwise, of our reaction to the new Exposure Draft 51 on pension fund solvency. From the investment policy perspective, the two crucial questions of the five that the authors described as 'obvious questions' in ¶4.14 are, first: "Are the trustees and the employer right to rely on expected equity out performance over the long term, and keep contributions, in the meantime, lower than would otherwise be the case?''; and second: "Is the actuary being imprudent in assuming that equity returns will enable benefits to be paid in full over the longer term?''

I shall formulate my answers to these two crucial questions against two quite different frames of reference: first, my practical investment experience over the past 35 years or so; and second, some highly relevant recent developments in economic science. This touches on what the President referred to as intellectual underpinning.

In terms of my practical investment experience, I have no serious problems with a real cash rate of around 3%, as discussed in ¶2.3, with an inflation rate of between 2% and 2.5%, as discussed in ¶2.4, or with yield ranges for gilts, as discussed in ¶2.6. However, I part company with the authors when it comes to the really important factor, the equity risk premium. Their historic perspective on this is set out in ¶2.7.1: "Historically, the equity risk premium for the U.K. equity market had been around 4.5%, although the market falls of the last three years have seen this fall to around 4%, based on the last one hundred years. However, the last decade has seen a 'negative risk premium' of 3.3% (Source: Actuarial Examinations Core Reading 2004 for 401). Likewise, the long-term rate for the United States market had been nearer 7.0%. Consequently, we can see that the observed risk premium is far from stationary over even longer timeframes, and needs careful interpretation."

Presumably on the basis of this very limited historic information set, the authors make an important judgement on the equity risk premium in ¶2.7.6; namely: "We know that the equity risk premium appears to have fallen ..."

Let us revisit the historic data to the end of 2002 on the equity risk premium, using what I consider to be the authoritative source document, the *Barclay's Capital Equity Gilt Study*, published in February 2003. From the starting point of the end of 1899, the annualised percentage real rates of return on U.K. equities for the ten periods of the order of 100 years to the ends of 1993, 94, 95, and so on to the end of 2002, were as follows: 5.3, 5.1, 5.3, 5.3, 5.5, 5.5, 5.7, 5.5, 5.3 and 5.0 respectively.

Clearly, the values of 5.5 and 5.7 to the ends of 1997,98, 99 and 2000, when the market was at, or fairly near, its all-time high, were a little above trend, while the 5.0 value to the end of 2002, after three successive years of falling prices, was a little below the long-term trend, but the essential feature is a remarkably stable long-term trend value of about 5.3. Consider now the ten-year period to the end of 2002. Although equity prices had fallen for each of the last three years of this period, the real U.K. equity return was a highly satisfactory 4%, which in no way threatens the obvious conclusion that, in the very long run, 100% investment in equities is by far the most intelligent strategy. There was, indeed, a negative equity risk premium of 3.3% over the ten-year period to the end of 2002, but this was the result of the abnormally high real return of 7.3% on gilts rather than a poor real return on equities, which, as I have just mentioned, was a highly satisfactory 4%. However, the authors do not even draw attention to this abnormally high real return on gilts, let alone try to analyse its significance.

At investment presentations, some 20 or more years ago, to prospective U.K. pension fund clients, I used to justify a significant element of investment in U.S. equities on the basis that there was much greater economic stability in the U.S.A. than in the U.K. The Republicans and the Democrats used what I described as 'Brand X' and 'Brand Y' of very similar economic soap powders, and the Federal Reserve — largely as a result of the harsh learning process of the Depression years — had a strong stabilising influence on economic growth generally, and on interest rates and inflation rates in particular. In the U.K., by contrast, we had enormous swings in the economic pendulum as between Conservative dogma and Labour dogma, leading to dangerously high levels of inflation in the early 1970s, that would have bankrupted British industry, until Denis Healey, in his third Budget of 1974 in November, introduced an element of inflation adjustment to stock profits that would previously have led to unpayable corporation tax liabilities.

The 'New Labour' Government's policy of passing control of monetary policy to the Bank of England in 1997 has been brilliantly successful in bringing U.K. inflation down to its target level of 2.5% or below, and has led, not only to an unrepeatable massive revaluation of fixed-interest securities to the new inflation framework, but also to the likelihood that the future trend rate of U.K. company profits will be higher than the averages that encompassed the dislocations of the

1970s. Therefore, I suggest that it is eminently prudent to add a token 0.5% to the authors' estimate of 2.5% for the U.K. earnings' growth rate.

The authors observe, in ¶2.7.6, that the U.K. market price/earnings (PE) ratio, at around 18.5 last month (December 2003), is high compared with historical levels, but they do not investigate the reasons behind this in any depth. The shares of some consistently profitable large capitalisation companies are indeed standing on high historic PE ratios. More importantly, however, many companies are either loss making or have experienced very severe collapses in profits over the past few years. If we take the FTSE 100 companies, and exclude the 30 companies with the poorest quality of earnings in terms of either being loss making or having had a severe setback in earnings, then, on consensus forecasts to one year ahead, the average dividend yield of the remaining 70 companies is 3.6%, and the average earnings yield is 7.8%, which translates into a prospective PE ratio of only 12.8. The historic dividend yield and PE ratio of the All-Share Index are, by contrast, 3.1% and 19.1%. Mr George Ross Goobey, the pioneer of equity investment for pension funds, never suggested slavish investment in all companies across the whole market. Similarly, particularly at present, I believe that the higher prospective dividend yield on my quality screened subset of FTSE companies is a better initial yardstick than the historic dividend yield on the All-Share Index.

Accordingly, I would add a further 0.5% to the authors' estimate of the equity risk premium, giving a value of 4% as against their 3%. My value of 4% is still well below the 7% that they quote for U.S. markets. I would also make a similar increase of 1% to the authors' estimate of the return on U.K. equities, taking it to 9%. Given the quite remarkable stability of the long-term real return on U.K. equities over the past decade and my estimates of 4% for the equity risk premium and 9% for the return on equities, I believe that trustees and employers are indeed fully justified in basing contribution rates on the expected outperformance of equities, and also that it would be very wrong for the actuary not to take expected future equity outperformance into account when costing the benefits.

I come now to my second frame of reference, namely recent developments in economic science, and, in particular, the award of a Nobel Prize for economics to Daniel Kahneman in 2002, for his research on the boundary between economics and psychology. The main empirical conclusion of what has become known as behavioural finance is that investors and investment advisers often behave collectively in ways that appear, only with hindsight, quite irrational, with overconfidence, over-reaction bias and myopic loss-aversion being some of the classifications that researchers have made.

The recent speculative bubble in technology and media shares was clearly a classic example of reckless overconfidence. Kahneman, in terms of what he calls behavioural economics, delves very deeply into the causes of these systematic biases, and studies how fallible human beings actually make decisions in the face of uncertainty. In his Nobel Lecture he explains how, at an early age, he was greatly impressed by P. E. Meehl's classic 1954 book (Meehl, 1954), in which he showed that clinical prediction by so-called experts was consistently inferior to actuarial prediction. Kahneman's research led him to the conclusion that judgements can be produced in two ways and in various mixtures of the two: a rapid, associative, automatic and effortless intuitive process, generally called System 1; and a slower, rule-governed, deliberate and effortful process, generally known as System 2. The relevance of this behavioural economics work to pensions investment was spelt out very clearly by Professor Nilsson of the Royal Swedish Academy of Sciences in his introductory speech at the Nobel Prize ceremony in October 2002. I quote: "Systematic errors in probability estimates may have important consequences, particularly in financial markets. A timely illustration is that most of us have to choose a pension fund. If we adhere to the law of small numbers, funds with short-term results well above average will attract many investors, even if this favourable outcome is due entirely to chance."

This understandable over-reaction bias, described by Professor Nilsson, is a classic example of Kahneman's intuitive, and often irrational, System 1 behaviour, whereas the far superior actuarial System 2 behaviour, based on long-term averages, reduces or eliminates the systematic biases generated by System 1.

Returning to the background paper for this discussion, it seems to me that the authors have fallen into the trap of allowing short-term System 1 behaviour to prejudice them against the high levels of equity investment that the far superior System 2 behaviour should have led them to recommend. They appear to have been seriously misled by the negative equity risk premium over the ten years to the end of 2002, failing to realise that the underlying cause of this, the once-for-all reduction in U.K. inflation, carries two important implications for future investment returns. First, the growth of U.K. company profits is likely to be higher than the historic average, and second, if inflation does rise again in the future from the present 2% to 2.5% range, the real returns on conventional gilts from their current very low yield levels would be nothing short of catastrophic for pension funds.

As I have said, leading thinkers at the frontiers of economic scientists now recognise the clear superiority of the traditional actuarial approach of basing difficult decisions on long-term averages. To endorse the authors' System 1 aversion to a higher level of equity investment at this very difficult time would, I believe, take our profession in precisely the wrong direction.

Reference

Meehl, P.E. (1954). *Clinical versus statistical prediction: a theoretical analysis and a review of the evidence.* University of Minnesota Press.

Mr A. C. Martin, F.F.A.: I do not have answers to all of the questions that have been asked, although I think that I would start with 'no' for the first few. However, I hope that I have a solution with which everybody will agree.

In the pensions' world, we are familiar with a few sets of principles. Under the Pensions Act we have to have a Statement of Investment Principles. More recently, we have been encouraged, under the suggestion of good governance, to have a set of Myners' Principles, ten or 11 items outlining how investment matters are tackled.

I think that the solution to the actuarial situation is to have a set of actuarial principles, perhaps even a Statement of Actuarial Principles, another SAP. This could be enshrined in actuarial guidance quite easily, without the need for legislation, something which we decide would be a very good idea, and something which we can put directly into GN9, or indeed GN29.

Irrespective of everybody's views on the questions, I think that we should adopt a position of 'freedom with disclosure', freedom to follow our client's position, the reality of the situation, and provide transparency for the benefit of everybody. The content of the Statement of Actuarial Principles or 'pension fund facts', as I would call them, should cover both the trust framework and the actuarial situation. Therefore, I would start with a few basics, such as: who determines the contribution rate; who can amend the rules; what happens in wind up; the simple general background as to whether the actuary can advise until the cows come home, but the employer dictates the contributions. So, some basic trust deed framework should be included. Then, and this is probably the most contentious item, I would want a paragraph on the employer's covenant and commitment to the scheme. Again, there is freedom with disclosure if the employer does not want to fund, if the members are happy about the employer's profits and ability to pay contributions in the future. We do ourselves an injustice in discussing these issues until we have looked at the bigger picture, and that is: the maturity of the fund; the size of the pension fund compared with the employer; the employer's covenant in terms of free assets and profits; and the bigger picture of whether the pension fund is the tail wagging the dog.

Then, I would move to the scheme specific funding standard. Details are suggested here in terms of the underlying assumptions adopted under GN9 and GN11. A very important element is, of course, investment matching. Again, once you have the broad framework, it will then be relevant as to how big a risk is being taken in respect of the sought after return. Next, the PPF would come in, and then, and only then, would come the ultimate solvency of buying out with an insurance company. Whether the pension fund is bigger than the insurance company or not is another matter, but solvency would come last. So, I think that a Statement of Actuarial Principles would be useful.

Mr R. K. Sloan, F.F.A.: From the legion of issues that were outlined earlier, I should like to comment on three from the paper. As a semi-retired actuary, I have now given up my Scheme Actuary certificate, and therefore am no longer actively involved in the corporate pensions area. Therefore, I can add a few comments more from the public perception standpoint that Mr Gourlay mentioned in his introduction.

First, I consider benefit illustrations concerning money purchase schemes, and would not basically disagree with most of the analysis set out in the paper. However, its conclusions are very similar to those set out in the June 2003 comprehensive report prepared for the FSA by outside consultants, which is available on the FSA website (Rates of return for FSA prescribed projections — June 2003). The broad conclusion of the FSA at that time was that its 5% to 9% prescribed investment range for pension products and 4% to 8% for life policies was predicated on the assumption that the underlying fund's asset allocation was at least 70% in 'real' assets, namely equities or property. The consultants carried out a full analysis, similar to what is in the paper, before coming to that conclusion. Life companies were therefore reminded, at that time, to bear their own particular asset mix in mind when assessing the appropriateness of the higher figure, which, it was stressed, was a maximum, not an absolute requirement.

I dislike the hijacking of the term, 'stakeholder', for the general purpose used here. After all, I doubt if many members of good final salary pension schemes would be reassured at being called stakeholders — far from it. I suspect that they might well be distinctly alarmed.

I now consider cash equivalents, where, at ¶¶3.2.4 and 3.3.4, reference is made to possible reductions in the case of underfunded schemes, in order more closely to reflect the member's share of the pension scheme's underlying assets. Now, it seems generally to be assumed that this will be reflected in a flat percentage reduction in all cash equivalents, which has also tended to be how reductions are applied on wind up, with most unfortunate consequences, as in all too many recent cases. However, I am not aware of any requirement to adopt such a blunt approach, instead, for example, of tapering the reduction to allow for the proximity to retirement age.

I recently made this suggestion to the Department for Work and Pensions (DWP) in its November consultation on the new Winding-Up Priority Order, which had proposed a sort of service-related formula, rather than one based on length of time remaining to retirement, which I was glad to note was also the approach recommended by our profession's Legislation Committee in that consultation process. However, far from this being only a recent suggestion prompted by current financial conditions, I have been applying precisely this approach for more than 25 years. Indeed, those of you with long memories may possibly recall my describing what I called my pre-funded rate (PFR) approach at a Faculty Meeting 21 years ago (McLeish, 1983, p335) and again in 1986 (McLeish & Stewart, 1988, p417). So, there are other ways of doing it, and we have suggested as much to the DWP.

To revert to the normal situation of a well funded pension scheme, and assuming that solvency could be assured, then I cannot get over worked up about the basis for CETVs, because they become critical only where there is concern about security, and members are, perhaps, anxious to transfer their benefits elsewhere. A defined benefit should reasonably be regarded as a defined benefit. I do not see any reason why members should not leave their benefits in the scheme, provided that solvency is assured.

That brings me to my third topic, which is the PPF. This was referred to at ¶3.9.3, in which connection there has been much discussion about how the levies should be structured, including comparison with the Pension Benefit Guaranty Corporation (PBGC) in the U.S.A. While I well understand the theoretical correctness of risk related levies, I am increasingly inclined to the view that such pseudo accuracy is somewhat out of place here, and that simplicity should be the byword. For example, if one takes risk-based PPF levies to their ultimate conclusion, then a scheme that is about to become insolvent might, in theory, end up being charged 100% of its fund, while a large well funded scheme would expect to pay very little.

However, that is not how insurance works. The key is to have a sound funding standard and a robust regulatory and enforcement regime, in which environment levies might just as well be a uniform percentage of the audited fund — ideally payable by the employer, not by the pension

scheme. If we try for anything more sophisticated, then it probably will not end up being any more 'right', and, inevitably, it will absorb a lot of fee costs just to work out the levy amounts; but, crucial to all of this is the need for the Government to stand as PPF guarantor of last resort. After all, we, the taxpayers, have to guarantee the solvency of the many public sector schemes and public service schemes, including that for MPs, so that this seems but a reasonable *quid pro quo*.

So, I conclude by repeating my two main pleas in this area: for simplicity in the PPF charging structure; and for the Government to act as its guarantor of last resort.

References

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McLeish, D.J.D. & Stewart, C.B. (1988). Objectives and methods of funding defined benefit pension schemes. *Transactions of the Faculty of Actuaries,* **40**, 338-424, and *Journal of the Institute of Actuaries,* **114**, 155-225.

Mr I. A. Farr, F.F.A.: I shall make a few remarks about the PPF. In ¶3.9.3 the authors state: "Currently, proposals will limit the amount of benefit that will be provided through the PPF (to incorporate a maximum salary, 90% benefit limit, and other possible restrictions)." My understanding is that the views of the Government, in as much as they have let them be known, indicate that the maximum salary limit would, of course, apply only to active members, and the 90% benefit limit would apply only to deferred pensions.

There is a growing number of consulting actuaries, of whom I am one, who are very concerned that these levels of benefit in the PPF will be too high if the levy is to be kept to an affordable level, and the view of many of us is that the 90% benefit limit should apply to pensions in payment as well as to deferred pensions. It does not seem unreasonable. If you take out an immediate annuity with an insurance company, and the insurance company becomes insolvent, then the Policyholders Protection Act has, for many years, provided a 90% guaranteed level of benefit. So, that is why 90% may be an appropriate proportion. There should be a maximum cap to a benefit, not just for active members and for deferred pensions, but also for pensions in payment, and there should be no revaluation of deferred pensions and no future pension increases.

All that may seem a bit draconian, but there is a fear that the PPF could go the same way as the PBGC. If the PPF is to be viable, then the benefits have to be kept to reasonable levels. It may be difficult for politicians to accept benefits at that level, but is it not better to start off on a prudent basis, trying to keep the levies and premiums at an affordable level?

Valuing such levels of benefits from the PPF on a gilt-related basis could be used to determine which schemes enter the PPF, and could also be used in assessing the risk-related levy. Perhaps, also valuing these lower PPF benefits on a gilt-related basis could form the core of a potential new minimum funding standard. Of course, actuaries would be able to value the full benefits on bases which were appropriate to each scheme, in accordance with the trust deed and rules. However, such an approach would give trustees an incentive to maintain a high funding level to avoid the scheme going into the PPF if the employer became insolvent.

Mr R. Martin (a visitor)**:** Something that is, perhaps, forgotten in the U.K. is that, although pension funds are generally funded, at the moment there is no legal requirement for a company to fund its pension promises. If it chooses to go down a contracted-in route, it is quite possible for a company to have an unfunded unapproved retirement benefit scheme for the whole of its workforce, and therefore funding is a matter for the employer, and, providing that it is properly disclosed and the employees can make a judgement on that level of funding and the covenant of the employer making the promise, then that, perhaps, is quite appropriate. I do not necessarily agree that funding should be on a solvency basis, or on a cash equivalent transfer value, or should be on any particular basis.

I have a problem with the 'equivalent' in cash equivalent transfer values, because, if there is one thing that a cash equivalent transfer value is not, it is not equivalent, and it is impossible to make it equivalent, because you are comparing apples with pears. One is a defined benefit; the other is putting a cash value on it, so that it could be an alternative, but not an equivalent. I would say: "Let us go back to when cash equivalent transfer values came in." I think that that was in 1986, which was at a time when the political environment was quite different. Cash equivalent transfer values were generally an idea of Margaret Thatcher and her Government, as a mechanism for breaking up large institutional investors who had a big say over how corporate U.K. was driven. The idea of a cash equivalent transfer value was that everyone would have a personal pension and everyone would be able to transfer their cash equivalent transfer values into these personal pensions, and thus have control over their own investments.

I question whether we need transfer values at all now. I can assure you, as a pensions manager, that I very rarely see a cash equivalent transfer value go across my desk. I do see transfer values to other pension funds, where people are being given defined benefit alternatives to our defined benefits, but I very rarely see them going into personal pensions or similar old Section 32 arrangements. Employers are not making those decisions any more. So, my question would be: "Do we actually need transfer values at all?"

I can remember a discussion in Europe when I was on the board of the European Federation for Retirement Provision. There was a conference and a debate. The British were saying that the solution to the portability of pension rights across the country is to have a European cash equivalent transfer value basis. The problem was not that at all. The problem was actually vesting, and, as I pointed out, the cash equivalent of nothing is nothing, so, if your benefits do not vest, then they do not have a cash equivalent at all. My challenge to you would be on cash equivalent transfer values. Have a good actuarial debate, but it is something, in practice, that the pension funds are not using, and maybe should not be using at all.

Mr G. M. Bagot, F.F.A.: Because there has been a great deal of discussion about projection rates and about money that might have accumulated at the end of the contract period, I felt that I should speak, because I am Chairman of a Joint Institute and Faculty Working Party on Projection Rates, commenting on the FSA's proposed rates of 5% to 7% gross and 4% to 8% net.

One of the things that the authors asked for were comments on how the public interprets and understands numbers. I have had my eyes opened, because there is evidence that the concept of percentages and rates of return are totally beyond the comprehension of many of those to whom we are trying to sell our savings products. Despite all the information, we are not communicating meaningfully with those wanting to invest for the long term.

One of the things which has become apparent is that, if the numbers are presented in value terms and ranges of possible values, there is a better chance of getting the message across to the public. The concept is simple — take the midpoint of this gross 5% to 9% range, 7%, and a reasonably short time horizon of five years. Assume that the expenses associated with that are the average expenses of an actively managed U.K. equity fund, currently about 4.5% initial and 1.5% annual fee. Somebody investing £1,000 p.a., paid monthly, is likely to accumulate about £5,500 at the end of the five years, on a deterministic basis. If that money was left in an interest-bearing bank account at 3%, something like £5,400 would be accumulated. So, there has been exposure to extra risk, with opportunity costs of about £500, but, at the end of the period, the investor may only be £100 better off. The picture is actually worse than that, because what we want to try to introduce is the concept of risk. Once this is raised, I am not sure what the public thinks then.

The concept of how to explain risk, the concept of probability of various outcomes, is actually quite difficult. A way that is being developed is as follows: if £1,000 p.a. in cash grew at 3% to £5,400, given the fact that the interest rates would almost certainly vary in the interim, there is a three in five chance that you could end up with a value between £5,650 and £5,300. However, the chances of you losing money or having a sum of less than £5,000 is zero, ignoring the risk of bank insolvency. However, with the equity investment, there is a three in five chance

that the final sum could range in value from £6,300 down to £4,750. There is a three in ten chance that you could end up with less than £5,000, the sum invested. Presenting numbers like these in value terms, rather than in percentage terms and probabilities, might educate and then encourage realistic long-term investment. If we are looking for a radical change and improvement in how to present prospective values and returns, I think that this is the time to be doing it. So, I would urge the authors to think radically about what and how these are displayed.

Mr T. D. Kingston, F.F.A.: I should like to return to the theme of the early part of this discussion, when Mr Low and Professor Clarkson spoke. The whole question of rates of return and risk is fundamental to what we are talking about. Mr Bagot alluded to it, particularly in the context of personal investment.

I began my actuarial career about 40 years ago. I started in pensions, and was in pensions for about 15 years. In about 1979, I co-authored a paper which was, essentially, about rates of return in pension funds and consequent valuation rates of interest. We came to conclusions similar to those which are in the paper now before us. That was in a period of very high inflation. Inflation had been 20% in preceding years, and there were many arguments at that time against investing in equities, because equities had gone through a very bad period in terms of 'real' returns.

I have returned to pensions in the past three or four years, and am now involved with some other actuaries in a company which is providing strategic and tactical advice on the management of assets and liabilities in large pension funds. One of the things which strikes me now, coming back after 20 years, is that there are tremendous differences from fund to fund. Many funds have matured considerably, and the liabilities are much more guaranteed now than in the days when I was dealing with pension funds in the 1970s. That is a profound change. Pension funds now have to prove their solvency frequently, at a time of increased asset volatility. The risks involved in that situation are very much increased; the demand for cash to pay benefits is much closer. You cannot ignore how quickly the money is needed to pay the benefits. So, it seems to me that what Professor Clarkson was saying in regard to long-term returns was interesting, and I have no doubt that it is true. However, it is of relevance more to a very immature pension scheme or to a defined contribution scheme rather than to many of the schemes at which I find myself looking.

The paper hints, but does not necessarily advocate, a change in what might be called the normal asset distribution of a fund. It is implied that post-normal pension date (NPD) it should be in bonds and pre-NPD it should be in equities. Many actuaries would now argue that that is too aggressive. It does seem to me that pension funds, in some ways, have become more like insurance companies guaranteed by the sponsoring employer, and that the high equity content of such a fund may not be sustainable in that environment, however desirable it might be in terms of long-term returns.

So, it does seem to me that the normal asset distribution for a mature defined benefit pension fund which is not heavily overfunded should be more gilt-orientated than has been suggested in the paper, and that the assumed rate of return should be correspondingly lower. To that extent, I would agree with Mr Low. At one extreme, financial economists are arguing that the pension fund should be 100% in bonds of one sort or another: some inflation linked; others of matching duration. While I sympathise with that viewpoint, I believe that the market is full of anomalies, as investment management is full of fashions, and sometimes these anomalies and fashions are very stupid. To ignore tactical asset allocation, therefore, seems to me to be a mistake. I think that you have to go through that as an exercise on top of what you might feel would be a prudent asset/liability model.

One of the things that struck me most forcibly, coming back into pension funds, is that the equity/bond/property content of most pension funds has varied remarkably little in the past ten years. It seems to me that there is something fundamentally wrong with the way in which we are managing pension funds when so little attention has been paid to tactical asset allocation. It does throw up many opportunities.

Mr R. M. Paul, F.F.A.: I should like to draw attention to a regulatory basis for valuing individual pension scheme liabilities. It is incorporated in the regulations issued by the FSA for the valuation of benefits lost because of pensions mis-selling, in order to assess any compensation due. Every quarter until April this year the FSA amended the economic parameters in the basis, but from then the amendments were to last for a year, and included a revision to mortality, which had been unchanged since August 1999. The basis is interest of 5.5% in possession, and, in deferment, the discount rate increases with duration from 5.5% to 7.8%. The revised mortality basis is PA90 minus four years, and I have no idea how that compares with the more modern approach to mortality in a current transfer valuation basis. These investment returns cannot be varied after consideration of the investment backing the personal pension fund into which compensation is paid, and that could be equities, gilts, or property, or even cash. There is one standard basis for every case.

Compensation in this form relates to an investor not yet retired, but if retired or close to retirement, the lost benefits have to be purchased on the open market, and, if so, practice shows that there is a substantial increase in the cost of that purchase compared to the value on the FSA basis. That regulatory basis must have been set using advice from members of the actuarial profession, but clearly it is not in line with the market basis for pension annuities at retirement.

It would be interesting to know whether the Pensions Research Group have considered that particular basis, and what their opinion of it is. It is the only example of a regulatory basis of which I am aware.

Mr Sloan: I now pick up on a couple of points from the consumer's standpoint, in particular regarding some comments made by Mr Bagot. A very good article on probabilities appeared in the *Financial Times* on Friday 9 January, which supported his point precisely about not using percentages, but using amounts. It dealt, *inter alia*, with the evidence given by Professor Meadow in relation to cot deaths.

I also pick up on the reference by Mr Kingston to 1979, as I happened to have studied the returns at that time. In the five years 1979 to 84, there was a 23% p.a. compound return on equities and 11% p.a. RPI, namely 12% p.a. real, which I was relating recently in an article about 25-year endowments. Those five years were dropping off the other end, to be replaced by the next five years from now on, which may have been too complicated for the public. Certainly, inflation rates were horrendous at that time.

I now come back to the paper published by the FSA, because, interestingly, it sets out a matrix of equity/bond asset splits and percentile returns, from the lower to the upper quartile. This shows, for instance in the case of equities, 5.2% return at the lower quartile and 9.7% at the upper, with 7.5% in the middle, comprising 4.5% risk-free return plus 3% equity risk premium. That is the broad structure.

We can debate all this for a long time, but I am in agreement with Mr Bagot that the public is not really inclined to understand all of that kind of information.

To return to something which I have said here before, and to the NAPF and in other fora: "Why can the investment community not take heed of all these factors, and produce an indexed investment product which produces a real rate of return above RPI better than index-linked gilts?" They could use financial instruments and the like, introduce various conditions, lock-ins, narrow windows for retirement, and use the skills of actuaries and investment managers to package products which are very simple for the man in the street to understand, a sort of simplified, transparent with-profits, if you will. We can discuss the theory for as long as we like, but if the man in the street knew that he was going to get 4% above RPI, which Professor Clarkson tells us is easily achievable, then why can the financial institutions not take the strain, and the risk, and let the public have such a nice, easily understandable contract? The challenge is laid!

Mr N. K. Chambers, F.I.A.: I am glad that we have returned to the issue of communication, which is mentioned in the conclusion to the paper as one of the most important things that we

are going to have to get across. I have been struck by valuation numbers that I have seen, which tell you exactly what the coverage of active members in schemes is when measured on a buy-out basis. I saw a scheme recently which, in current terms, was 54% covered on a buy-out basis, but where the active members' share was 15%. Whatever happens with the new priority rules, how exactly are we going to explain the percentages that are going to be revealed to members, (and there will be pressure to reveal these numbers to members)? Even if we do not have to explain it, the trustees have to explain it; but how are we going to explain to the trustees how to explain it to their members and the companies?

The other thing about deficits is that, if I had anything to do with the finance of a company, I would want to know how I am going to see them reduce year-on-year. At the moment, the easiest way that I can see to get a deficit to go down year-on-year would, I am afraid, be to close the scheme to future accrual, and to work out how it was hoped that the excess equity gains that we have been talking about would move me out of my deficit situation. I know that, if I keep accrual going year-on-year, I am going to be seeing further deficits arise, because of the difference between a funding rate set with an equity expectation and solvency as disclosed to members set on a buy-out basis. I think that we have to work out how we are going to explain this.

Mr R. D. Muckart, F.F.A. (replying)**:** I thank those who have contributed to the discussion, which has been most stimulating. The group has a number of items that it will have to take away and do further work on. So far as my part of the summing up is concerned, I shall focus purely on the investment aspects. My knowledge of the detailed workings of pension funds is very restricted, mainly to standing in front of trustees and explaining investment performance.

The issue of stakeholders came up. Mr Sloan was perplexed that it should be used of the members of a scheme. As actuaries, it is important that we understand that there are different groups of people looking at what we are presenting from different points of view. This is particularly true of investment returns.

As Mr Bagot said, some do not understand percentages; they like physical numbers. From that point of view, it is important that, when we do present and do communicate with the different groups, we put it in a context that they understand.

There is also the issue of long-term and short-term returns. A number of speakers have mixed and matched, using certain illustrations which are of a short-term nature when we are actually talking about a long-term issue. There is nothing wrong with that, but again it is important that we get across whether we are talking about the short-term or the long-term basis. The average pension member will understand only the next 12 months; he is unlikely to go much beyond that, because that is what he sees in terms of what he might get from his bank account or what bonuses might be paid on a with-profits policy.

As a fund manager, I have much sympathy with that view. Indeed, Professor Clarkson illustrated it most ably with his comments about the current yield and the current price/earnings ratio of the U.K. market. The paper showed what the historic position was. He used one year ahead forecasts with an adjusted universe. It may be academically interesting to be able to be selective, but, in presenting numbers to an audience that is not financially literate, it is important that we stick to items and indices which are well publicised and well used, rather than any trickery that might be seen as confusing the issue.

I have much sympathy with Professor Clarkson's point of view. The statistics quoted in the paper are those which are generally available. I believe that the actuarial reading course is based on the Barclay's figures as well, so there is no difference in the numbers — it is purely, as always, in the interpretation.

It is interesting that Professor Clarkson may not have gone to ¶2.7.7, because there we gave a range between 7% and 10%. His figure, 9%, comes on the high side of the paper's 8%, which is the opposite across the mean or median, whichever you care to use. There is a range. We, in producing the paper, had no sound view as to whether one was right or wrong. At this point in

the market, I would have every sympathy with using a higher rate. Again, my short-term instinct is coming into play rather than my long-term analysis.

In using the forward rates which Professor Clarkson used, we have to be aware that historically corporate profitability in the U.K. has been about 20% of GDP. That figure has not varied by much over a long period of time. You cannot get something for nothing. If you are going to use a higher equity risk premium, you have to assume that it is coming from some component of growth. It cannot come out of thin air. Professor Clarkson may be right; corporate profits may rise as a percentage of gross domestic product in the U.K. However, that is an area that I, for one, would be wary of going into at this point.

Mr Bagot talked about illustrations. As the manager of a number of investment funds, I have to tell him that prospectuses these days require tables of illustrations exactly along the lines that he has articulated. The problem, I believe, is that, as usual, it is in the small print. The general public — even the advisers to the general public — probably do not pay enough attention to those numbers. So, while I agree with his views, we are going to have to find some way of articulating that better than having it in the small print. It is, of course, FSA legislation, so it is not a question of the regulations having to be tightened up; it is a question of public education.

There were suggestions that the authors were pro-bond, anti-equity. I am not convinced that that was actually the stance that we intended to take, although it may have been the way in which the paper was read. As a pure equity manager, I have naturally much sympathy with Professor Clarkson, and would agree with him that the use of bonds without considering the alternative is really an anathema.

I have a great concern that the recent move towards gilts and corporate bonds is very dangerous. It is almost akin to the move into equities of 15 to 20 years ago. Pension funds are being driven by peer approach, not by individual characteristics. Until we get across this need to forget about the balanced fund and move towards funds that are more appropriate for a pension fund, then I think that we have a major issue as a profession. In that respect, Mr Kingston's comments about tactical allocation come into play. I believe that there is an opportunity for such tactical allocation. Certainly, in the U.S. market it has been a major feature for a number of years, both at an asset allocation level and in currency overlay management.

Mr Paul commented about the only statutory basis that he knows. As an investment manager, I would be extremely worried if I had to fund the benefits that are proposed, particularly for someone close to retirement, at 5.5%, which is guaranteed. This leaves me very little margin and, in my view, carries quite a lot of risk. So, I am not sure that there is a product there to be developed.

Mr D. G. Fleming, F.F.A. (replying)**:** I sum up by focusing briefly on some of the aspects of risk which are fundamental to what we are talking about. Mr Bagot was kind enough to flag this up, particularly when he spoke in the context of money purchase illustrations.

Let us look first at funding valuations. It is, perhaps, easier to agree that differing approaches may well be acceptable if the risks are properly understood by the client. I think that this is a very big 'if', because the question then is, not only has the client now understood the basis of funding, but the client is then not able to come back a number of years later and claim that, while at the time he thought that he understood, he did not really understand, and therefore the actuary had been failing in his duty of care. The whole question about getting across the risks of, for example, assuming a degree of equity outperformance in the funding valuation, and whether the actuary is confident that the client has understood precisely the risks is an extremely difficult issue for the profession. I think that it is something that bears further investigation. I have not heard any in-depth analysis of that particular point in this discussion.

It is helpful, however, to recognise that, if those risks can be properly explained, there may be good reasons why funding valuations can be carried out on a number of different bases. That point very much helps the profession. It does not necessarily need to be a uniform response from different customers, but, if the client has properly understood the risk which a particular

approach involves, that approach may well be deemed to be correct. It boils down to one of good communication.

It is difficult, however, to defend differing valuation results where they are based only on an actuary's judgement, where there has been no recourse to discuss in detail the risk involved with a particular client. I think that we would all foresee the difficulties when one person's judgement is different to another's. That is something to which I will return later.

On transfer values, it is potentially more difficult. To me there is less room for a differing approach for differing clients. The paper clearly indicates the very differing approaches which could be taken at the moment. The profession will need, in future, to address how the bigger disparities between transfer values can be reduced.

Also alluded to by other speakers was the extent to which the profession would be seeking to carry out further research into areas where different actuaries could offer different advice. We have touched on two, in particular: funding valuations and transfer values. I would welcome the profession giving much consideration to greater guidance on such subjects. If nothing else, it provokes a very stimulating discussion, such as we have had tonight. In order to reach an agreed position for guidance purposes, there needs to be a high level and dynamic debate within the profession. That dynamic debate is very helpful in itself. The absence of looking for the breadth of agreement required for extended professional guidance lessens the chance for debate, even if the profession does not reach the ultimate goal of reaching an acceptable level of compromise and agreement.

The President (Mr T. M. Ross, O.B.E., F.F.A.): I thank the authors for their remarks. We have had a good and varied discussion, and I am grateful to all of you who have made contributions.

An observation that I would make is that those of us working in pensions, where I have spent most of my career, have been, to some degree, trapped — maybe 'beguiled' is a better word — by the vagueness of the pensions promise. It has not been regarded as the same as an insurance guarantee. We also know — and it has been mentioned in the discussion — that further promises have crept into the pensions system almost by stealth. Perhaps, as a profession, we have not spotted these trends as quickly as we might. In any case, I think that that background has encouraged the development of an extremely flexible environment, where the thinking has been geared more towards what might be considered fair between different classes of pension scheme members and sponsoring employers when it comes to distributing surplus, than towards meeting guarantees. These sorts of concepts have been very much to the forefront of the way in which many of us have been taught the subject.

This environment has probably encouraged a very strong desire among actuaries to guard jealously their right to exercise professional judgement, but times are moving on. We have to be very careful in this day and age that we do not allow our defence of the freedom to exercise judgement to be perceived as a euphemism for doing, basically, what we like. There is a very important difference between the two. There needs to be greater discipline than, perhaps, was necessary in the past in the exercise of judgement.

A number of things are changing in relation to pension funds. They are becoming much more mature. The public expects pensions promises to be kept. This has implications for pensions financing methods that anticipate superior equity returns. If things go wrong for a particular fund at the wrong time, no longer is it the case that that can be accepted as part of the risk associated with financing pensions. That suggests to me that the way in which we look at the funding of pensions has to change quite radically from the past. Pension funds are becoming more like life assurance companies, which suggests that holding equities should necessitate holding more assets, not less, in the fund. Imagine the confusion of a person visiting from another planet and asking two actuaries what the effect is of holding more equities against a future obligation. The insurance actuary would say that it means that you hold more, and the pensions actuary would say that it means that you hold less! I know that the nature of the obligations may, arguably, be different, but is that the case any longer?

Some of the largest pension funds are almost legacy institutions within companies, where, as we have heard from a number of speakers, in effect the corporate finance side wants to manage that obligation to a position where it can unwind predictably over time.

We should not underestimate the driving force towards managing that liability in what is perceived by the finance function of companies as a risk-free way.

It is also worth remembering that the lifetime of a pension fund and its beneficiaries is likely to far exceed the lifetime of the sponsoring employer of that fund. It is instructive to take a look at the *Financial Times* of a mere 40 years ago, and see how many names of the 100 largest companies in the land one can recognise. This puts a different, and perhaps more relevant, perspective on the meaning of long term.

We enjoyed an excellent discussion this evening. We are extremely grateful to the Pensions Research Group and to Mr Muckart for facilitating it. I am sure that we would like to encourage the Research Group to continue its work, either with its present members or with new faces. It is clear that there is great deal more good work to be done. I hope that some of you might be encouraged to join in.

Please will you all now join me in thanking the authors for their work.