J.I.A. **118**, III, 321–428

DEMUTUALISATION OF A UNITED KINGDOM MUTUAL LIFE INSURANCE COMPANY

BY P. D. NEEDLEMAN, M.A., F.I.A. AND G. WESTALL, B.Sc., F.I.A., A.S.A.

[Presented to the Institute of Actuaries, 25 March 1991]

ABSTRACT

The paper firstly examines the way in which U.K. mutuals operate and the forces which are leading mutuals to consider demutualisation. Demutualisation is normally accomplished by a Scheme of Transfer under Section 49 of the Insurance Companies Act 1982. The role of the directors and actuaries is discussed, including the impact of the Institute's latest Guidance Note (GN15).

The protection of policyholders' reasonable expectations, the value of membership rights and the basis of dealing with any orphan surplus are the central problems. The paper examines them in the context of both the open fund and closed fund situation and shows how they may be resolved.

A simple model is used to project the financial position of both an open and closed fund in a demutualised company. The relative advantages and disadvantages of each indicate that different courses of action may be appropriate for mutuals in differing financial positions.

KEYWORDS

Mutual; Transfers; Mergers and Acquisitions; Surplus

1. INTRODUCTION

1.1 The fact that there has been no paper presented to the Institute on demutualisation, and only one to the Staple Inn Actuarial Society[1], is, perhaps, an indication of the lack of interest in the subject, lack of interest, that is, until the last few years. The history of the industry had been more the other way, with several proprietary companies becoming mutuals. Mutualisation was carried out for both protective and competitive reasons, and, in some cases, because it was thought that shareholders were not needed—their capital was low compared with the free assets of the company.

1.2 There have been three recent demutualisations of life assurance companies in the U.K.:

—National Mutual Life of Australasia's U.K. Branch,
—FS Assurance, and
—Pioneer Mutual.

At the time of writing this paper, a further demutualisation was in progress. Federation Mutual Insurance was proposing to transfer its business to Equico International Limited, a new insurance company owned by The Equitable of the United States.

The industry has also seen two mergers (London Life with AMP and Boots Life with Tunbridge Wells Equitable Friendly Society) which, whilst not demutualisations, have some features in common with those examined in this paper. In addition, Time Assurance has changed its status from a friendly society to a proprietary life company, Templeton Life, and has been acquired by Templeton International Group.

This indicates that the position has changed. It is an indication that the directors of these companies felt that the company and its policyholders would be better off following the demutualisation. Why should the last few years have seen the reversal of the previous 200 years?

1.3 First, and pre-eminently amongst the contributory factors, must be the Financial Services Act. This Act upset well-established patterns of distribution and concentrated the minds of Independent Financial Advisers (IFAs) on 'best advice'. Together with the move from IFA status to tied agent by many IFAs, this resulted in falls in the level of new business for some companies. It also resulted in most major building societies becoming tied agents, so that new business became more concentrated and dependent upon a few producers. This dependence may lead to an examination of the relationship between producer and provider. One way out of the problem is to demutualise and become owned by the major distributor. This was the motive for the FS Assurance demutualisation.

1.4 Secondly, there has been a dramatic shift in the pattern of new business. The important lines are now mortgage endowments, individual pensions, funds management, and unit-linked. Of these, only individual pensions plan holders may be in the mould of traditional mutual policyholders. Thus, many mutuals will have a majority of members and policyholders for whom mutuality of the company is not relevant.

1.5 Thirdly, the Europe wide market may demand bigger companies. Some mutuals may feel that they do not have the capital resources to enable them to be able to compete successfully. It is difficult, if not impossible, for a mutual to obtain additional capital other than by retention of surplus, which is usually a slow process, or by selling off parts of its business. Demutualisation enables a company to raise capital.

1.6 The increase in activity and interest in the subject of demutualisation has been reflected by a corresponding surge in the level of professional research and discussion in the U.K. A Faculty meeting on Demutualisation[2] in April 1990 provided some valuable insights into the subject, and a paper has also been written by a Faculty Working Group[3], which focuses on the modelling of a mutual with-profits fund. The subject of Section 49 Transfers has also been discussed by a Joint Working Party, leading to the development of additional guidance notes for independent actuaries (GN15), and, more recently, a paper on this subject by Pell[4] has been presented to the Staple Inn Actuarial Society.

1.7 In this paper we have attempted to address the practical aspects of the process and the decisions which must be taken if a demutualisation is being

considered, and we have commented on some of the difficult actuarial issues which are relevant to a demutualisation.

In Section 2 we consider the way in which mutuals have operated in the past, the forces which are pushing them to consider demutualisation, and the alternatives to demutualisation. We also consider the methods and types of demutualisation which are available and the responsibilities of the directors and actuaries.

In Section 3 we discuss the formulation of a Scheme, including the interests of the various parties involved, the factors influencing the choice of structure, the treatment of with-profits and other lines of business, and the impact of structure on the value of the company.

In Section 4 we consider in more detail the key issues of policyholders' reasonable expectations and the value of membership rights. The basis of compensation for policyholders and members is analysed, and the problems of placing a value on a demutualising company are discussed. We also discuss the likely impact of GN15 and the particular requirement to consider the alternative of a closed fund.

Section 5 looks in detail at the operation of a closed fund, including some simple fund projections, which we use to illustrate some of the earlier comments, and in Section 6 we review the operation of an open fund.

1.8 We would like to thank our colleagues who have assisted in the preparation of this paper, in particular Ian Farr who assisted with the research, Graham Powell and Tony O'Riordan for their work on the projections, and Dorothy Bruce for typing numerous drafts. We would also like to thank others who have been kind enough to provide their views on the matters discussed in the paper; we would add that the opinions expressed in this paper are entirely our own.

2. BACKGROUND TO DEMUTUALISATION

2.1 *Principles of Mutual Operation*

2.1.1 The question 'what is a mutual life assurance company?' may seem strange to generations of actuaries brought up on examination questions which begin 'You are the actuary of a mutual life assurance company . . . '. Nevertheless it is a serious question which does not appear to have been debated at the Institute.

2.1.2 Mutuals have various forms of legal constitution which are often complex. However, they all have in common the absence of outside shareholders. Policyholders are the members of the company, although different companies have different classes of policyholders as members, and it is not unknown for non-policyholders to retain membership rights (for example in the case of assignments). The major difference occurs in the treatment of non-profit policyholders with regard to voting rights, and their rights to surplus of the on-going company or in a winding up. Franklin & Lee[1] examined this question and

the position has not changed substantially since then. At the present time two-thirds of U.K. mutuals extend membership rights to non-profit policies, although over 50% of these specifically limit the distribution of surplus to with-profits policies.

2.1.3 It may be argued that demutualisation is equivalent to a winding-up of the company, and that, accordingly, the winding-up provisions should apply in the determination of rights and benefits. However, if demutualisation could be achieved by a reconstruction of the company, this, by definition, is not a winding-up. If it is achieved by Section 49 of the Insurance Companies Act 1982, then this provision was specifically introduced to avoid winding-up. The legal position is that a demutualisation is not a winding-up.

2.1.4 It is not in the legal framework that the lack of clarity is found, but in the way in which mutuals operate and in their objectives. In the United States of America the usual justification for mutuals is that they provide insurance at cost. In the U.K. this is not the position, because the industry has been driven by saving and investment rather than by life assurance protection. In addition, the free surplus position of U.S. mutuals is dramatically different from that of most U.K. mutuals—being approximately 5% of total assets.

2.1.5 There are two common theories of mutual operation referred to as the 'entity' theory and the 'revolving' theory. The discussion on the revolving and entity theories of mutuals has been covered by Franklin & Lee. In the discussion on these two alternative theories of mutual operations it could be argued that the revolvers are providing the equivalent of insurance at cost, and are extending the concept to the return of investment benefits to the current generation of policyholders. A similar claim may now be made by the entity companies, but this cannot always have been the case. Since the overwhelming majority of U.K. mutuals are proponents of the entity theory, assurance at cost cannot be the rationale.

2.1.6 Inherent in the operation of a company operating according to the entity theory is the concept, and the actuality, of transfers of resources in the shape of capital (or more strictly orphan surplus) from one generation to another. We define orphan surplus to be total assets less assets required to meet policyholders' reasonable benefit expectations. Because the amounts of these transfers have become large, it is the attitude of the company towards the orphan surplus and how it is used that largely answers the question posed in this section.

2.1.7 The uses of the orphan surplus are similar in most entity theory mutuals. A common feature which can be implied is the belief that the orphan surplus does not belong to the current generation of policyholders. If this be the case, then, by extension, it cannot belong to any policyholders. A short move is required to reach the point where the orphan surplus belongs to the 'company'—without clearly defining what the company is. This was the contention put forward by Leckie[5] to the Society of Actuaries, although he took the argument further than many members of the Society and, we suspect, many members of the Institute would like.

2.1.8 Thus we have the current position, which may be summarised as:

—the company is a mutual,
—the company has orphan surplus,
—the company will decide what to do with the orphan surplus—in general terms it will be held as a form of trust to benefit successive generations of policyholders, and
—this is the basis policyholders accept when they take out policies and become members.

The current method of operation is relevant in dealing with the problem of policyholders' expectations. In the later sections dealing with the mechanics, policyholders' expectations will be a major factor.

2.1.9 If the argument for the way in which mutuals operate is that policyholders and members join the company as an ongoing entity, and can gain an idea of the company's philosophy by looking at what has happened in the past—in particular that orphan surplus will be passed on from one generation to another—then the continued operation of the mutual must be seen as being in accord with both their understanding and expectations, and no one should object. Much of this is, of course, implicit, because the company does not state it, and there is strong suspicion that most policyholders either do not know that they have a policy with a mutual life assurance company, or if they do, what this means. This position is being modified by the requirement to publish a 'with-profits' guide.

2.1.10 What, however, is the position if there is a fundamental shift in the basis of operation, such as the demutualisation of the company? The answer to this question goes to the heart of the major problem in a demutualisation, and can be along a range of possibilities:

—One extreme is that it is of no concern to the policyholders or members providing that their financial position is not changed, that is they can expect to receive the same level of benefits and financial security. Under this alternative they would not be entitled to the orphan surplus, and policyholder benefits would be no different before and after the fundamental change. This is the position expressed by Leckie.
—It may be felt that policyholders and members will need some compensation, which may be different for with- and without-profits policies.
—The other extreme is that all of the orphan surplus should now be given to the current generation of members and policyholders. In this case the discussion will be limited to the method used to distribute the surplus.

Because the constitutions of companies do not say what will happen on demutualisation and there are no statutory provisions, the position is unclear. It is apparent, however, that the current position will come to an end because the company will no longer be a mutual. Accordingly, it will not be unreasonable to

take the view that a continuation of policyholders' expected benefits is impossible and that they will need some compensation for the change.

2.1.11 In considering the question of compensation, it clarifies the issues to differentiate between:

—benefit expectations arising from being a policyholder, and
—membership rights.

The reason for this is apparent in those circumstances where the members include different types of policyholders, with widely differing contractual benefit expectations.

Policyholders' benefit expectations and membership rights are separate, but have frequently been taken together resulting in a confused situation. These rights are considered in Sections 4.1 and 4.2.

2.2 *Forces for Demutualisation*

2.2.1 The forces for demutualisation fall into three categories:

—the need to raise capital,
—the need to find distribution, and
—strategic opportunities,

and different categories of mutuals will be subject to different forces.

2.2.2 It is worth noting that there are many forces in the opposite direction to stay a mutual. Mutuality has several distinct advantages, including:

—a competitive edge, because there are no dividends payable to shareholders,
—the ability to take a longer-term view, and
—freedom from the threat of takeover.

Although there is a body of opinion which believes that this leads to a comfortable existence, with resulting disadvantages to policyholders, we do not subscribe to this view. Obviously mutuals are not all the same, but an examination of the past twenty-five years shows that mutuals, as a group, have performed well and that there have been some outstanding success stories which have carried several mutuals into the position of major financial institutions. To achieve this they have exhibited skills in finance, investment, administration, marketing and sales. Mutuality will not be given up lightly.

2.2.3 Mutuals have been able to develop rapidly without recourse to outside capital because of the high level of investment returns over the last twenty-five years. The theory that mutuals can only expand as fast as the rate of return they earn on their capital is well documented in papers by Smart[6] and Bunch[7]. Long-term growth in excess of net investment returns can only be achieved if the rate of return on capital invested in new business strain exceeds the rate of growth. In other words, each generation must make a positive contribution to the estate. If investment conditions prove to have been exceptional over this period, mutuals will find it more difficult, in the future, to fund expansion from their own internal resources.

2.2.4 Capital is required to meet statutory solvency requirements, to finance new business, and to enable the company to invest in equities and property, and hence obtain expected improved investment performance. The need for capital in the future will be greater, because of competitive pressures which are pushing in the direction of maintaining reversionary bonuses at the expense of terminal bonuses, and the continuation of a high equity backing ratio to generate competitive long-term returns. Both of these features require the establishment of higher reserves on a statutory basis, with the consequent requirement for capital.

2.2.5 A decision to demutualise to raise capital will arise either because the company feels that it does not have sufficient resources to compete, or because there are opportunities which cannot be realised with the available resources. In the first of these cases there must be a serious question as to whether capital is the real problem. If it is not, then demutualisation will not resolve the real issue and the problem will persist unless operational measures are taken. For example, if products are unprofitable, or expenses are out of control, a capital injection alone will not remove the problem.

2.2.6 Capital requirements for the benefit of taking advantage of opportunities may be considered by even the strongest mutuals. In order for them to be contenders on the wider European, or world stage, whilst at the same time maintaining the financial strength to compete in the U.K., it would be expected that additional capital will be required. Whilst recognising this as a legitimate corporate objective, there may be alternatives to the drastic step of demutualisation, such as strategic alliances, joint ventures or mergers.

2.2.7 In most cases in the U.K. we expect the motivating force for a demutualisation to be distribution. The Financial Services Act has been discussed in great detail throughout the financial services industry, and this is not the place to go over old ground. However, one of the major consequences for life assurance has been that previous distribution relationships have been disturbed, and a much reduced independent distribution sector is concentrating new business with fewer companies than in the past. As a result, some mutuals are coming under pressure because of falling new business. Although a mutual has the advantage that it can take a longer view because it is not under dividend pressure, the longer-term view must encompass a viable organisation within a reasonable time horizon. If it cannot, or it feels that the future is too uncertain, then one alternative is to seek a partner which has distribution or can give access to distribution. If this be the case, the relationship may encompass demutualisation and consequent loss of control.

2.2.8 A Board of Directors could come to the conclusion that the change in status from a mutual to a stock company would, in itself, be beneficial or desirable. This was the case in the most notable recent demutualisation in the U.S.A. The Union Mutual was not motivated by either lack of capital or distribution, although the directors and management can hardly have been totally happy with the position—otherwise nothing would have changed. The

demutualisation was undertaken because it was felt that a stock company fitted better with the corporate objectives. Thus far, the results seem to have justified the change, as the company has repositioned itself effectively and increased in size. It changed its distribution from tied agents to independent intermediaries, and moved to concentrate on risk products especially disability insurance. Whether demutualisation was necessary to do this cannot be known, but it was part of a major move forward for the company.

2.3 *Alternatives to Demutualisation*

2.3.1 Any alternative must satisfy one of the three major drivers for demutualisation, that is it must raise capital, help with distribution or provide strategic opportunities.

2.3.2 The current position is that it is not possible for a mutual to raise capital directly. Merger with a stronger mutual may be a way of meeting the objectives. If the business is basically sound, in that new business is being written on a profitable basis, then merger with a mutual that has a strong free asset position will enable the fund to take a more robust view on investment freedom. Of course merger with another mutual will, in many cases, be the prelude to the end of the company, because it will be absorbed.

2.3.3 An alternative method of attracting capital is to sell off parts of the business. If a viable business can be established in a downstream subsidiary, it may be possible to attract capital from a third party by selling a proportion of the shares of the subsidiary. The business which is sold may be a particular line of business (e.g. unit-linked), an insurance function (such as a management services company) or a geographic entity (e.g. an overseas branch). However there are often difficulties in establishing a subsidiary which is an attractive proposition without giving up control of some key function or entity.

2.3.4 If the objective is to tie in distribution, then a joint venture may be a possible solution, via a jointly-owned subsidiary company. The mutual provides administration services and possibly investment management. The partner provides distribution and a proportion of the capital. The difficulty with such joint ventures is their long-term lack of stability. The mutual does not, in fact, gain control over the distribution, and the distribution partner may ultimately walk away.

2.3.5 An alternative is to form a strategic alliance by way of some kind of operational merger. The exact nature of this can vary from a tied agent relationship to a full-scale integration of the two companies' operations. At the present time, the most likely partner for such an arrangement is an organisation with a client base, such as a bank or building society. The advantage for the partner is an influence over the insurance manufacturing capability at no cost. Except for the loosest of arrangements, it is expected that negotiations would be difficult, since the scheme is unlikely to produce any extra benefits for each party over a tied agency position. There may also be problems with the respective regulating agencies, which will be confronted with a hybrid which does not

conform to their usual experience. A more permanent arrangement would be for one party to acquire the other—this would normally involve the mutual demutualising. We understand that a hybrid structure, such as that used by National Mutual and ANZ Bank in Australia, involving a company limited by guarantee and having a share capital, would not be possible in the U.K.

2.3.6 Alternatives to demutualisation require the ability to attract capital or distribution from a third party, without giving up control. This may be feasible for a large mutual, which may itself be an attractive partner, and may have significant operations which it can share. However, for smaller mutuals we doubt that these alternatives will be achievable in practice.

2.3.7 A more feasible solution may be to accept the constraints and operate efficiently within them—'niche player' is the popular phrase at the moment for this. If it cannot do this, or demutualise, there is always the option of ceasing to trade. Although this will create its own problems, there is no reason why mutuals should consider themselves immortal or immune from pressures which affect companies in life assurance or other parts of the economy.

2.4 *Methods of Demutualisation*

2.4.1 No specific legislation exists to enable a mutual insurance company to convert directly to a proprietary form. It is not possible to convert a mutual company incorporated under the Companies Act as a company limited by guarantee, into a company limited by shares. In any event there would be no provision for the protection of policyholders' interests. In the case of a company which has been established by Act of Parliament, then a further Act will be required for any change to its constitution, unless the constitution allows it to register under the Companies Act.

2.4.2 In practice, a demutualisation can be effected by the transfer of the business to a new company using Section 49 of the Insurance Companies Act. The mechanics of a Section 49 transfer are explained in detail in Pell. Whilst Section 49 was never intended to be used for the purpose of a demutualisation and, as we shall discuss in later sections, is not completely satisfactory, it does have a number of virtues. In particular, the legal process is well defined, it provides for the protection of policyholders' interests, and the sanction of the Court, once granted, is binding on all parties. The use of Section 49 has also been made easier by the provisions of the 1990 Finance Act which confirm certain extra-statutory tax concessions regarding roll-over relief on unrealised capital gains and, in addition, allow for the carry-over of certain tax losses on the transfer of business.

We assume that most, if not all, life company demutualisations will take this course. In addition, it is almost certain that an Extraordinary General Meeting of members will be held, even if the Articles of Association do not strictly require it. A significant majority (usually 75% of those who vote) will normally be required in favour of any proposed scheme, for the directors to feel that they have a mandate for such a radical change.

2.4.3 The method of demutualisation will depend upon the ultimate form of the company. If the company is to be taken over by another company, the most straightforward way of effecting the demutualisation is to transfer all of the assets and liabilities to a life assurance company owned by the acquirer. The acquirer may not own a life assurance company, in which case there will be a need to acquire a proprietary company, or to apply for authorisation for a new company. Some mutuals do have subsidiary life assurance companies, so one of these could be sold to the acquirer in a separate transaction to act as the receiving company. If a start-up is being used, the normal authorisation procedures must be complied with, but the DTI are usually co-operative by giving conditional authorisation, dependent upon the Section 49 transfer itself receiving approval.

2.4.4 A flotation on the Stock Exchange would require a different approach. No mutual has demutualised and applied for a quotation in the U.K., although we have the example of Union Mutual in the U.S.A. In the U.K. there are examples of a building society, Abbey National, and a mutual bank, TSB. There will still need to be an authorised insurer for the transfer to take place and for this, or a holding company, to become the quoted company. The co-operation of the Stock Exchange will be needed as well as all of the procedures for a normal company flotation. Even if no capital is required by the mutual, sufficient shares must be made available for a market to be made and to satisfy the Stock Exchange. If capital is required, then there will be an offer of shares to the public, as well as the allocation to members and policyholders. Thus, if a Stock Exchange quotation is required, it will necessitate a valuation of the company, because some shares will be for sale. The end result will be an independent publicly quoted company.

2.5 *Responsibilities of the Directors and Actuaries*

2.5.1 The directors have a duty to the company and its members and are responsible for the operation of the company and its general well-being. In an ongoing company this does not create severe conflicts, although it may call for judgement on the determination of bonus rates which may:

—increase the financial benefits for the current generation of policyholders,
—weaken the financial resources of the company, and
—increase new business.

2.5.2 The position of the directors on the takeover of a proprietary company is not so clear. One body of opinion holds that the directors' responsibilities are still to the company, whilst another is that the primary responsibility shifts to the shareholders. If demutualisation can be exchanged for takeover and member for shareholder, then the divergence of opinion on directors' duties may apply in a demutualisation. Whilst the legal opinion may be unclear, it is inconceivable that directors could ignore members in the pursuit of the good of the company—especially as independent observers will most probably be standing by to comment on the Scheme.

2.5.3 It is clear that the directors are responsible for commercial decisions and, whilst they will look to advisers, especially actuaries, they remain the decision makers. The judgement in the London Life case, for example, confirmed that the choice between alternative schemes is a matter for the directors, not the Court, and that the role of the Court is to consider 'whether the Scheme as a whole is fair as between the interests of the different classes of person affected'. The Court does not have to be satisfied that no better Scheme could have been devised.

2.5.4 If demutualisation is being undertaken, the directors must decide upon a Scheme which they can recommend to their members. To be in a position firmly to recommend the Scheme, they will need to satisfy themselves as to:

—the expected effects of the Scheme on the existing policyholders of each class of business, including security for their guaranteed benefits and expectations in respect of non-guaranteed benefits,
—the adequacy of the overall level of compensation being offered to members for the loss of their membership rights, and the methods of allocating the compensation,
—the fairness of the allocation of compensation between different classes of member,
—the possible benefits available from alternative schemes (including other strategies which do not involve demutualisation) compared with the Scheme under consideration, and
—the impact of the Scheme on the organisation as a whole, and management and staff in particular.

2.5.5 The actuaries involved in a demutualisation will include:

—the Appointed Actuary,
—the independent actuary, and
—the Government Actuary.

In addition, the directors have generally sought external actuarial advice.

2.5.6 The Appointed Actuary, as Appointed Actuary, would seem to have no specific additional responsibilities during a demutualisation because, in defining the position, neither statutory provisions nor Institute Guidelines address this specific issue. This may be an area where Appointed Actuaries feel they need some guidelines. The Appointed Actuary is concerned with solvency, financial strength and policyholders' reasonable expectations. Provided none of these is impaired, he will have discharged this duty. However, he is also an important member of the management team and possibly the Board. In this role he will obviously have an important and expert contribution to make. In addition, the independent actuary may rely on the Appointed Actuary for a considerable amount of information and actuarial analysis. Many will consider that the Appointed Actuary should have a central role to play, but the current rules do not formally provide for this. It has become the custom for the Appointed

Actuary to prepare a separate report on the Scheme, but the contents of this report are not specified, and neither is its purpose.

2.5.7 An independent actuary will be required for a Section 49 transfer. His role is clear, but limited. Section 49 requires a report from the independent actuary 'on the terms of the Scheme' and, specifically, 'sufficient to indicate the opinion of the Actuary on the likely effects of the Scheme on the long-term policyholders of the companies concerned'. There is no specific mention of membership rights, or the need to consider alternative schemes. As we have stated, the Court itself does not see its role as deciding between alternative schemes. The recent Institute guidelines in GN15 seem to have extended the role of the independent actuary in cases which involve a dilution or loss of membership rights, with the recommendation that he should address:

"In the case of any mutual company involved in the scheme, the effect of the scheme on the proprietary rights of the members of that company and, in particular, the significance of any loss or dilution of the rights of those members to secure or prevent further constitutional changes which could affect their expectations as policyholders (for example, conversion to a closed fund)".

The Joint Working Party on Reasonable Expectations[8] adopted a similar position with the conclusion that:

"in the circumstances of a major change in a life office (such as a demutualisation) policyholders may reasonably expect that the proposed new arrangements do not disadvantage them as compared with the option of a closed fund. Our profession therefore should make the advantages and disadvantages of each option clear and recommend a closed fund if it is in the interest of the existing policyholders".

2.5.8 This indicates that the independent actuary must consider membership rights and, in particular, attempt to evaluate such rights in the context of alternative schemes, for example, the closed fund. We are uncomfortable with this extension of the independent actuary's role for a number of reasons. Firstly, the significance of the loss of membership rights is primarily a commercial rather than an actuarial issue. Secondly, it could be questioned as to whether it is appropriate in all cases to make a comparison against the closed fund, or, indeed, any other alternative to the Scheme which has not been considered by the directors. We doubt if it is universally accepted that "policyholders may reasonably expect that the proposed new arrangements do not disadvantage them as compared to the option of a closed fund". Thirdly, it would appear that the independent actuary is being placed in the role of adviser to the policyholders and members, in deciding whether to cast their vote in favour of a particular scheme.

2.5.9 It is only more recently that Section 49 transfers have taken place involving a dilution or loss of membership rights. In the London Life case the independent actuary commented briefly on the dilution of voting rights and concluded there was no material loss. In the National Mutual case, the independent actuary deferred to the legal advice received by the directors as to the U.K. policyholders' rights to the (orphan) surplus. In both cases the effects of the Scheme were compared only with the position if there had been no transfer. In the FS and Pioneer Mutual cases the independent actuaries did comment on

the value of membership rights. These were stated to be of no tangible value for non-profit policyholders (although no explanation of how his conclusion was arrived at is given) and were deemed to be appropriately compensated by the improved security offered by the Scheme. The position for with-profits policyholders was compared with the closed fund alternative, as well as the current position, and it was possible to show that prospects were likely to be better under the Scheme. In these two cases, however, the alternative of a closed fund was considered to be the most likely, if not the only, alternative if the Scheme did not go ahead, and was considered by the directors themselves.

2.5.10 If the independent actuary is to consider schemes which are not put forward by the directors, such as the alternative of a closed fund where this is not considered to be a reasonable alterative, this would place the independent actuary in the position of 'second guessing' the directors and effectively making commercial recommendations. The real purpose of the independent actuary's report is to advise the Court and, presumably, it would be difficult for the Court to ignore expert evidence to the effect that there were better schemes than that suggested. Thus, the independent actuary would be effectively deciding on the Scheme. It may be desirable for the independent actuary to state what compensation, if any, the Scheme provides for loss of membership rights. However, it is not clear whether the independent actuary is qualified to comment on whether this represents 'fair value' for the loss of those rights, since we believe that this is primarily a commercial matter. Moreover, there is no established actuarial or scientific basis for quantifying this value. The resolution of this question will vary, depending on the individual circumstances. It is a matter for the directors and their advisors, for the DTI, and for the members themselves to decide, and, ultimately, for the Courts.

2.5.11 The Government Actuary's Department's role is to advise the DTI and, as adviser, it can have considerable influence. The DTI's attitude seems to have been evolving, and the DTI have shown that their primary concern is the protection of policyholders' interests. Their interpretation of policyholders' interests appears to go beyond benefit expectations. In the National Mutual case, Counsel for the DTI expressed the view that policyholders could reasonably expect that they would be treated fairly, having regard to all competing interests. Thus, consideration of reasonable expectations would include proper account being taken of the interests of policyholders in the relevant surplus (or estate) of the office.

3. FORMULATING THE SCHEME

3.1 *Parties Involved*

3.1.1 The process of demutualisation will involve or affect a number of different parties whose interests will need to be considered, and may need to be separately represented:

—policyholders—with-profits and others,

—members,
—future shareholders,
—management and staff, and
—agents (appointed representatives or independent financial advisors).

The process and outcome of the demutualisation must fulfil the expectations of each of these parties if it is to be successful.

3.1.2 The policyholders have an interest in the financial security of the company, which itself depends on the financial strength and levels of free surplus. In most cases a demutualisation will involve an injection of capital, and financial strength will often be increased. However, even in cases where there is a reduction in free surplus, this may not necessarily imply a material diminution of financial security. With-profits policyholders will have an interest in their future benefits, and the protection of their reasonable expectations is an important issue in any demutualisation. This is dealt with in Section 4.1.

Policyholders' interests are protected in a number of ways if the Scheme is effected by means of a transfer of engagements under Section 49 of the Insurance Companies Act. An independent actuary is required to report on the terms of the Scheme and its effect on policyholders, and policyholders may be heard directly by the Court, if they wish to object. The Secretary of State has the right to be heard by the Court, and is likely to intervene if the DTI is not satisfied as to the terms of the Scheme.

3.1.3 Membership rights are defined in the constitution—the exact class of policyholders who are members varies from company to company. In contrast to the position of policyholders, as policyholders, there are no specific provisions in the Insurance Acts to deal with membership rights in the circumstances of a demutualisation. The issues relating to membership rights are discussed in Section 4.2.

3.1.4 Future shareholders will be concerned that the structure of the Scheme is such as to result in a viable on-going life assurance operation, and one which is a suitable vehicle to fulfil their business objectives. Moreover, they will wish to ensure that the price paid for the business is such as to provide the prospects of a reasonable return on their investment. The future shareholders may have little familiarity with the complexities of life insurance business—particularly in the case of a non-insurance company acquiring a mutual—and will almost certainly have no experience of the process of a demutualisation. They will, no doubt, have considered alternative means of achieving their own objectives and alternative investment opportunities, and will only proceed if they are satisfied that there are significant advantages in the proposed Scheme compared with other alternatives they have considered. Any Scheme which is too biased in favour of the existing policyholders, and thereby imposes excessive constraints or potential future liabilities on the new shareholders, is unlikely to succeed.

3.1.5 Management and staff have an interest by virtue of their employment prospects. Management are also likely to be heavily involved in the demutualisa-

tion process and in framing the structure and terms of any deal with a third party. Whilst management will undoubtedly be concerned to ensure that the demutualisation is in the best interests of the existing policyholders, they will also wish to ensure the on-going viability of the organisation and consider both the short and long-term impact on management and staff. There is clearly a potential conflict here which the directors must ultimately resolve.

3.1.6 Appointed representatives of the company and IFAs who have previously supported the company will be concerned as to the impact of the Scheme on their existing clients, and also to the future prospects of the company after demutualisation. The company may wish to ensure the continuing support of its agents and will need to persuade them that its future prospects are generally improved by the demutualisation, or at least not diminished.

3.2 *Factors Influencing Choice of Structure*

3.2.1 A Scheme of demutualisation will specify the proposed structure of the reconstructed or new company—in particular:

—the number of funds to be established and types of business to be written in each,
—the shareholders' share of the surplus in each fund,
—the assets to be allocated initially to each fund, including any compensation paid by the acquirer, and
—the method of future operation of each of the funds, including any specific methodology for determining future bonuses for with-profits policyholders.

The most appropriate structure will depend on the individual circumstance of the company and the objectives of the acquirer, and is unlikely to be the same in any two cases. Nevertheless, it is helpful to consider alternatives which cover a range of possibilities.

3.2.2 The starting point must be to consider the business objectives for the new company, and to ensure that it is structured so as best to meet those objectives. There will be a range of alternative structures for the new company, but it must be recognised that the future operation will be constrained by the Scheme, and may be difficult to change subsequently. The actuarial issues, questions of reasonable expectations, compensation for loss of membership rights, consideration of alternative structures, etc., will be determined in the light of this initial decision.

3.2.3 In order to analyse the appropriate structure in the light of the business objectives, a business plan should be prepared. As with any such plan the key factors to consider are:

—*Future volumes and mix of business*: the extent to which the company continues to write with-profits business, and whether this is conventional or unitised, will be particularly important; business volumes will depend on the current distribution capabilities and the impact of the demutualisation on these, any additional distribution provided by an acquirer, and any plans to develop new channels.

—*Pricing and competitive requirements*: this will depend, to a large extent, on the type of distribution and the existing market position of the company. In particular, there may be a need to continue to offer competitive with-profits bonuses in the future, notwithstanding the impact of the shareholders' share of profits on the future bonus paying potential of the company. The extent to which this is important will influence the required level of free reserves of the with-profits fund.

—*Expenses*: a projection of expenses analysed by line of business is required, reflecting the projected volumes of business. The allocation between lines of business is critical if the shareholders' share of profits varies by type of business.

—*Tax*: the projected tax position may be affected by the structure adopted, and will be relevant to the terms of the Scheme.

—*Capital needs*: there are several aspects to consider. Firstly, the level of shareholders' capital required to finance new business written in a 100% shareholders fund must be determined. Secondly, if the with-profits fund is to remain open to new business, the impact of writing varying volumes of new with-profits business must be assessed. The fund should have sufficient financial resources to support the financing strains of the projected volumes of new business and the necessary free asset position to be strong enough to attract business.

—*Price and financial returns for shareholders*: the company can be structured so as to produce a range of prices payable by the new shareholder, and to provide an appropriate dividend paying capacity and stability in the level of future dividends. These considerations may be important for a new shareholder, and can help increase the attractiveness of the company. A 'low price' does not necessarily mean that members are not receiving a fair price—it may merely reflect a structure where the shareholders' share of profits is relatively low—i.e. the company is structured more like a mutual, with only a low shareholders' interest in some lines of business.

3.3 *With-Profits Business*

3.3.1 The treatment of with-profits business is crucial in a demutualisation. Two approaches are possible. The first is to leave the with-profits fund open to new business, and structure the fund so that shareholders have a share in future surplus. The second approach is to establish a closed fund for the existing with-profits business and write new with-profits business (if any) in a separate fund established for this purpose. In the latter case the shareholders' share in surplus in the two funds may be different.

3.3.2 The open fund approach has been used in both the FS Assurance and Pioneer Mutual cases and is, perhaps, the simplest, if least transparent approach. The with-profits fund is structured so that shareholders receive a percentage, usually 10%, of the total distributed surplus—i.e. one-ninth of the cost of bonuses. In past examples there has been only one fund, so all business—both

existing and new with-profits, non-profit and unit-linked business—is written in this fund, and all the assets are transferred to it. This results in a lower value to shareholders, since the shareholders' share of profits in unit-linked and other non-profit business is only 10%. There is no reason why the unit-linked and other non-profit business could not be split out into a separate 100% shareholder fund, if desired, as described in Section 3.4.

3.3.3 The concept of establishing a closed fund for existing with-profits business has been used in a number of previous demutualisations and reconstructions. The demutualisation of National Mutual of Australasia's U.K. branch, the Southern Life demutualisation which is examined by Franklin & Lee, and the Irish Life reconstruction are just some examples. In the U.S.A. it has been used in many demutualisations and is seen as the best means of protecting policyholders' reasonable expectations. We discuss this further in Section 4.1.

3.3.4 The concept is to wall-off the existing with-profits policyholders with their own pre-defined block of assets, which should be at least sufficient to meet their reasonable benefit expectations. The future operation of the closed fund will be laid down in the Scheme. The future benefits received by the policyholders in the closed fund then depend (solely) on the performance of their own fund. It may be that certain guarantees of support from outside the closed fund are provided in some circumstances—for example, in the London Life merger with AMP, support was to be made available in adverse circumstances deemed to be of a temporary nature.

3.3.5 The concept of a closed fund in fact encompasses a wide range of possibilities. At one extreme the company may be closed to new business—all existing business remains in one 'closed' fund and no new business (with-profits or other) is written. At the other extreme, the existing with-profits policies may be segregated in a 'notional' closed fund for accounting purposes only, and their future benefits determined in relation to a notional pool of assets in the notionally separate fund. The latter approach is similar to the 'open fund' approach, where the benefits for existing policyholders are determined from asset share calculations. In effect the notional 'closed fund' represents the aggregate asset shares for all the existing with-profits policyholders.

3.4 *Unit-Linked and Other Non-Profit Business*

3.4.1 Unit-linked and non-profit business can be transferred to a 100% shareholder fund or retained in the with-profits fund. Similar choices apply to new business. If new business is written in a separate shareholder fund, it may be more appropriate to transfer the existing business to this fund—especially in the case of unit-linked business, where it may not be practical to separate existing and new unit funds.

3.4.2 The decision on where to place non-profit business will depend upon:

—the attraction of the various options to new shareholders,
—the relative importance of this business, and
—administrative and accounting considerations.

The chosen structure will affect the future requirements for shareholder capital, the dividend paying capacity and the value placed on the new company.

3.4.3 A common structure, which reflects the position of many proprietary companies, is to write unit-linked business in a proprietors' fund and the rest in the with-profits funds. This structure is likely to increase the value of the company to shareholders.

3.4.4 In the event that any non-profit business is transferred to the proprietors' fund, the assets allocated to this fund would normally be just sufficient to meet the current statutory liabilities.

3.5 *Form of Compensation*

3.5.1 Compensation is likely to be in one of three principal forms:

—cash,
—shares in the demutualised insurer, a holding company, or acquirer, and
—enhanced benefits.

The Scheme will normally specify the amount and form of compensation and the level of any special reversionary or other bonuses to be declared contingent upon the Scheme.

3.5.2 The payment of cash compensation may be highly desirable to the recipients, but depletes the assets of the company, and may have adverse tax consequences.

3.5.3 The issue of shares may be appropriate in certain circumstances. For example, if the aim is merely to convert to proprietary form, then the members can be issued with shares, at nil cost. It will then be necessary to establish a market in the shares, so that the members can realise the value of their holdings. If, however, the requirement is to raise more capital, then some form of flotation of the shares will be required. Members may be given pre-emptive subscription rights to some or all of the shares, but they will need to subscribe a certain amount of capital if they wish to exercise those rights. Compensation might take the form of a limited number of free shares or a preferential price for any shares, but, to maintain their full equity interest in the company, members would have to commit further capital.

3.5.4 If a quoted company were to purchase a mutual, it may wish to do so by use of its own shares. It is unlikely that a purchase can be made entirely of shares, and some cash will be needed. The compensation for loss of membership rights could be dealt with by an offer of shares in the acquiring company, but a cash injection into the company will be needed for other compensation. The end result would be a life assurance subsidiary of a publicly quoted company, the members having shares in this quoted company.

3.5.5 The third method of compensation is to provide enhanced benefits to existing policyholders. This method has generally been used in the U.K. to provide compensation to with-profits policyholders. The payment is normally made into the with-profits fund and used to enhance the policyholder benefits,

often by means of a special reversionary bonus. However, if enhanced benefits are provided by way of future reversionary bonus or enhanced terminal bonuses, rather than a one-off special reversionary bonus, the compensation can be used as financing for the fund and will improve the financial strength of the company.

3.5.6 In both the FS and Pioneer Mutual cases, compensation for the shareholders' share of surplus on existing business was paid into the fund and will ultimately be used to meet the cost of future shareholder transfers, so that bonuses are unaffected. This increases the short-term capital resources of the fund, and the compensation can be used to finance new business until such time as it is required to meet terminal bonus payments for existing policyholders. This approach has proved a considerable benefit, since neither fund was in a strong position prior to demutualisation. A small proportion of the total compensation was used to declare a special reversionary bonus at the time of the demutualisation.

3.5.7 The position for a stronger mutual will be very different. A substantial payment may be made to acquire the company, and the treatment of this will need to be carefully considered. Depending on the proposed structure, it may be appropriate that all of the compensation paid by the acquirer be used to enhance benefits to the existing with-profits policyholders or members. This might typically be the case if the fund is to be closed, and no future with-profits business is to be written.

3.5.8 Alternatively, the basis of an acquisition might be that a proportion of the compensation be given to the existing policyholders or members and the balance used to provide additional capital to support new with-profits business. If a proportion of the compensation is used to provide additional capital, then this will enhance the value of the company, and should be reflected in the value paid by the shareholders. For example, capital paid into a 90/10 fund would, effectively, increase the future shareholder value by approximately 10% of the amount injected.

3.5.9 The tax position of the policyholders and the company is also an important consideration in determining the form of compensation. A payment of cash or shares received in exchange for the giving up of membership rights may be subject to capital gains tax. In the case of shares, it may be possible to defer the tax charge until the shares are sold. Any compensation which is used to enhance policy benefits would not normally be taxable.

3.6 *Allocation of Assets and Compensation to Fund(s)*

3.6.1 The cash paid by an acquirer, or the capital raised by a flotation, together with the existing assets of the company in excess of those required to meet the non-profit liabilities will be apportioned, under the terms of the Scheme, between the following areas:

(1) amounts required to maintain reasonable expectations of with-profits policyholders,
(2) additional compensation to members and policyholders,

(3) amounts allocated to the (new) with-profits fund to support new business, and

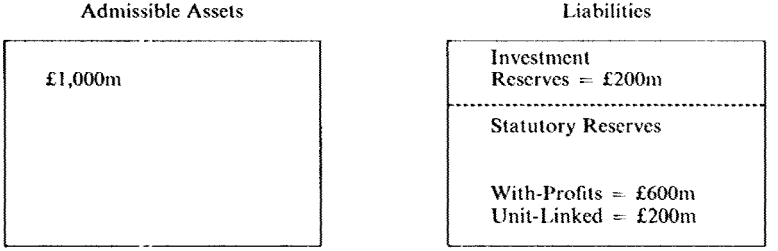
(4) any amounts allocated to a non-profit (100% shareholder) fund to capitalise this fund.

3.6.2 The amounts required to meet policyholders' reasonable benefit expectations effectively form a first charge on the available assets. The reasonable expectations, as discussed in Section 4.1, need to be quantified and appropriate assets set aside—either in a separate fund, or notionally within the with-profits fund, to provide the appropriate future benefits. The balance of available assets will be apportioned between (2), (3) and (4). Any change in the apportionment will affect the value. The appropriate level of additional compensation is discussed in Section 4.2. The balance of assets will be allocated as appropriate between the different funds and will be available to support new business.

3.6.3 The level of capital required in each fund will depend on the projected levels of new business. If the with-profits fund is over-capitalised and the company switches rapidly from with-profits to unit-linked business, then the surplus assets in the with-profits fund would be substantial, but shareholders would be unable to utilise them without a further reconstruction. At the same time, the shareholders might need to inject significant levels of capital to support the rapidly growing linked business. On the other hand, if the with-profits fund is under-capitalised, then it may be difficult to sell new with-profits business on competitive terms. Given that assets allocated to a 90/10 with-profits fund will be worth only 10% of their value compared with those allocated to a 100% shareholder fund, the allocation of any residual assets is an important question.

3.7 *Impact of Structure on Value*

3.7.1 The value of the demutualised company is dependent on the shareholders' share of surplus in different lines of business, and the initial surplus allocated to each fund. The following hypothetical example is used to illustrate the impact on value of various different structures. We assume the following position:



3.7.2 The asset shares for with-profits business have been estimated to be £700 million in total, and this is assumed to be adequate to meet policyholders' reasonable expectations. The orphan surplus is thus £100 million. The cost of a

10% shareholders' share in the surplus from existing with-profits business is assumed to be £100 million, at the net earned rate. At a risk discount rate the value to shareholders is £90 million.

3.7.3 On the assumption that shareholders have a 10% share of surplus from with-profits business and 100% of profits from unit-linked business, we can place a value on the various components of the business. (Other non-profit business is assumed to be written in the 90/10 fund and is of negligible value.) If this value can be realised, it would be available to provide compensation to members and policyholders, and/or could be used to support future with-profits business as described in Section 3.6.

Value of In-Force Business

	Premiums £m	Reserves £m	Value £m
With-Profits	120	600	90
Unit-Linked	60	200	50
	180	800	140

Value of New Business

	Premiums £m	Value Added £m	Goodwill Value £m
With-Profits	10	4	40
Unit-Linked	15	3	30
	25	7	70

3.7.4 Using this example, we can examine the impact of various structures on shareholder value. We consider the following cases:

1(a) a closed mutual fund for existing with-profits business; a new 90/10 with-profits fund is established for new with-profits business and all unit-linked business. All orphan surplus is allocated to the new with-profits fund.

1(b) as in 1(a), except all unit-linked business is written in a 100% shareholder fund.

2(a) a 90/10 fund is established for all existing and new business, including unit-linked.

2(b) as in 2(a), except all unit-linked business is written in a 100% shareholder fund.

3 a closed mutual fund for existing with-profits business; no new with-profits business. All unit-linked business is written in a 100% shareholder fund. Orphan surplus is retained for the existing policyholders in the closed fund.

For simplicity, we have assumed that the shareholders' interest in the investment reserves, and in the unit-linked business, if this is written in a 90/10 fund, is exactly 10%.

	Examples				
Value of In-Force	1(a)	1(b)	2(a)	2(b)	3
— With-profits business	10	10	90	90	—
— Unit-linked business	5	50	5	50	50
Total	15	60	95	140	50
Goodwill Value					
— With-profits business	40	40	40	40	—
— Unit-linked business	3	30	3	30	40*
Total	43	70	43	70	40
Total Value	58	130	138	210	90

* Assuming replacement of 50% of with-profits new business by unit-linked business.

The results are illustrated in Figure 1.

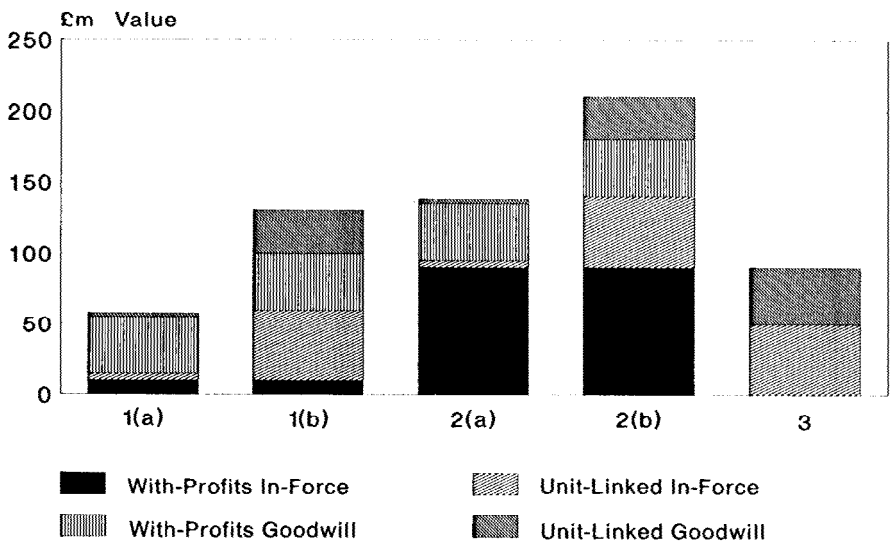


Figure 1. Impact of alternative structures on value.

3.7.5 In example 1 the orphan surplus is retained within the with-profits fund where it can be used to support new business. It is, therefore, worth only 10% to shareholders. In example 1(a) profits from the unit-linked business accrue 90% to with-profits policyholders and 10%, indirectly, to shareholders, whereas in 1(b) unit-linked profits accrue directly to shareholders.

In example 2 the orphan surplus is used to meet the cost of shareholders' transfers on the existing with-profits business. Initially it can be used to finance new business.

In example 3 the shareholder value is only £90 million, but, in addition, the policyholders in the closed fund receive the orphan surplus of £100 million. Alternatively, if the £100 million orphan surplus were allocated to the shareholder fund, this would increase the value of the company to £190 million. In the first case the orphan surplus accrues as a windfall to the existing policyholders in the closed fund; in the later case it increases the value available as compensation to members who will not always be the same group as with-profits policyholders. If shareholders are not to receive any windfall, then the shareholder value must be fully distributed to the existing policyholders.

4. KEY ISSUES

4.1 *Policyholders' Reasonable Expectations*

4.1.1 The findings of the Working Party on Policyholders' Reasonable Expectations indicated how difficult it is to agree any simple definitions. This has been made more difficult in the past because companies have not disclosed the principles on which their with-profits bonuses were based. This has now changed with the emergence of With-Profits Guides.

4.1.2 In a discussion of policyholders' reasonable expectations, we are concerned only with their benefit expectations dependent upon the policy, and not with membership rights. The working party did not appear to make this distinction clear. We take the point made by the working party, that it is not sufficient to limit consideration to the majority of policyholders who may have little understanding of life assurance, but that the concept should be based upon policyholders who do understand, informed advisers and the press. We are concerned both with the definition of policyholders' reasonable expectations and how the Scheme may best ensure their realisation.

4.1.3 Reasonable expectations result from the totality of the information available on the company, together with environmental factors which influence policy proceeds. Many companies are now using asset shares as a means of determining bonuses. However, it is clear that asset shares have no unique definition, and there is a wide range of techniques and approaches used in determining them. This applies not only to the calculation of the 'pure' asset shares, but, more particularly, in the extent to which miscellaneous surplus is included, the level of surplus charges, if any, deducted from the asset shares, and the methods of smoothing. Pure asset shares would remove the smoothing

benefits of with-profits and lead to an equivalence to unit-linked policies. Smoothed asset shares have the disadvantage that they may be arbitrary. Whatever the disadvantages, the move towards a larger proportion of policy proceeds being paid in the form of terminal bonuses makes asset shares more appropriate. High terminal bonuses, which fluctuate with the market value of assets (albeit on a smoothed basis), are consistent with asset shares.

4.1.4 Although the Scheme will be concerned with the mechanics of meeting policyholders' reasonable expectations, these expectations are realised by the bonuses allocated to policies. The directors and their advisers must make the choice as to whether the open fund or the closed fund can expect to provide the level of bonuses required. The closed fund does this by 'walling off' assets, and the open fund by defining the basis of operation.

4.1.5 The question of policyholders' reasonable expectations has been studied in the U.S.A. by the Society of Actuaries. The Task Force on Mutual Life Insurance Company Conversion[9] recommended that policyholders' reasonable expectations could be best achieved by establishing a 'closed' accounting fund for bonus purposes. The assets to be allocated to this closed branch should be sufficient, together with future premiums, to pay the (then) current scale of bonuses if the (then) current experience continued. This suggests a prospective rather than retrospective approach to policyholders' reasonable expectations, but it can be difficult to interpret in U.K. circumstances. For example, current bonuses reflect the high investment returns achieved over the last two decades. A bonus reserve valuation with current bonus levels would, therefore, require an assumption of a high future interest rate to be totally consistent with this definition. The inherent difficulty with such a prospective valuation is its sensitivity to future bonus and interest rate assumptions. One approach would be to assume a gradual fall in bonus rates from current levels, to the levels supportable by new policies on the chosen long-term growth assumptions.

4.1.6 Clearly, with the increasing importance of asset shares, the use of a prospective basis on its own would be unsatisfactory. Any results from a bonus reserve valuation would need to be compared with those obtained from a retrospective approach. There may be other considerations peculiar to the U.K. For example, the importance of mortgage endowments may lead actuaries to believe that the policyholders' reasonable expectations are to repay the mortgage—accordingly, a bonus reserve valuation with assumed future bonus rates sufficient to repay the mortgages would be a minimum.

4.1.7 Any extra payment to with-profits policyholders in excess of the amount required to meet their reasonable expectations will be made on the basis of a commercial decision, or may reflect a desire to err in favour of caution, because of the uncertainty in quantifying policyholders' reasonable expectations. Policyholders could object to the Scheme, and an extra payment may inhibit objections, or make the Scheme more secure from attack. It may be felt that with-profits policyholders are entitled to all of the current surplus, because it is policyholders' funds which have been used to reach the current financial position. However,

there should be no reasonable expectation, as policyholders, to any additional payment, or to all of the current surplus being paid out to them.

4.1.8 Other aspects of reasonable expectations relate to the financial strength and security of the office. In general, a demutualisation should improve the position, and this should not be an issue. Security is the only significant area of concern for policyholders of conventional non-profit policies, but unit-linked policyholders may also have expectations as to the future level of their discretionary charges (mortality charges, expense deductions and fund charges, for example). If the demutualisation is to improve the future prospects of the company and the potential for growth, this should enable the company to control its future costs, and hence limit future increases in charges. However, there may be a possibility that the future shareholders will take a more aggressive approach to increasing these charges than the current mutual management. It is difficult to place any firm restrictions on increasing these charges in the future, otherwise stronger actuarial reserves and higher solvency margins will be required. Some indication of future intentions should be given, and where this is different from past practice, some form of compensation may be appropriate to protect 'reasonable expectations'.

4.2 *Membership Rights and Compensation*

4.2.1 The category of persons who comprise the membership varies between companies. The biggest difference is between those companies where membership is limited only to with-profits policies and those in which all policies qualify for membership. There is a further sub-group of companies whose non-profit policyholders are members, but cannot participate in surplus.

4.2.2 The primary right of members is that they can vote for directors, and that certain resolutions that require a general meeting—such as a change to the company's Articles—must be approved by them. Thus, in the final resort, the members can decide upon the way in which the company operates. The fact that they usually take no action is some evidence that they approve of the current on-going basis of operation for mutuals. It also reflects the difficulty of members organising to take concerted action.

4.2.3 Although members have many of the rights of shareholders in a proprietary company, they are not the shareholders in the mutual. We feel that many of the arguments put forth on members' entitlement (or sometimes, with even more confusion, policyholders' rights have been quoted) arise because they are being considered as shareholders. Two important differences are:

—membership is only temporary and dependent upon the existence of a policy, and

—there is no clear entitlement to the assets of the company in law, except in circumstances where the Articles explicitly provide otherwise.

Thus, compensation for the loss of membership rights is not like the sale of a share in a company, or the payment to a shareholder in the takeover of a company. Compensation should be based upon the loss of the temporary right to

vote on certain issues. If this is so, then compensation can be uniform across all members per vote, because it is the ability to vote which is being compensated for; or the compensation should increase with the expected unexpired duration of the policy, because it is both the removal of the vote and the potential time for which it could be exercised which are important. An argument that with-profits policyholders should receive more for their membership rights would be based upon the fact that they have most to lose by a removal of the vote, or on the grounds of 'fairness'.

4.2.4 We have no solution to the problem posed by the valuation of membership rights, but we do have some observations. The limit on the total of the value of membership rights must lie between zero and the total of all current surplus, the value of in-force non-profit business and any value which can be obtained for goodwill. The arguments for zero are either that the value of the company is zero after compensating participating policyholders or that the chance of members exercising their rights is so remote that the rights have no value. Arguments in favour of the value being the total value of the company rely on the ability of members to insist on this if they are able to organise effectively. It was particularly interesting to note, in the demutualisation of National Mutual's U.K. branch, that little value was placed on the membership rights of the U.K. policyholders, because they formed such a small proportion of the total membership of National Mutual.

4.2.5 Since the argument in Section 2.1 reached the conclusion that it is implicit in the way in which mutuals operate that the surplus does not belong to the current generation of policyholders, it is reasonable to extend the principle to members, i.e. the current members are not entitled to the surplus either. The conclusion we reach is that the value of membership rights is determined by what the directors feel the members are entitled to, increased by any amount which they feel will need to be given to persuade the members to agree to the demutualisation. This means that it is a commercial decision depending upon individual circumstances. As such it is not capable of determination by actuarial techniques.

4.2.6 We consider the ill-defined position of membership rights in a mutual to be unsatisfactory. Although mutual life companies have carried on business successfully for over 200 years, this is not sufficient justification for no change. Mutual Life companies are amongst the largest financial institutions in the U.K., and, on most measures, at least five of the top ten life assurance companies are mutuals, so their constitution must be of importance.

Many of the problems associated with demutualisation are centred upon the entitlements of the various parties. In framing a Scheme a large volume of the work is concerned with this question, and with how the various interested parties will react. Whilst nothing can be certain, it would help if members knew their position, and if their rights and entitlements were clarified, if necessary through legislation. This could, perhaps, be achieved by companies proposing appropriate alterations to their Articles.

4.3 *Valuing Policyholders' Compensation*

4.3.1 If shareholders are to share in the surplus arising from existing with-profits business, policyholders will need to be compensated for the loss of future surplus, so that their benefit expectations are not diminished. There is a perceived difficulty in selecting an appropriate rate of interest to discount the future earnings stream. Shareholders would use a risk discount rate, whereas the net rate earned on the underlying investments may be considered more appropriate for determining the compensation paid to policyholders.

4.3.2 We believe that there are strong arguments for valuing profits from non-profit business at a risk discount rate for the purpose of policyholder compensation, rather than at an 'earned' rate, if the non-profit business is being transferred to the shareholders' fund. The value of the future profits will be crystallised and the risk as to whether such profits will ultimately be realised will be passed to the new shareholders. Policyholders can only expect to achieve a market rate for this transaction—typically 12% to 15% net, rather than a lower rate of, say, 10% net.

4.3.3 The position regarding the with-profits fund is less clear. Shareholders will use a risk discount rate, perhaps 1% to 3% higher than the net investment returns earned on the assets of the fund, to value their profits stream. If policyholders are to receive compensation sufficient to replace the shareholder transfers in the future, so that their ultimate benefits are not adversely affected, the compensation payment should, in theory, be determined at a net earned rate.

4.3.4 In practice, the transaction can be viewed as a loan to the fund, to enable it to meet shareholder transfers. However, the injection of a substantial cash amount into the fund will bring additional benefits to policyholders—particularly if the mutual's existing financial resources are limited. The shareholders are, in effect, providing additional capital, and a higher rate of return may thus be appropriate. Without this capital the investment policy will be less flexible, and the company may have to close or severely limit new business, with all the resulting implications for expenses.

4.3.5 If the compensation payment is invested in new business strain, then the rate of interest earned on this investment may be higher, or lower, than the net rate earned on assets. This has implications for the pricing of new business. The figures arrived at in any particular example, and the methodology employed must, in any event, be considered in the context of the whole Scheme. The examples shown in Section 5.7 show the impact of using a risk discount rate to value shareholders' transfers.

4.4 *Valuation of the Company*

4.4.1 A valuation of the company in its reconstructed form is likely to be required for a number of reasons:

—To provide the directors, and their financial advisers, with an indication of the economic worth of the company. This would be used in their negotiations with an acquirer to assist in the determination of an appropriate price to be paid by

a new shareholder, or might be used by the financial advisers to help determine an appropriate flotation price.

—To ascertain the impact of alternative structures on the overall value of the company, and hence determine the optimum structure. This would require a full analysis of the components of the company's value.

—To give the directors assistance in considering the potential value of membership rights, and the extent of compensation which the members should receive.

4.4.2 Appraisal value techniques are a well-accepted approach for valuing proprietary companies, and have been discussed in various professional papers, most recently in one by Burrows & Whitehead[10]. These techniques apply equally to determining the economic or appraisal value of a mutual office in its demutualised form, although certain complications arise, primarily because the company has not been operating, in the past, as a proprietary company.

4.4.3 Before any valuation of the company can be attempted, a clear definition of the proposed structure and the terms of the Scheme in respect of the future operation of the business are required. Particular areas of importance are:

—the structure of the funds, and the business to be written in each,
—the shareholders' share of surplus in each fund,
—the apportionment of existing assets between the funds,
—the apportionment of the value realised for the company,
—the level and form of policyholder/member compensation, and
—the method of allocation of investment returns, expenses and tax between funds.

The terms of the Scheme and compensation levels may depend on the values realised for the company, therefore an iterative approach is often required to estimate certain components of value.

4.4.4 Any amount paid by an acquirer, or raised in a flotation which is not paid out to members, or used to enhance policyholder benefits, will itself increase the value of the company—by anything between 0% and 100%, depending on whether the excess is paid into a mutual policyholder fund, a 90/10 fund, or into a 100% shareholder fund.

4.4.5 The determination of the goodwill of a life office is the most difficult element of any appraisal, and necessarily an area where considerable judgement must be exercised. In the case of a demutualisation the valuation of goodwill is even more difficult. Management will be operating in a completely different environment, and past performance may not be a guide to the future prospects of the company. In some cases, it may be argued that the company's goodwill depends, to a large extent, upon its mutual status. In other cases this may be largely irrelevant.

The profitability of new business can be assessed on the basis of the proposed operating environment and the shareholders' interests in the profits of different lines of business. What is more difficult is the assessment of future new business

and growth prospects. Consideration needs to be given to the impact, if any, which the demutualisation process may have on future new business volumes or mix of business. The changed structure may improve future prospects (e.g. because of enhanced financial strength) or diminish prospects (e.g. for with-profits business). To what extent, if any, should these considerations be built into the valuation of goodwill? Goodwill will, in many cases, have a different value before and after demutualisation.

4.4.6 The particular problems of assessing the value of a mutual can be mitigated, to some extent, by appropriate sensitivity analysis, but this does not help directors focus on a reasonable central value. If the company is to be floated and shares are to be allocated, in the first instance, to policyholders, then the market will determine an appropriate value for the company. Within certain limits the issue price of the shares can be determined largely by the capital needs of the company—if no additional capital is required, the shares could be given to members at no cost. In practice this is unlikely to be the case, since some recapitalisation is likely to be necessary. If capital raising is the primary objective, then a high price may be demanded, and shares not acquired by members (who might have pre-emptive rights) would be offered to the public. In this case the issue price will need to be set below the expected market price, to ensure a successful flotation, and some clear assessment of the likely market value will need to be ascertained in advance of the flotation.

4.4.7 If the mutual is to be offered for sale to a number of potential purchasers, then it will be sufficient to provide an appraisal of the components of value—the net worth and value of business in-force, together with sufficient information on the value of new business, to enable a third party to arrive at their own assessment of value. In this case the directors will, it is hoped, have a number of potential offers to compare and can choose the most appropriate. The difficulty in this situation is that different parties may propose different structures for the demutualised company, and it may be difficult to make comparisons between different alternatives.

4.4.8 The valuation of the company will also be affected by its ability to generate a steady and stable stream of profits. If shareholders have no interest in the existing with-profits business, then the company may have no value, or very little value, arising from its in-force business. It is unlikely to be able to support a dividend for a number of years and, in this respect, will be like a new company, albeit with a mature distribution system and potentially high goodwill. It may be that the company is well capitalised and it has a significant level of net worth which will itself generate some earnings. However earnings are likely to be volatile and the fixing of an appropriate price may be particularly difficult.

4.5 *Allocation of Compensation*

4.5.1 In determining how compensation is allocated between policyholders, it is important to distinguish between amounts allocated to maintain reasonable benefit expectations, and amounts allocated to policyholders in respect of loss of

membership rights. The former will be determined in aggregate for all with-profits policyholders, and should be allocated according to normal actuarial principles, to ensure that no group of with-profits policyholders is disadvantaged. We consider below the additional compensation over and above the amounts required to meet reasonable benefit expectations.

4.5.2 We have discussed, in Section 4.2, the overall value of membership rights and the level of compensation which might be appropriate in aggregate. How should this compensation be allocated between different members? In particular:

—the split of compensation between with-profits and non-profit policyholders,
—the factors used to determine compensation—for example, policy benefits, voting powers, or some other method, and
—the determination of cut-off provisions.

4.5.3 The split of compensation between with-profits and non-profit policies will only be relevant to those companies with both classes as members—this applies to approximately two-thirds of U.K. mutuals. If non-profit policies confer membership rights but no entitlement to participate in surplus, this can, presumably, be changed by a change to the Articles of Association. Some compensation, or inducement, to non-profit policyholders may be desirable, in the need for a 75% vote of members in favour of the Scheme, so that directors may proceed with confidence.

4.5.4 The basis of allocation of compensation will be influenced by the directors' view as to the nature and value of membership rights and, in particular, the extent to which the aggregate compensation includes some or all of the surplus of the company. Compensation may be allocated in a variety of ways, including:

—a level amount per vote,
—differential payments to with-profits and non-profit policies,
—an amount dependent upon policy benefits, and
—a mixture of one or more of these.

4.5.5 A level amount per vote term would reflect the view that membership rights are solely the right to vote. Any compensation, therefore, would be for this loss, and all votes have equal value. An extension of this argument would be an amount per vote weighted by unexpired term. This would reflect the period for which the vote was available. Policies with greater unexpired term would have the vote for longer, hence its value would be greater.

4.5.6 It may be felt that the loss of voting rights has a greater impact on with-profits policies, because of the discretionary nature of their benefits. Accordingly, membership rights are more valuable to with-profits policies, and should, therefore, merit greater compensation. This view would also apply if it were felt that membership rights included the rights to some or all the surplus of the company. In this case, the allocation of compensation would be heavily or entirely, weighted to with-profits policyholders.

4.5.7 An amount dependent upon policy benefits would reflect the view that members should be compensated in proportion to their contribution to surplus. The method proposed by the U.S. Task Force was that compensation should be allocated to policyholders in proportion to their relative contribution to the surplus of the company—the latter being defined as the accumulated asset shares, less the amount set aside in the closed fund on their behalf. Whilst the theory seems reasonable, we agree with Franklin & Lee that the application of this approach has many practical difficulties and inconsistencies. In particular, many with-profits policies currently in force will not have provided a positive contribution to surplus.

4.5.8 Logic would appear to dictate that the membership compensation should be as a level amount per vote, and that differential payments to with-profits policyholders or compensation related to policy benefits are dealt with in policyholders' expectations. However, from a practical point of view, we do not consider this to be satisfactory. Since the payments are amounts which the directors feel are necessary to promote the Scheme, they can, in practice, take any form. There will, no doubt, be arguments of fairness which will have to be met, and the Scheme, including compensation, must satisfy policyholders and the Court. We therefore feel that a combination of a fixed amount per vote plus an amount to with-profits policies in proportion to existing policy benefits, will be appropriate in most circumstances.

4.5.9 The relative amounts distributed on a per policy basis, and those distributed in proportion to policy benefits, will depend upon the history of the company and the balance of views expressed above. Examples would be:

—if the current surplus and other components of value have been built up largely from the funds of current policyholders, then a reversionary bonus proportionate to existing bonuses would be appropriate,
—if the current generation of policyholders had contributed nothing to the current surplus, then a payment per vote only would be appropriate, and
—if a situation is not clear cut, then a mixture of bonus on bonus and bonus on sum assured may be appropriate.

In the demutualisation of both Union Mutual and Maccabees in the U.S.A. the formulae used gave a fixed amount of surplus to each policy (including non-profit policies) and the balance, representing 95% and 75% of the total payout respectively, was allocated in proportion to contribution to surplus.

4.5.10 A further area of potential difficulty is the cut-off provisions. Legislation in certain U.S. states (e.g. Maine) requires benefits to be given to policies which have been in force at any time in the 3 years preceding the Scheme. The provisions attempt to avoid inequities for policies which have matured prior to the Scheme being effected. Given the nature of the policyholders' membership rights, which, in general, go hand-in-hand with the contractual ownership of a policy, we can see no logic for such an arbitrary look-back provision. Consideration may be given to including all policies still in force at the

announcement date, but the effective date is the most appropriate.

4.5.11 Similar consideration must be given to treatment of new applications between the date of announcement of the scheme and the effective date, which could be an extended period. There is a serious risk of a flood of applications for small policies which might dilute the compensation to members. The cut-off for any special benefits should, therefore, be the date of announcement of the scheme. Applications after this date would be in the full knowledge of the proposed demutualisation.

4.5.12 The situation for unit-linked policies is less clear than for other non-profit policies. Generally no special provisions need be made—if all non-profit policyholders are members then unit-linked policyholders will receive some compensation as members. If only with-profits policyholders are members, then only unitised with-profits policies will receive compensation, and others will receive none. In this case the cut-off provisions would have to apply to switches into the unitised with-profits fund after the announcement date.

Given the discretionary nature of certain of the charges, it may, however, be felt appropriate to provide some small additional benefits (perhaps a one-off allocation of additional units) to existing unit-linked policyholders.

4.6 *The Implications of GN15*

4.6.1 The Institute Guidance Note (GN15) includes a specific requirement for the independent actuary to consider "the effect of the scheme on the proprietary rights of the members . . . to secure or prevent future constitutional changes which could affect their expectations as policyholders (for example, conversion to a closed fund)". We have commented, in § 2.5.8, on the potential dangers we perceive in attempting to extend actuarial judgement into these areas. Nevertheless, given the current wording of GN15, consideration will need to be given as to whether a closed fund is likely to provide greater benefits to existing policyholders. Even if this appears to be the case, the directors will, no doubt, weigh up their responsibilities in general, not just to existing policyholders, before deciding whether or not to recommend any scheme which offers potentially lower benefits to existing policyholders.

4.6.2 We have considered the 'closed fund' to mean a closed with-profits fund, not necessarily complete closure to new business. The latter may be inevitable, however, unless a company is already writing substantial volumes of non-profit or unit-linked business. In the demutualisation of National Mutual of Australasia's U.K. branch business, a closed with-profits fund was established and the new company—NM Schroder—wrote only unit-linked business in a 100% shareholder fund. The issue was how to split the orphan surplus of the U.K. branch between the closed U.K. fund and the 100% shareholder fund. The latter was ultimately owned by National Mutual's Australian business, which had funded the U.K. operation.

4.6.3 In the FS and Pioneer demutualisations the companies concerned were not in a strong financial position. The alternative of a closed fund was a probable,

if not the only, alternative if the proposed scheme did not go ahead. In both cases, the alternatives were compared with the current position and the alternative of a closed fund, and it was possible to demonstrate that the proposed schemes offered better prospects to existing policyholders than the closed fund alternative. In the case of Pioneer Mutual, a large proportion of new business was unit-linked, and presumably closing the with-profits fund and establishing a separate unit-linked fund was a viable, although perhaps less attractive, alternative to the acquirer.

4.6.4 In the case of a much stronger office, writing substantial volumes of with-profits business, it is less clear whether such a comparison would stand up to scrutiny—existing with-profits policyholders could well be substantially better off within a closed fund which included all of the orphan surplus. Whether existing policyholders have rights to the free surplus or estate is, we believe, more of a legal question than an actuarial one.

4.6.5 Few would accept that directors should act to close their companies to new business simply to ensure existing policyholders receive the maximum possible benefits—no mutual in recent times has taken this course of action—even though, for many, it could result in higher benefits. If this be the case, why should it become an automatic option if the directors are proposing a demutualisation? The rationale is that members are losing their voting powers, which could, in theory, be used to elect directors to do just that—close the company and pay out any surplus. In practice, however, the possibility of achieving this is remote, and we doubt if this is a realistic alternative, except for an office in difficulties, in which case it will be of little benefit to existing policyholders.

4.6.6 One of the problems of the closed fund approach, for a strong office, is that it destroys goodwill. Alternative schemes may crystallise a higher value for the company, including goodwill, but this will not necessarily accrue to existing policyholders. Some of the value must be retained as surplus in the company to enable future with-profits business to be written. Unless the amount of surplus retained in the company is less than the goodwill value it generates, then an open fund approach will not provide comparable, or better benefits for existing policyholders, when compared with the closed fund.

4.6.7 This leads us to a more fundamental question, as to the economic value of with-profits business in relation to the capital it consumes. In current conditions, it is impossible to start a competitive with-profits fund and achieve an economic return on the capital employed. The problem is less severe for existing funds, since capital is effectively loaned from one generation of policyholders to another, on a basis which, perhaps, provides an inadequate return. The capital intensive nature of with-profits business, and recent rapid growth in business, has led to changes in product design and bonus structures, and a shift to unit-linked business. It may well be that mutuals must learn to use their capital resources more effectively, or else face the position where they withdraw from the with-profits market.

5. OPERATION OF A CLOSED FUND

5.1 *Business to be Included in the Closed Fund*

5.1.1 The purpose of establishing a closed fund is to protect the benefit expectations of existing with-profits policyholders. The U.S. Task Force considered that the mechanism of a closed fund would only be appropriate for certain lines of business, and the criteria it established are, we believe, equally appropriate in the U.K.:

—Any class of business where the company has significant discretion as to the level of future bonuses declared should normally be included.
—Any class of business which is not expected to diminish over time should probably not be included in the closed fund.
—Any class of business which is, to a large extent, experience rated should not be included.

5.1.2 Certain types of 'chargeable rate' with-profits group deferred annuity contracts, where rates vary depending on current interest rates would, typically, not be included in the closed fund.

5.1.3 There are likely to be existing with-profits policies with options to effect further policies. If no new with-profits business is to be written, then it may be necessary to allow option policies to be written in the closed fund. Similarly, for group pensions business, increments and benefits for new members in existing schemes may have to be written in the closed fund.

5.2 *Hypothetication of Assets to the Closed Fund*

5.2.1 It is possible to operate the closed fund without identification and allocation of specific assets to the closed fund. Such an approach entails apportionment of investment income and gains between the closed fund and the continuing business in an appropriate manner. This may weaken the protection offered to the closed fund, but the approach can have significant advantages in avoiding many of the problems of operating a declining fund. Providing the assets for the company as a whole are growing, the problems of dealing with a negative cashflow can be avoided. Similarly, the closed fund can continue to invest in certain types of assets such as property, and achieve diversification which it would not be able to achieve on its own.

5.3 *Shareholders' Interest in the Closed Fund*

5.3.1 A closed fund, entirely walled off for existing with-profits policyholders, retains the 'mutual' status within the closed fund for existing policyholders. It also minimises the policyholders' compensation which must be paid by an acquirer. However, one of the perceived disadvantages of a closed fund is that future shareholders have no interest in the surplus of that fund and, therefore, no financial incentive to manage the fund effectively for policyholders.

5.3.2 If a 'pooled' investment approach is adopted, without segregation of assets, then this avoids the problem, and a zero shareholder interest in the closed

fund should be perfectly acceptable. If it is not, then the closed fund can be established on the basis that shareholders share in future surplus. This share can be a proportion of the total distributed surplus or a fixed annual management fee. In either case the assets allocated to the closed fund must be increased to allow for this participation. The disadvantage of this approach, as mentioned in Section 4, is that the value placed on the future stream of shareholder transfers may well be less than the additional amount of assets that should be set aside in the closed fund to compensate policyholders for the shareholders' share of future surplus. However, this may be more than offset by the increase in the free assets resulting from the payment of compensation into the fund.

5.4 *Future Support for the Closed Fund*

5.4.1 If a closed fund is to be established in an on-going company, then rules for future operation of the fund must be clear as to exactly what level of separation is required between the closed fund and the continuing business. At one extreme the closed fund could be operated with sufficient free assets to support its own mismatch and solvency requirements. The continuing business would also be required to be self supporting. This approach does not, of course, reflect the legal position, since all of the assets of the company are available, in the last resort, to meet any of the liabilities. It is also inefficient, and would result in more shareholder capital being required to support the continuing business than might otherwise be the case. At the other extreme, the Scheme might provide for surplus in one fund to be made available to support losses in the other and vice versa, and the situation, in reality, is no different from the open fund approach.

5.4.2 In practice, it is likely that the closed fund will be in a strong financial position initially, and may be in a position to provide support to the continuing fund in the short term, while the latter is small. Ultimately the tables will turn and the continuing fund should be in a position to provide support to the closed fund, if required. An example of this 'support' is that solvency and mismatch reserves would only need to be covered on a company-wide basis. Such mutual support between the funds is no more than the normal operation of a with-profits fund.

5.4.3 The Scheme may specifically provide for certain guarantees as to future bonus levels or for shareholders to provide specific financial support to the closed fund in adverse circumstances, on appropriate commercial terms. Generally, any bonus guarantees would be limited—not only because of the potential cost, but also because any such guarantees will weaken the financial position of the whole company and potentially limit future investment freedom. The operation of the closed fund should itself be adequate to ensure fair treatment of existing policyholders. Such guarantees are more appropriate to an open fund approach, where there is no specific mechanism for protecting policyholders' interests.

5.5 *Future Operation of the Business*

5.5.1 The Scheme will need to specify the future basis of operation of the company with respect to the funds established by the Scheme. This will deal with

allocation of premium income, investment income and gains to each fund, and the payment of claims, tax and expenses from the fund. Rules regarding closure or amalgamation of any of the funds will also be included.

5.5.2 The Scheme will deal explicitly with the basis of allocation of expenses between the funds. This is particularly important where a closed fund is being operated, or if there are funds where the shareholders' share of surplus is different. The rules may be explicit—such as providing for maintenance expenses to be allocated to the closed fund on the basis of £x per policy in force, where x is specified at outset and cannot increase by more than the rate of inflation. Alternatively, a more general provision may be incorporated, providing for expenses to be apportioned in a fair and equitable manner, but leaving a degree of discretion to the actuary.

5.5.3 Rules may be necessary for the apportionment of investment income and gains, if separate assets are not held. Similarly, tax will need to be apportioned. There is normally a provision to ensure that the fund bears no more tax than if it had continued as part of a mutual company.

5.5.4 The Scheme would normally provide for the closed fund to be wound up when the number of policies diminishes to less than a few thousand policies. At that time, the remaining surplus in the fund is allocated to the remaining policies, which are converted to non-participating policies and merged with the continuing business.

5.6 *Advantages and Disadvantages of the Closed Fund*

5.6.1 The essence of the closed fund approach is to set aside a (notional) block of assets in a separate fund for the existing policyholders, so that the future bonuses for existing policyholders can be determined solely in relation to the performance of the closed fund. The future rules of operation of the closed fund are clearly defined at outset.

5.6.2 The advantages are therefore:

—it protects existing policyholders by clearly defined rules,
—the terms for new with-profits business cannot affect existing business (cross-subsidies between generations is limited),
—the initial surplus allocated to the existing policyholders is established at outset, and
—it can be operated on a mutual fund basis.

The closed fund can remove much of the discretion and flexibility available to the actuary in running an open fund. This is designed to protect the existing policyholders, but can obviously have adverse effects.

5.6.3 The disadvantages are:

—the impact of a declining fund and increasing guarantees on investment freedom,
—the escalation of expenses, and
—the difficulty of avoiding a tontine effect.

5.6.4 The impact on investment returns can be mitigated if a pooled asset approach is used, and if support from the continuing fund is available for mismatch reserves and solvency. Even without this, the working capital provided by distributing a high proportion of surplus by way of terminal bonuses can enable a less restricted investment policy to be pursued. Any limitations will need to be quantified in individual circumstances.

5.6.5 The problem of expenses can be material for a company which is closed to new business completely. The short-term expenses in respect of closure costs, and the impact of a declining block of business on the on-going costs, can both be substantial. The only realistic option is ultimately to merge the closed fund into another company, as in the case of UKPI. For a company which is continuing in business, the impact of expenses on a closed fund will be no different from that in an open fund—and will, to a large extent, depend on the fortunes of the office as a whole.

5.6.6 A tontine effect can be avoided, in part, by winding up the fund before it gets too small. The tontine effect can be reduced by an aggressive distribution policy in the earlier years, but this risks leaving insufficient for the later maturing policies. Achieving the right balance between different generations is, perhaps, the most difficult aspect of running a closed fund. The use of asset shares is helpful in this respect, but the extent to which asset shares can be smoothed will diminish.

5.7 *Examples of a Closed Fund*

5.7.1 We have developed a simple model of a mutual life company fund, writing entirely with-profits endowment business. The model is described in Appendix B and the results are shown in Appendix C.

5.7.2 Model A represents a closed fund with a continuation of current levels of reversionary bonus. Model B assumes a fall in reversionary bonus rates to approximately 75% of their current levels in 5 years time. In both cases terminal bonuses are adjusted to pay out asset shares. The reduction in reversionary bonuses in Model B is intended to ensure that a significant proportion of total maturity benefits are payable as terminal bonus. The resulting levels of terminal bonus for business written in the last five years are shown in Table 5.1.

Table 5.1 *Terminal Bonus as a Percentage of Sum Assured and Reversionary Bonus*

Term	Model A (%)	Model B (%)
10	11	16
15	15	28
20	20	42
25	25	60

The free asset ratio (defined as investment reserves less solvency margin as a percentage of total assets) is shown in Table 5.2. No allowance has been made for mismatch reserves. In practice these might amount to some 3% of assets.

Table 5.2 *Free Asset Ratio*

Year	Model A (%)	Model B (%)
1989	19	19
1994	19	20
1999	19	26
2004	16	28
2009	13	31
2013	15	37

5.7.3 These examples are for a closed fund with no orphan surplus, yet the free asset position, even with existing reversionary bonuses (Model A) stays at its current levels for nearly 15 years. This is a surprising result, and goes against the common misconception that the free asset position in a closed fund will quickly diminish. The results will obviously be sensitive to actual investment performances and fluctuations in asset values from year to year, and the ability to smooth maturity values will be limited. By reducing reversionary bonuses (Model B) the free asset position can be gradually improved, so as to leave considerable scope for mismatching and equity-type investments.

5.7.4 We have considered the impact on bonuses and the free asset position if shareholders have a 10% interest in surplus. Compensation for this share of future surplus has been calculated by discounting projected shareholders' transfers at $12\frac{1}{2}\%$ p.a. The resulting value is injected into the fund. We have determined the rate of investment return required to support the same level of bonuses to policyholders as assumed in Model B. The required rate was 10.6% net, an increase of only 0.2% over the rate previously assumed. This also allows for the impact of any additional tax arising as a result of the shareholder transfers. The injection of compensation also substantially improves the free asset position, as shown in Table 5.3.

Table 5.3 *Free Asset Ratio—Model B*

Year	Mutual Closed Fund (%)	Proprietary Interest in Closed fund (%)
1989	19	26
1994	20	25
1999	26	30
2004	28	31
2009	31	34
2013	37	39

For a fund with a low free asset ratio, the potential advantages of granting shareholders a share of surplus from existing business are significant. Whether shareholders are prepared to pay for this interest is a separate question.

6. OPERATION OF AN OPEN FUND

6.1 *Protection of Reasonable Expectations*

6.1.1 As discussed in Section 4.1, protection of reasonable expectations is, perhaps, the most difficult aspect of running an open fund. The principles by which future bonuses are to be determined for existing policyholders will normally be covered in the Scheme, but the mechanics are unlikely to be stipulated in detail, thus leaving considerable discretion in the hands of the Appointed Actuary.

6.1.2 In both the FS and Pioneer Mutual examples, future bonuses are to be determined using asset share techniques, where the asset shares are to be calculated ignoring the shareholders' share of surplus. The Schemes are not explicit about how asset shares are to be determined, and particular problem areas are likely to be the treatment of tax, expenses, and investment returns in the asset share calculations, and the treatment of miscellaneous sources of surplus. In the case of Pioneer Mutual, any additional tax payable as a result of the new company's proprietary status is specifically to be excluded from the asset shares.

6.1.3 The method of smoothing asset shares will also be an area of concern, in particular smoothing between existing and new policyholders. Unless a highly volatile terminal bonus policy is adopted, a suitable smoothing formula must be defined in advance and the process followed mechanically thereafter. The problems of equity are, in fact, little different from those faced in operating a closed fund.

6.1.4 In a company where the fund is well capitalised, the problems of ensuring existing policyholders' reasonable expectations are met in full may not be so great, since the Appointed Actuary can afford to err on the side of caution in this respect. This will not be the case for less well capitalised funds.

6.2 *New Business*

6.2.1 If capital resources are limited, then the volumes of new business will need to be closely controlled, to ensure that new business has no impact on the bonuses on existing business. If new business expands too rapidly, then the free asset position of the fund will be impaired, leading to restrictions on investment policy. There may also be pressure to keep reversionary bonuses as low as possible to maximise the amount of working capital. However, competitive pressures will be operating in the opposite direction.

6.2.2 Premium rates for new business may need to be revised to reflect the terms on which business can be written after the demutualisation. Expenses may have changed, the tax position is likely to be different, and consideration must be given to the extent that the shareholders' share of surplus is allowed for in the premium rates. The alternative is to allow for all these factors to emerge in the future reversionary bonus rates. This will affect existing and new business if the same bonus series applies to both. This is the situation in both the FS and Pioneer

Mutual cases; terminal bonuses will be used to ensure total payouts to existing policyholders are maintained at the appropriate levels.

6.2.3 The impact of the shareholders' share of surplus on future prospects will depend on the strength of the fund after the demutualisation and, in particular, the extent to which the value paid for the company, including goodwill, is retained to meet the cost of future transfers. In a well capitalised fund the prospects may be as good as, if not better than, previously, notwithstanding the need to meet shareholders' transfers. A strong free asset position and resulting investment freedom may help offset the cost of shareholders' transfers. The amount of new with-profits business will have a significant impact. This is illustrated in Section 6.4.

6.3 *Advantages and Disadvantages of an Open Fund*

6.3.1 The open fund avoids the complexity of running separate funds—in particular the need to apportion such items as tax and expenses, and, if separate assets are not held, investment income and gains. Nevertheless, these same issues must be addressed in determining the asset shares for the existing business. The shareholders' share of surplus from existing business, as well as new business, provides a steady and immediate stream of transfers, and gives an incentive to manage the existing business effectively.

6.3.2 An open fund will give a marketing advantage to the new company because it will have a bonus record, which may be used. However, the extent to which the bonus performance for existing business will be appropriate for new business in the changed circumstances is open to question.

6.3.3 These are important advantages—the main disadvantages of an open fund arise from the need to protect policyholders' reasonable expectations. There is no visible mechanism for doing this, and much is left to the discretion of the Appointed Actuary. There is a real risk that expectations may be affected by the volumes of new business and the terms on which it is written.

6.3.4 A further disadvantage may be the increased cost of acquiring a company which is structured with an open 90/10 fund, since this may substantially increase the value of the company compared with a closed mutual fund structure for existing with-profits business.

6.4 *Example of an Open Fund*

6.4.1 In this example, we have assumed the same bonus pattern as in Model B for the closed fund. In addition, new business in 1990 has been assumed at broadly the same level as in 1989 (£140,000 new annual premiums), increasing by 7% p.a. thereafter. We also show the impact of doubling new business volumes in 1990 and thereafter.

Table 6.1 shows the free asset ratio for the company operating as a mutual, with normal and double new business. Examples 2 and 4 assume that there is some orphan surplus, which we have taken to be £500,000 at the end of 1989, or some 5% of assets.

Table 6.2 shows the position for the fund operating on a 90/10 basis which is comparable with examples 2 and 4. The company is valued at £1,500,000, which is paid into the fund. The derivation of this value is described in Appendix B and includes £500,000 of goodwill. The existing orphan surplus is £500,000. In examples 5 and 7 we assume the cost of special bonuses to members amounts to £1,000,000. In examples 6 and 8 we assume the cost of special bonuses is only £500,000.

Table 6.1 *Free Asset Ratio—Mutual Company*

	Normal New Business		Double New Business	
Year	Example 1 (%)	Example 2 (%)	Example 3 (%)	Example 4 (%)
1990	18	22	17	21
1995	16	20	12	16
2000	17	22	11	15
2005	16	22	12	16
2010	18	24	16	20
2015	20	27	20	24

Table 6.2 *Free Asset Ratio—Proprietary Company*

	Normal New Business		Double New Business	
Year	Example 5 (%)	Example 6 (%)	Example 7 (%)	Example 8 (%)
1990	25	28	24	27
1995	19	23	14	18
2000	16	21	9	13
2005	11	17	5	10
2010	6	14	4	9
2015	0	12	3	9

6.4.2 The figures in Table 6.2 show that in examples 5 and 7 the company cannot continue to support the same level of bonus on new business. Ultimately bonus rates on new business must fall, and the depletion of the free assets is initially accelerated when new business is higher. In examples 6 and 8, a higher proportion of the value paid for the company is used to recapitalise the with-profits fund and the level of compensation to members is only half that assumed in examples 5 and 7. This enables bonus rates on new business to be supported for a longer period before the financial strength is seriously impaired. In the extreme, if the whole of the purchase price is paid into the fund and no special bonuses are allocated to existing policyholders, then 'mutual' bonuses should be supportable on new business, provided that new business volumes do not exceed the levels assumed in the calculation of goodwill.

6.4.3 It is interesting to compare example 2 directly with examples 5 and 6.

Table 6.3 *Free Asset Ratios—Mutual v Proprietary Company*

	Mutual	Proprietary—90/10 Company		
	Example 2	Example 5	Example 6	Example 9
Year	(%)	(%)	(%)	(%)
1990	22	25	28	25
1995	20	19	23	22
2000	22	16	21	22
2005	22	11	17	21
2010	24	6	14	22
2015	27	0	12	23

In both examples 5 and 6, the free asset ratios are higher than in example 2 for the first few years, but ultimately fall off. To show the sensitivity of these results to investment performance, example 9 is the same as example 5, but with an additional ·6% net investment return. On this basis the free asset ratio can be maintained at broadly the levels achieved in example 2.

6.4.4 These examples show the impact of the treatment of the value realised for the company on a demutualisation, and any orphan surplus, on bonus prospects for new business. If the bulk of any payment is used to recapitalise the fund and support future shareholders' transfers, then there is every possibility of maintaining bonus levels on new business at the levels which would have applied in the mutual company. Relatively small differences in investment returns may also have a substantial impact on this.

7. CONCLUSIONS

7.1 The demutualisation of a U.K. mutual life insurance company is accomplished by means of a Section 49 Transfer. This has certain problems:

—Section 49 was not designed for demutualisations, so uncertainties are introduced.

—Membership rights and their value are not well defined.

—The relative roles of the directors and the independent actuary are in danger of overlapping.

These problems need to be resolved and the actuarial profession should help in their resolution. Ultimately the position will depend upon a clear statement from the Regulatory Authorities and the Courts or, failing this, further legislation.

7.2 The change in the structure of companies during a demutualisation highlights many of the actuarial issues which are usually implicit in the normal operation of the company. This forces the actuaries involved to articulate the basis of financial management. In doing this, there has been a greater understanding of the issues involved.

REFERENCES

(1) Franklin, N.A.M. & Lee, W.E. (1988). Demutualisation. *J.S.S.* **31,** 89.
(2) Field, M.H., Needleman, P.D., Campbell-Smith, W. & Shedden, A.D. (1991). Demutualisation. *T.F.A.* **42,** II.
(3) Faculty of Actuaries Bonus and Valuation Research Group. (1991). Restructuring Mutuals—Principles and Practice. *T.F.A.* **43,** II.
(4) Pell, M. (1991). Section 49 Transfers. Staple Inn Actuarial Society.
(5) Leckie, R.B. (1979). Some Actuarial Considerations for Mutual Companies. *T.S.A.* **31,** 187.
(6) Smart, I.C. (1977). Pricing and Profitability in a Life Office. *J.I.A.* **104,** 125.
(7) Bunch, T.S. (1988). The Valuation of With-Profits Business and the Estate. *J.S.S.* **31,** 59.
(8) Joint Institute/Faculty Working Party on Policyholders' Reasonable Expectations. (1990). Report.
(9) Task Force on Mutual Life Insurance Company Conversion. (1987). Report. *T.S.A.* **39,** 295.
(10) Burrows, R.P. & Whitehead, G.H. (1987). The Determination of Life Office Appraisal Values. *J.I.A.* **114,** 411.

APPENDIX A

SUMMARY OF RECENT TRANSACTIONS

A.1 *National Mutual Life of Australasia—U.K. Branch*

A.1.1 *Background*

National Mutual Life Association of Australasia (NMLA) had operated a U.K. branch since 1897, selling mainly conventional with-profits business. The company established a separate statutory fund for its U.K. and Republic of Ireland business in 1984, and maintained separate assets. In 1986 NMLA acquired Schroder Life Assurance Limited (NMSL) which transacted almost entirely unit-linked business. It was decided to rationalise the operations in the U.K. by transferring the assets and liabilities of NMLA's U.K. branch to the long-term fund of NMSL.

A.1.2 *Structure Adopted*

A closed fund was established for all with-profits policies in force at the date of announcement of the Scheme. Non-profit policies, except for unit-linked, were included in this fund. A separate with-profits fund was established for policies written after the announcement date and prior to the effective date of the Scheme, and option policies written after the effective date. Surplus in both these with-profits funds is distributable only to policyholders.

NMLA's unit-linked policies and all other policies issued by NMSL were included in a new non-profit fund (the 'other business fund') in which shareholders are entitled to all of the surplus.

A.1.3 *Allocation of Assets to Funds*

The assets transferred to NMSL were allocated between the various funds based on figures calculated at 1 October 1987, with appropriate adjustments to reflect the position as if the Scheme had been in operation since that date.

Assets allocated to the closed fund were based on the mathematical reserves plus £107 million, giving £321 million in total. The remaining net assets of £77 million (including £10 million in respect of unit-linked business) were transferred to the other business fund. The part representing the unit-linked liabilities was transferred directly to the long-term fund. The balance of £67 million was used to recapitalise NMSL by way of a capital contribution to the shareholders' funds, and was then transferred to the other business fund. Other than investment income or gains, no part of the assets representing the capital contribution can be transferred back to the shareholder funds for a period of 5 years.

No assets were allocated initially to the new with-profits fund.

A.1.4 *Future Bonuses and Guarantees*

A special reversionary bonus of 25% of attaching reversionary bonuses was allocated to NMLA with-profits policies and future rates of reversionary bonus were guaranteed to be the same as those at 30 September 1987, for the next

3 years, subject to there being no highly material adverse change in investment conditions. Certain bonus guarantees were also given to NMSL with-profits policies for 10 years.

The closed fund has its own separately identified assets. It will not be charged with any new business expenses, and other expenses cannot exceed certain maxima laid down in the Scheme.

A.1.5 *Policyholders' Reasonable Expectations*

The actuaries considered that the safe-guarding of reasonable expectations could best be achieved by the establishment of a closed fund, and, indeed, the terms of the Scheme were such that they would be enhanced.

The question as to how much should be put into the closed fund to meet reasonable expectations was, we understand, determined primarily on the basis of a prospective approach. Projections were carried out on various different bases to ensure that policyholders could expect to be at least as well off after the transfer as before.

A.1.6 *Rights to Surplus Assets*

A key aspect of the transaction was the extent of U.K. policyholders' rights to the surplus in the U.K. fund. The independent actuary mentions this in his report and refers to legal advice "that policy ownership does not of itself confer entitlement to this surplus". He, therefore, limits his role to ensuring that "the amount of the closed fund is at least sufficient to pay bonuses to the transferring NMLA with-profits policyholders at the levels which they could have expected if there had been no transfer."

A.2 *Pioneer Mutual*

A.2.1 *Background*

Pioneer Mutual (PM) was a U.K. mutual insurance company, with subsidiaries in general insurance broking, personal finance and estate agency. Its life assurance business was distributed primarily through a direct salesforce.

In 1989, the company's working capital was reduced to such a level that it found itself restricted as to the level of new business it could write. This situation was caused by a requirement to inject £7.5 million of capital into its finance company subsidiary during the year.

At 31 December 1989, the Company's returns to the DTI showed a deficit of £2.1 million in the OB fund, after setting up a mismatch reserve of £3.0 million. In order to demonstrate solvency at that date, £12 million credit was taken for the implicit value of future profits.

A.2.2 *Scheme Adopted*

The principal conditions of the Scheme were as follows:

—A new life insurance company, Swiss Pioneer Life (SPL) was set up as a wholly owned subsidiary of PM.

—Following approval from the DTI, Industrial Assurance Commissioners (IAC) and the policyholders, all of the assets and liabilities of PM were transferred to SPL via Section 49 of the Insurance Companies Act. Similar approval was obtained in respect of the Irish Business.
—Swiss Life purchased SPL from PM for a nominal amount and, at the same time, subscribed approximately £15 million for new equity in SPL.
—Of the £15 million, £3 million was retained as shareholders' funds, while the remaining £12 million was injected into the long-term fund of SPL.
—PM will be dissolved by order of the High Court.

Within SPL, the IB fund (which within PM had been closed to new business since 1982) remained closed. The OB fund, however, remained open to new business, both with-profits and unit-linked. The shareholders' interest in both funds was limited to a maximum of 10% of all surplus distributed, that is on both existing and new business. It was explicitly stated that there was no current intention to set up a separate 100% shareholder fund or sub-fund.

A.2.3 *Policyholder Compensation*

The report of PM's Appointed Actuary indicates that the £12 million injection into SPL's long-term fund represented "compensation to the with-profits policyholders of PM at the effective date of the Scheme for relinquishing a share in future distributed surplus and to the members of PM for the loss of their rights as members". £1.1 million of this will be used to provide a special reversionary bonus to with-profits policyholders, approximating to 25% of the reversionary bonus paid at 31 December 1990.

The £12 million was made up as follows:

	Paid into OB Fund	Paid into IB Fund	Total
Embedded Value	6·4	1·3	7·7
Goodwill	4·2	0·1	4·3
Total	10·6	1·4	12·0

The embedded value of £7.7 million was based on a projection of the in-force business under 'going concern' investment assumptions and bonus assumptions which resulted in the exhaustion of the long-term fund after making all future payments. As well as policy benefits, these payments included the cost of maximum shareholder transfers and the additional tax payable as a result of the company's proprietary status.

The projected shareholder transfers were then discounted at the net earned rate of interest assumed, and the resulting embedded value was then increased by one-ninth, to allow for the future benefit which would automatically accrue to shareholders from an injection into the fund. Finally, the value of the additional tax payable as a result of proprietary status was added, to give the figure of £7.7 million.

The goodwill element of £4.3 million represented the balancing item in the negotiated £12.0 million injection. It was considered primarily attributable to with-profits policyholders, recognising the value of the infrastructure of PM, deemed to have been built up from their contributions over the years. It was also considered to be compensation for the costs of the demutualisation, and to provide a source of working capital to cover new business strain.

The £4.3 million was to be utilised as follows:

	Paid into OB Fund	Paid into IB Fund	Total
Cost of special reversionary bonus	1·0	0·1	1·1
Expenses of demutualisation	1·0	-	1·0
Working capital	2·2	—	2·2
Total	4·2	0·1	4·3

It was commented that PM's non-profit policyholders would benefit from enhanced security within SPL, and that this provided compensation for the loss of their membership rights. No explicit compensation was offered.

A.2.4 *Policyholders' Reasonable Expectations*

The expectations of PM's with-profits policyholders are to be protected through the use of asset share calculations in determining future bonuses. However, because historic records did not enable the calculation of asset shares at the date of the Scheme's implementation, they were determined as follows:

—Policyholders' future bonus expectations were determined by performing a bonus reserve valuation on a 'closed fund' basis, with future bonus rates set to equate valuation liabilities with assets available. The closed fund basis allowed for expected closure costs, and an overall reduction in net investment return of around 0·25%, resulting from a gradual switch from equity to fixed interest investments.

—Aggregate asset shares were equated to the bonus reserve valuation liability, using the bonus expectations determined above, but with a going concern investment assumption.

The bonus reserve valuation was in fact performed at 31 December 1988 and the asset shares rolled forward to the Scheme implementation date.

After implementation of the Scheme, the asset shares of the transferring with-profits policyholders are to be rolled up without allowance for the cost of shareholders' transfers, nor for any additional tax payable as a result of the company's proprietary status.

It is intended that the same reversionary bonus scale be maintained for both transferring and new policyholders, and that the differences in the asset share methodology for the two categories be reflected in the terminal bonus scales.

A.3 *FS Assurance*

A.3.1 *Background*

FS Assurance (FS) was a mutual insurance company, writing life and a small

amount of general business, with subsidiaries in investment management and mortgage lending. Prior to the Financial Services Act (FSA) its life business was distributed primarily through independent intermediaries.

Following the FSA, new business levels (particularly on mortgage endowments), were falling in spite of an attempt to develop tied agent distribution in 1988. The need for distribution and for capital to fund expansion led the company to review its future options.

A.3.2 *Scheme Adopted*

The principal conditions of the Scheme were as follows:

—A new life insurance company, Britannia Life (BL) was set up as a wholly owned subsidiary of FS.
—Following DTI, Building Society Commission and membership approval, BL was sold to Britannia for a nominal amount.
—Britannia then subscribed approximately £14 million for new equity in BL, all of which was injected into the long-term fund.
—The long-term assets and liabilities of FS were finally transferred to BL.

Prior to these transactions, Britannia had purchased 49% of the equity of FS Investment Managers Limited from FS for £1m. The remaining 51% was transferred to BL as part of the long-term assets.

The general business assets and liabilities of FS were retained within FS. Its subsidiary, the Northern Mortgage Corporation, was sold prior to the Scheme being effected and the proceeds paid into the long-term fund. Within BL, the long-term fund was to remain open to new business. The shareholders' interest was limited to 10% of surplus distributed.

A.3.3 *Policyholder/Member Compensation*

Compensation consisted of a £14 million injection into the long-term fund of BL. The embedded value element of £12.25 million was based on a projection of the in-force business using going concern experience assumptions, the continuation of existing reversionary bonus rates and terminal bonuses set at a level so as to exhaust the long-term fund after allowing for maximum shareholder transfers.

The shareholder transfers in the projection were discounted at a risk discount rate of 12·5%, and the resulting embedded value was increased by one-ninth to allow for the future benefit which would automatically accrue to shareholders from an injection into the fund. This gave the final figure of £12.25 million.

In practice, the calculations were performed as at 31 December 1988 and adjusted up to the Scheme implementation date of 31 December 1989.

The goodwill element of £1.75 million represented the balancing item of the total injection. It was to be distributed immediately to with-profits policyholders by a special reversionary bonus of 5% of attaching bonuses. The cost of this was expected to match closely the amount of the payment. Shareholders were not entitled to a share of this distribution.

A.3.4 *Policyholders' Reasonable Expectations*

The expectations of FS's with-profits policyholders are to be protected through the use of asset share calculations in determining future bonuses. However, because historic records did not enable the calculation of asset shares at the date of the Scheme's implementation, they were set equal to the bonus reserve valuation liabilities implied by the projection described in Section A.3.3, but without any allowance for terminal bonuses. That projection had allowed for the continuation of existing reversionary bonus levels.

As for the embedded value the initial asset share calculations were carried out at 31 December 1988 and rolled forward to 31 December 1989 when the Scheme was implemented.

After implementation of the Scheme, the asset shares of the transferring with-profits policyholders are to be rolled-up without allowance for the cost of shareholder transfers.

It is intended that the same reversionary bonus scale be maintained for both transferring and new policyholders, and that the differences in the asset share methodology for the two categories be reflected in the terminal bonus scale.

APPENDIX B

DESCRIPTION OF COMPUTER MODEL

B.1 *General*

The computer model was developed to represent a typical mutual life assurance fund writing entirely with-profits endowment assurance business. For simplicity, with-profits pensions business and all non-profit business have been excluded.

The model was constructed by analysing past new business statistics and adopting a pattern of new business in each year consistent with that experienced by the industry as a whole for non-linked ordinary life business. The business was further split between terms of 10 years (20%), 15 years (10%), 20 years (10%) and 25 years (60%), and allowance was made for policies which would have matured or lapsed. The business in force at 31 December 1989 was analysed by year of entry and quinquennial term. The premiums in force at the end of 1989 were assumed to be:

Year of Entry	In-Force Premium £000s	Year of Entry	In-Force Premium £000s	Year of Entry	In-Force Premium £000s
1965	2	1975	9	1985	68
1966	2	1976	12	1986	111
1967	2	1977	16	1987	124
1968	3	1978	20	1988	163
1969	3	1979	23	1989	139
1970	3	1980	33		
1971	4	1981	39		
1972	5	1982	44		
1973	6	1983	87		
1974	7	1984	75		
				Total	1,000

The model calculates the accumulated surplus in respect of those policies currently in-force at the valuation date, including accumulated profits or losses on policies which have been surrendered prior to the valuation date. The sum of the accumulated surplus plus the statutory reserves represents the accumulated asset shares for policies in-force, but excludes any contribution to (or from) the estate on policies which have previously matured. The asset shares include an allowance for surrender profits. The prospective projections accumulate the current surplus from the valuation date forward, and allow fully for profits or losses on contracts becoming claims after the valuation date.

The model makes no allowance for any residual assets in excess of the aggregate asset shares of the policies currently in-force. This is equivalent to a revolving fund model.

B.2 *Model Points*

The following model points were used:

Year of Entry	Term	Age	Premium	Sum Assured
65–69	25	30	72	1,630
70–74	25	30	96	2,174
70–74	20	35	96	1,705
75–79	25	30	204	4,620
75–79	20	35	204	3,623
75–79	15	40	204	2,679
80–84	25	30	360	8,153
80–84	20	35	360	6,393
80–84	15	40	360	4,727
80–84	10	45	360	3,197
85–89	25	30	480	10,871
85–89	20	35	480	8,524
85–89	15	40	480	6,303
85–89	10	45	480	4,262

B.3 *Assumptions*

		Interest (%)	Inflation (%)
Economic:	1965–1979	8·5 net	13
	1980–1989 reducing to 1993+	10·4 net	7 6

Mortality: 80%, A67/70 Select + AIDS Basis V

Lapses:

Year:	1	2	3	4	5	6+
	5%	8%	7%	6%	5%	4%

Expenses: LAUTRO indemnity commission rates plus the following acquisition costs as a % of premium:

Term:	10	15	20	25
% of Premium:	33	50	65	79

Renewal: £15 per policy in 1989
$2\frac{1}{2}$% commission

Investment: 0·1% of funds

Tax relief on expenses: 30% on initial expenses (pre 1990)
25% on renewal expenses

Statutory Reserves: 100% A67/70 Ult at 3%
Zillmer: 3% of Sum Assured

Cash Values: 100% A67/70 Ult at 5.5%
Zillmer: 3·5% of sum assured for terms 20,25
5% of sum assured for terms 10,15
No cash value for 12 months
Cash values include an allowance for up to 90% of terminal bonus

The historic investment returns represent typical average net yields achieved by life offices over the period shown. The future investment returns were derived as follows:

Asset Type	Income (%)	Growth (%)	Total Return (%)	Assumed Proportion (%)
Equity	5·0	7·0	12·35	80
Fixed Interest	10·75	—	10·75	20
Aggregate return:				
Gross	6·1	5·6	12·0	
Net of Tax	4·6	5·5*	10·4	

* Allows for tax on capital gains in excess of 6.5% p.a.

B.4 *Bonus Rates*

Bonus Rates on:	Model A Sum Assured (%)	Model A Existing Bonuses (%)	Model B Sum Assured (%)	Model B Existing Bonuses (%)
Pre 1990	5	5	5	5
1990	4	6.5	4	6.5
1991	4	6.5	3.8	6.2
1992	4	6.5	3.6	5.9
1993	4	6.5	3.4	5.6
1994	4	6.5	3.2	5.3
1995	4	6.5	3.0	5.0

Model A assumes continuation of the 1990 level of bonus rates. Model B assumes a fall in reversionary bonuses to approximately 75% of their current levels, so as to maintain a significant proportion of maturity benefits in the form of terminal bonuses. Terminal bonuses have been determined so as to pay out the full asset shares at maturity.

Terminal bonuses
(as percentage of sum assured and existing bonuses)

Model A					
Year of Entry	Term:	25 (%)	20 (%)	15 (%)	10 (%)
1967		94	—	-	—
1972		111	97	—	—
1977		103	95	86	-
1982		51	46	43	42
1987		25	20	15	11

Model B					
Year of Entry	Term:	25 (%)	20 (%)	15 (%)	10 (%)
1967		96	—	-	-
1972		119	97	—	-
1977		127	104	87	-
1982		80	64	50	42
1987		60	42	28	16

The resulting bonuses at maturity per £1000 of sum assured were as follows:

Bonuses per £1000 Sum Assured

Year of		Model A			Model B		
Entry	Term	RB	TB	Total	RB	TB	Total
65–69	25	2432	3226	5658	2423	3287	5710
70–74	25	2526	3897	6423	2350	3983	6333
75–79	25	2580	3688	6268	2189	4050	6239
80–84	25	2572	1822	4394	1983	2384	4367
85–89	25	2474	869	3343	1720	1638	3358
70–74	20	1678	2584	4262	1671	2578	4249
75–79	20	1717	2575	4292	1585	2676	4261
80–84	20	1711	1247	2958	1424	1551	2975
85–89	20	1639	528	2167	1218	934	2152
75–79	15	1087	1806	2893	1082	1822	2904
80–84	15	1083	896	1979	986	993	1979
85–89	15	1030	305	1335	825	515	1340
80–84	10	624	682	1306	620	681	1301
85–89	10	586	170	756	516	243	759

B.5 *New Business*

The impact of new business was considered by assuming that £140,000 of new annual premiums are written in 1990, increasing by 7% p.a. thereafter. New business was split 75% term 25 years and 25% term 10 years.

Four examples were considered:

1. normal new business: no orphan surplus,
2. normal new business: £500,000 orphan surplus,
3. double new business: no orphan surplus, and
4. double new business: £500,000 orphan surplus.

In examples 2 and 4, we assume the investment reserve is increased by £500,000, representing orphan surplus of 5% of total assets. These examples, therefore, represent a company operated on the entity theory.

Reversionary bonuses were taken as in Model B. Terminal bonuses were determined as follows:

Year of Entry	Term 10 (%)	Term 25 (%)
1992	20	77·5
1995+	22·5	82·5

B.6 *Impact of Shareholders' Transfers*

We consider the impact of shareholder transfers on Model B.

Additional tax of 10% of net shareholder transfers is assumed to be incurred as a result of the higher (35%) tax rate applicable on the shareholders' profits in excess of shareholders' franked investment income.

Model B—Closed Fund

We assume that there is a capital injection of £968,000 into the fund at the start of 1990. This represents the present value of future shareholder transfers discounted at 12½% per annum. The net rate of return on invested assets has to be increased from 10·4% to 10·6% (i.e. by 0·2%) to ensure that future bonuses are supportable at the same level as in the mutual fund.

Model B—Open Fund

We assume that shareholders value the company at £1,500,000, comprising:

Value of in-force	£000s
Shareholders transfers	970
Value of surplus, say	40
	1,010
Value of new business: £49,000	
Goodwill at 10 × new business value	490
Total value	1,500

£1,500,000 is injected into the long-term fund, which already has £500,000 of orphan surplus. The total available assets of £2,000,000 are used in part to provide capital in the fund, and in part to provide special bonuses to members.

Five examples are considered:

5. normal new business: £1,000,000 distributed to members,
6. normal new business: £500,000 distributed to members,
7. double new business: £1,000,000 distributed to members,
8. double new business: £500,000 distributed to members, and
9. as in 5, with an additional 0·6% net investment return.

Examples 5 and 7 distribute an amount equal to the orphan surplus and the payment for goodwill and leave the on-going fund with an initial investment reserve of approximately £3,000,000. In examples 6 and 8 the amount distributed to members is only £500,000, leaving an initial investment reserve of £3,500,000.

The projections show the impact on the free asset position if bonuses are maintained at the levels applicable in a mutual company paying bonuses based on asset shares.

APPENDIX C

MODEL RESULTS

C.1 1989 Valuation Reserves and Free Assets

The model projected the following position at the end of 1989: (£000s)

Number of Contracts	Sums Assured + Bonuses	Annual Premiums Office	Annual Premiums Net	Value of Sums Assured + Bonuses	Value of Net Premiums	Reserves
3,200	24,789	1,000	694	15,731	8,271	7,460

The figures are shown after the declaration of bonuses at the end of 1989. The free asset position is as follows:

	£000s
Total assets	9,490
less Mathematical reserves	7,460
Investment reserves	2,030
Solvency margin	350

Assets are net of tax on capital gains. No allowance has been made for any mismatch reserves. In practice these might amount to 3–4% of reserves, on the assumed asset mix and valuation basis, or about 3% of total assets.

The ratio of free assets, in excess of solvency margins, to total assets, is 18%, or 15% after allowing for mismatch reserves.

C.2 *Long-Term Projections*

Closed fund projections are shown for Model A bonuses and Model B bonuses for the mutual fund, and Model B bonuses for the proprietary fund.

Projections with new business are shown for examples 1, 2, 3 and 4 for the mutual fund, and examples 5, 6, 7, 8 and 9 for the proprietary fund.

Closed Fund — Model A

		1990 £'000	1991 £'000	1992 £'000	1993 £'000	1994 £'000	1995 £'000	1996 £'000	1997 £'000	1998 £'000	1999 £'000	2000 £'000	2001 £'000	2002 £'000
Fund b/f		7,462	8,419	9,308	10,121	10,796	11,464	12,097	12,562	12,918	13,083	13,264	13,596	13,719
INCOME														
Premiums		969	906	849	793	740	692	643	593	539	488	449	417	384
Income and growth		1,270	1,260	1,199	1,207	1,284	1,358	1,422	1,470	1,499	1,518	1,547	1,575	1,580
Transfer from / (to) Investment Reserve		(174)	(56)	74	173	155	121	179	233	316	332	260	398	520
OUTGO														
Claims		892	1,003	1,096	1,285	1,289	1,307	1,541	1,697	1,945	1,912	1,677	2,018	2,278
Commission		12	17	20	20	18	17	16	15	13	12	11	10	10
Expenses		52	52	53	52	52	52	51	50	49	47	46	45	44
Tax		152	149	140	141	152	162	171	178	182	186	190	194	195
Shareholders' transfer		0	0	0	0	0	0	0	0	0	0	0	0	0
Fund c/f		8,419	9,308	10,121	10,796	11,464	12,097	12,562	12,918	13,083	13,264	13,596	13,719	13,676
Investment Reserve b/f		2,030	2,424	2,737	2,944	3,069	3,226	3,435	3,605	3,735	3,792	3,839	3,966	3,960
Net return on Investment Reserve		221	256	282	298	312	330	349	364	373	378	387	393	386
Transfer to / (from) Investment Reserve		174	56	(74)	(173)	(155)	(121)	(179)	(233)	(316)	(332)	(260)	(398)	(520)
Investment Reserve c/f	2,030	2,424	2,737	2,944	3,069	3,226	3,435	3,605	3,735	3,792	3,839	3,966	3,960	3,826
TOTAL assets to cover solvency		2,424	2,737	2,944	3,069	3,226	3,435	3,605	3,735	3,792	3,839	3,966	3,960	3,826
EEC solvency margin		384	416	445	469	492	515	531	542	546	551	562	565	561
(Inv Res — EEC SM) / (Fund + Inv Res)		19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%

Interest rate 10·4%

Closed Fund — Model A

	2003 £'000	2004 £'000	2005 £'000	2006 £'000	2007 £'000	2008 £'000	2009 £'000	2010 £'000	2011 £'000	2012 £'000	2013 £'000	2014 £'000
Fund b/f	13,676	13,372	13,029	12,754	12,259	11,562	9,965	8,686	7,738	6,058	4,168	1,823
INCOME												
Premiums	349	314	284	256	228	194	159	132	105	75	42	12
Income and growth	1,559	1,522	1,488	1,443	1,380	1,245	1,078	953	803	600	353	105
Transfer from / (to) Investment Reserve	673	694	313	394	484	904	702	258	445	493	602	459
OUTGO												
Claims	2,641	2,636	2,130	2,366	2,577	3,749	3,053	2,147	2,910	2,967	3,289	2,384
Commission	9	8	7	6	6	5	4	3	3	2	1	0
Expenses	42	40	38	36	34	30	26	22	19	14	8	2
Tax	193	189	185	180	172	156	135	119	101	75	44	13
Shareholders' transfer	0	0	0	0	0	0	0	0	0	0	0	0
Fund c/f	13,372	13,029	12,754	12,259	11,562	9,965	8,686	7,738	6,058	4,168	1,823	0
Investment Reserve b/f	3,826	3,517	3,154	3,153	3,067	2,878	2,227	1,720	1,629	1,330	950	417
Net return on Investment Reserve	364	331	313	308	295	253	196	166	147	113	68	20
Transfer to / (from) Investment Reserve	(673)	(694)	(313)	(394)	(484)	(904)	(702)	(258)	(445)	(493)	(602)	(459)
Investment Reserve c/f	3,517	3,154	3,153	3,067	2,878	2,227	1,720	1,629	1,330	950	417	(23)
TOTAL assets to cover solvency	3,517	3,154	3,153	3,067	2,878	2,227	1,720	1,629	1,330	950	417	(23)
EEC solvency margin	547	532	519	497	468	403	350	311	243	167	73	0
(Inv Res – EEC SM) / (Fund + Inv Res)	18%	16%	17%	17%	17%	15%	13%	14%	15%	15%	15%	

Interest rate 10·4%

Closed Fund — Model B

		1990 £'000	1991 £'000	1992 £'000	1993 £'000	1994 £'000	1995 £'000	1996 £'000	1997 £'000	1998 £'000	1999 £'000	2000 £'000	2001 £'000	2002 £'000
Fund b/f		7,459	8,406	9,269	10,032	10,621	11,167	11,660	11,964	12,143	12,128	12,125	12,289	12,258
INCOME														
Premiums		969	906	849	793	740	692	643	593	539	488	449	417	384
Income and growth		1,270	1,258	1,193	1,193	1,257	1,317	1,363	1,392	1,401	1,398	1,408	1,416	1,404
Transfer from / (to) Investment Reserve		(177)	(74)	36	107	64	17	67	118	211	241	206	373	519
OUTGO														
Claims		899	1,009	1,103	1,293	1,297	1,307	1,539	1,691	1,935	1,902	1,671	2,010	2,269
Commission		12	17	20	20	18	17	16	15	13	12	11	10	10
Expenses		52	52	53	52	52	52	51	50	48	46	45	44	42
Tax		152	149	139	139	148	157	163	168	170	170	172	173	172
Shareholders' transfer		0	0	0	0	0	0	0	0	0	0	0	0	0
Fund c/f		8,406	9,269	10,032	10,621	11,167	11,660	11,964	12,143	12,128	12,125	12,289	12,258	12,072
Investment Reserve b/f		2,030	2,427	2,759	3,009	3,210	3,477	3,822	4,151	4,459	4,702	4,939	5,237	5,391
Net return on Investment Reserve		221	257	286	308	331	362	395	427	454	478	504	527	535
Transfer to / (from) Investment Reserve		177	74	(36)	(107)	(64)	(17)	(67)	(118)	(211)	(241)	(206)	(373)	(519)
Investment Reserve c/f	2,030	2,427	2,759	3,009	3,210	3,477	3,822	4,151	4,459	4,702	4,939	5,237	5,391	5,407
TOTAL assets to cover solvency		2,427	2,759	3,009	3,210	3,477	3,822	4,151	4,459	4,702	4,939	5,237	5,391	5,407
EEC solvency margin		384	415	441	462	480	497	506	511	507	505	509	506	496
(Inv Res − EEC SM) / (Fund + Inv Res)		19%	19%	20%	20%	20%	21%	23%	24%	25%	26%	27%	28%	28%

Interest rate 10·4%

Closed Fund – Model B

	2003 £'000	2004 £'000	2005 £'000	2006 £'000	2007 £'000	2008 £'000	2009 £'000	2010 £'000	2011 £'000	2012 £'000	2013 £'000	2014 £'000
Fund b/f	12,072	11,649	11,194	10,850	10,320	9,620	8,176	7,014	6,202	4,827	3,301	1,436
INCOME												
Premiums	349	314	284	256	228	194	159	132	105	75	42	12
Income and growth	1,370	1,318	1,273	1,222	1,155	1,030	879	768	642	477	280	83
Transfer from / (to) Investment Reserve	707	746	416	533	659	1,220	974	557	894	971	1,155	873
OUTGO												
Claims	2,632	2,625	2,117	2,350	2,561	3,727	3,037	2,150	2,916	2,975	3,299	2,392
Commission	9	8	7	6	6	5	4	3	3	2	1	0
Expenses	40	38	36	34	32	28	24	21	17	13	7	2
Tax	168	162	157	151	143	128	109	95	80	59	35	10
Shareholders' transfer	0	0	0	0	0	0	0	0	0	0	0	0
Fund c/f	11,649	11,194	10,850	10,320	9,620	8,176	7,014	6,202	4,827	3,301	1,436	0
Investment Reserve b/f	5,407	5,227	4,987	5,069	5,037	4,870	4,094	3,496	3,274	2,675	1,932	918
Net return on Investment Reserve	527	506	498	501	491	444	376	336	295	228	141	50
Transfer to / (from) Investment Reserve	(707)	(746)	(416)	(533)	(659)	(1,220)	(974)	(557)	(894)	(971)	(1,155)	(873)
Investment Reserve c/f	5,227	4,987	5,069	5,037	4,870	4,094	3,496	3,274	2,675	1,932	918	96
TOTAL assets to cover solvency	5,227	4,987	5,069	5,037	4,870	4,094	3,496	3,274	2,675	1,932	918	96
EEC solvency margin	477	457	442	419	390	331	283	250	194	132	58	0
(Inv Res – EEC SM) / (Fund + Inv Res)	28%	28%	29%	30%	31%	31%	31%	32%	33%	34%	37%	

Interest rate 10·4%

Closed Fund — Model B with shareholders' transfers

		1990 £'000	1991 £'000	1992 £'000	1993 £'000	1994 £'000	1995 £'000	1996 £'000	1997 £'000	1998 £'000	1999 £'000	2000 £'000	2001 £'000	2002 £'000
Fund b/f		7,459	8,406	9,269	10,032	10,621	11,167	11,660	11,964	12,143	12,128	12,125	12,289	12,258
INCOME														
Premiums		969	906	849	793	740	692	643	593	539	488	449	417	384
Income and growth		1,292	1,281	1,214	1,214	1,280	1,340	1,388	1,416	1,426	1,423	1,433	1,441	1,429
Transfer from / (to) Investment Reserve		(79)	25	138	211	163	111	167	223	325	355	313	498	659
OUTGO														
Claims		899	1,009	1,103	1,293	1,297	1,307	1,539	1,691	1,935	1,902	1,671	2,010	2,269
Commission		12	17	20	20	18	17	16	15	13	12	11	10	10
Expenses		52	52	53	52	52	52	51	50	48	46	45	44	42
Tax		163	160	150	150	159	168	174	180	183	183	184	187	187
Shareholders' transfer		109	111	112	114	111	107	113	118	126	126	120	136	150
Fund c/f		8,406	9,269	10,032	10,621	11,167	11,660	11,964	12,143	12,128	12,125	12,289	12,258	12,072
Investment Reserve b/f	2,030	2,998	3,400	3,734	3,985	4,185	4,457	4,813	5,148	5,459	5,697	5,928	6,227	6,364
Net return on Investment Reserve		322	360	389	412	436	467	502	535	562	586	613	635	641
Transfer to / (from) Investment Reserve	968	79	(25)	(138)	(211)	(163)	(111)	(167)	(223)	(325)	(355)	(313)	(498)	(659)
Investment Reserve c/f	2,998	3,400	3,734	3,985	4,185	4,457	4,813	5,148	5,459	5,697	5,928	6,227	6,364	6,346
TOTAL assets to cover solvency		3,400	3,734	3,985	4,185	4,457	4,813	5,148	5,459	5,697	5,928	6,227	6,364	6,346
EEC solvency margin		384	415	441	462	480	497	506	511	507	505	509	506	496
(Inv Res − EEC SM) / (Fund + Inv Res)		26%	26%	25%	25%	25%	26%	27%	28%	29%	30%	31%	31%	32%

Interest rate 10·6%

Closed Fund – Model B with shareholders' transfers

	2003 £'000	2004 £'000	2005 £'000	2006 £'000	2007 £'000	2008 £'000	2009 £'000	2010 £'000	2011 £'000	2012 £'000	2013 £'000	2014 £'000
Fund b/f	12,072	11,649	11,194	10,850	10,320	9,620	8,176	7,014	6,202	4,827	3,301	1,436
INCOME												
Premiums	349	314	284	256	228	194	159	132	105	75	42	12
Income and growth	1,394	1,341	1,295	1,244	1,176	1,048	894	781	654	485	285	84
Transfer from / (to) Investment Reserve	866	905	531	658	793	1,416	1,133	659	1,030	1,109	1,308	983
OUTGO												
Claims	2,632	2,625	2,117	2,350	2,561	3,727	3,037	2,150	2,916	2,975	3,299	2,392
Commission	9	8	7	6	6	5	4	3	3	2	1	0
Expenses	40	38	36	34	32	28	24	21	17	13	7	2
Tax	185	179	170	164	157	148	125	106	93	72	49	20
Shareholders' transfer	166	166	125	133	141	195	158	105	134	133	143	101
Fund c/f	11,649	11,194	10,850	10,320	9,620	8,176	7,014	6,202	4,827	3,301	1,436	0
Investment Reserve b/f	6,346	6,107	5,802	5,859	5,788	5,567	4,667	3,970	3,697	3,005	2,156	1,008
Net return on Investment Reserve	628	600	588	587	572	516	435	386	338	260	159	55
Transfer to / (from) Investment Reserve	(866)	(905)	(531)	(658)	(793)	(1,416)	(1,133)	(659)	(1,030)	(1,109)	(1,308)	(983)
Investment Reserve c/f	6,107	5,802	5,859	5,788	5,567	4,667	3,970	3,697	3,005	2,156	1,008	80
TOTAL assets to cover solvency	6,107	5,802	5,859	5,788	5,567	4,667	3,970	3,697	3,005	2,156	1,008	80
EEC solvency margin	477	457	442	419	390	331	283	250	194	132	58	0
(Inv Res – EEC SM) / (Fund + Inv Res)	32%	31%	32%	33%	34%	34%	34%	35%	36%	37%	39%	

Interest rate 10·6%

Open Fund — Model B *Example 1*

		1990 £'000	1991 £'000	1992 £'000	1993 £'000	1994 £'000	1995 £'000	1996 £'000	1997 £'000	1998 £'000	1999 £'000	2000 £'000	2001 £'000	2002 £'000
Fund b/f		7,459	8,439	9,441	10,475	11,461	12,538	13,697	14,807	15,944	17,051	18,322	19,706	21,051
INCOME														
Premiums		1,043	1,117	1,197	1,279	1,367	1,464	1,566	1,674	1,784	1,905	2,036	2,174	2,320
Income and growth		1,271	1,269	1,227	1,267	1,385	1,514	1,645	1,776	1,905	2,041	2,196	2,353	2,510
Transfer from / (to) Investment Reserve		(87)	(9)	100	157	98	25	37	50	103	90	52	176	274
OUTGO														
Claims		900	1,014	1,119	1,327	1,352	1,387	1,647	1,834	2,119	2,160	2,251	2,662	3,004
Commission		90	98	105	113	119	128	137	147	157	168	179	192	206
Expenses		149	160	174	185	199	214	229	245	262	280	300	322	343
Tax		108	103	92	92	103	115	125	137	147	157	170	182	194
Shareholders' transfer		0	0	0	0	0	0	0	0	0	0	0	0	0
Fund c/f		8,439	9,441	10,475	11,461	12,538	13,697	14,807	15,944	17,051	18,322	19,706	21,051	22,408
Investment Reserve b/f		2,030	2,333	2,585	2,750	2,871	3,067	3,360	3,672	4,002	4,311	4,666	5,097	5,444
Net return on Investment Reserve		216	244	264	279	294	319	349	380	412	445	484	522	554
Transfer to / (from) Investment Reserve		87	9	(100)	(157)	(98)	(25)	(37)	(50)	(103)	(90)	(52)	(176)	(274)
Investment Reserve c/f	2,030	2,333	2,585	2,750	2,871	3,067	3,360	3,672	4,002	4,311	4,666	5,097	5,444	5,723
TOTAL assets to cover solvency		2,333	2,585	2,750	2,871	3,067	3,360	3,672	4,002	4,311	4,666	5,097	5,444	5,723
EEC solvency margin		393	438	482	527	574	625	674	726	775	833	894	956	1,017
(Inv Res − EEC SM) / (Fund + Inv Res)		18%	18%	17%	16%	16%	16%	16%	16%	17%	17%	17%	17%	17%

Interest rate 10·4%

Open Fund — Model B *Example 1*

	2003 £'000	2004 £'000	2005 £'000	2006 £'000	2007 £'000	2008 £'000	2009 £'000	2010 £'000	2011 £'000	2012 £'000	2013 £'000	2014 £'000	2015 £'000
Fund b/f	22,408	23,705	25,157	26,926	28,723	30,579	31,935	33,832	36,358	38,617	41,042	43,464	46,532
INCOME													
Premiums	2,475	2,641	2,823	3,020	3,231	3,451	3,686	3,946	4,224	4,518	4,831	5,170	5,534
Income and growth	2,663	2,821	3,008	3,213	3,428	3,611	3,798	4,055	4,331	4,602	4,880	5,198	5,562
Transfer from / (to) Investment Reserve	408	389	9	64	123	617	302	(186)	77	86	198	(36)	280
OUTGO													
Claims	3,459	3,557	3,170	3,537	3,897	5,230	4,727	4,048	5,047	5,366	5,980	5,654	6,423
Commission	220	235	252	269	288	308	330	352	377	403	431	461	494
Expenses	366	392	420	450	481	514	550	589	629	674	720	771	825
Tax	204	215	229	244	260	271	282	300	320	338	356	378	405
Shareholders' transfer	0	0	0	0	0	0	0	0	0	0	0	0	0
Fund c/f	23,705	25,157	26,926	28,723	30,579	31,935	33,832	36,358	38,617	41,042	43,464	46,532	49,761
Investment Reserve b/f	5,723	5,891	6,096	6,722	7,356	7,994	8,178	8,712	9,817	10,759	11,792	12,813	14,188
Net return on Investment Reserve	576	594	635	698	761	802	837	918	1,020	1,118	1,220	1,338	1,465
Transfer to / (from) Investment Reserve	(408)	(389)	(9)	(64)	(123)	(617)	(302)	186	(77)	(86)	(198)	36	(280)
Investment Reserve c/f	5,891	6,096	6,722	7,356	7,994	8,178	8,712	9,817	10,759	11,792	12,813	14,188	15,373
TOTAL assets to cover solvency	5,891	6,096	6,722	7,356	7,994	8,178	8,712	9,817	10,759	11,792	12,813	14,188	15,373
EEC solvency margin	1,077	1,144	1,224	1,306	1,391	1,457	1,545	1,660	1,764	1,876	1,990	2,130	2,278
(Inv Res — EEC SM) / (Fund + Inv Res)	16%	16%	16%	17%	17%	17%	17%	18%	18%	19%	19%	20%	20%

Interest rate 10·4%

Open Fund — Model B *Example 2*

		1990 £'000	1991 £'000	1992 £'000	1993 £'000	1994 £'000	1995 £'000	1996 £'000	1997 £'000	1998 £'000	1999 £'000	2000 £'000	2001 £'000	2002 £'000
Fund b/f		7,459	8,439	9,441	10,475	11,461	12,538	13,697	14,807	15,944	17,051	18,322	19,706	21,051
INCOME														
Premiums		1,043	1,117	1,197	1,279	1,367	1,464	1,566	1,674	1,784	1,905	2,036	2,174	2,320
Income and growth		1,271	1,269	1,227	1,267	1,385	1,514	1,645	1,776	1,905	2,041	2,196	2,353	2,510
Transfer from / (to) Investment Reserve		(87)	(9)	100	157	98	25	37	50	103	90	52	176	274
OUTGO														
Claims		900	1,014	1,119	1,327	1,352	1,387	1,647	1,834	2,119	2,160	2,251	2,662	3,004
Commission		90	98	105	113	119	128	137	147	157	168	179	192	206
Expenses		149	160	174	185	199	214	229	245	262	280	300	322	343
Tax		108	103	92	92	103	115	125	137	147	157	170	182	194
Shareholders' transfer		0	0	0	0	0	0	0	0	0	0	0	0	0
Fund c/f		8,439	9,441	10,475	11,461	12,538	13,697	14,807	15,944	17,051	18,322	19,706	21,051	22,408
Investment Reserve b/f	2,030	2,530	2,885	3,195	3,423	3,614	3,888	4,267	4,673	5,108	5,532	6,014	6,586	7,088
Net return on Investment Reserve		268	301	328	349	372	404	443	485	527	572	625	678	725
Transfer to / (from) Investment Reserve	500	87	9	(100)	(157)	(98)	(25)	(37)	(50)	(103)	(90)	(52)	(176)	(274)
Investment Reserve c/f	2,530	2,885	3,195	3,423	3,614	3,888	4,267	4,673	5,108	5,532	6,014	6,586	7,088	7,539
TOTAL assets to cover solvency		2,885	3,195	3,423	3,614	3,888	4,267	4,673	5,108	5,532	6,014	6,586	7,088	7,539
EEC solvency margin		393	438	482	527	574	625	674	726	775	833	894	956	1,017
(Inv Res — EEC SM) / (Fund + Inv Res)		22%	22%	21%	20%	20%	20%	21%	21%	21%	21%	22%	22%	22%

Interest rate 10.4%

Open Fund – Model B *Example 2*

	2003 £'000	2004 £'000	2005 £'000	2006 £'000	2007 £'000	2008 £'000	2009 £'000	2010 £'000	2011 £'000	2012 £'000	2013 £'000	2014 £'000	2015 £'000
Fund b/f	22,408	23,705	25,157	26,926	28,723	30,579	31,935	33,832	36,358	38,617	41,042	43,464	46,532
INCOME													
Premiums	2,475	2,641	2,823	3,020	3,231	3,451	3,686	3,946	4,224	4,518	4,831	5,170	5,534
Income and growth	2,663	2,821	3,008	3,213	3,428	3,611	3,798	4,055	4,331	4,602	4,880	5,198	5,562
Transfer from / (to) Investment Reserve	408	389	9	64	123	617	302	(186)	77	86	198	(36)	280
OUTGO													
Claims	3,459	3,557	3,170	3,537	3,897	5,230	4,727	4,048	5,047	5,366	5,980	5,654	6,423
Commission	220	235	252	269	288	308	330	352	377	403	431	461	494
Expenses	366	392	420	450	481	514	550	589	629	674	720	771	825
Tax	204	215	229	244	260	271	282	300	320	338	356	378	405
Shareholders' transfer	0	0	0	0	0	0	0	0	0	0	0	0	0
Fund c/f	23,705	25,157	26,926	28,723	30,579	31,935	33,832	36,358	38,617	41,042	43,464	46,532	49,761
Investment Reserve b/f	7,539	7,897	8,311	9,168	10,056	10,976	11,471	12,349	13,833	15,194	16,689	18,222	20,160
Net return on Investment Reserve	765	803	866	953	1,042	1,113	1,181	1,298	1,439	1,580	1,730	1,902	2,088
Transfer to / (from) Investment Reserve	(408)	(389)	(9)	(64)	(123)	(617)	(302)	186	(77)	(86)	(198)	36	(280)
Investment Reserve c/f	7,897	8,311	9,168	10,056	10,976	11,471	12,349	13,833	15,194	16,689	18,222	20,160	21,969
TOTAL assets to cover solvency	7,897	8,311	9,168	10,056	10,976	11,471	12,349	13,833	15,194	16,689	18,222	20,160	21,969
EEC solvency margin	1,077	1,144	1,224	1,306	1,391	1,457	1,545	1,660	1,764	1,876	1,990	2,130	2,278
(Inv Res – EEC SM) / (Fund + Inv Res)	22%	21%	22%	23%	23%	23%	23%	24%	25%	26%	26%	27%	27%

Interest rate 10·4%

Open Fund — Model B with double new business *Example 3*

		1990 £'000	1991 £'000	1992 £'000	1993 £'000	1994 £'000	1995 £'000	1996 £'000	1997 £'000	1998 £'000	1999 £'000	2000 £'000	2001 £'000	2002 £'000
Fund b/f		7,459	8,472	9,613	10,918	12,301	13,909	15,734	17,650	19,745	21,974	24,519	27,123	29,844
INCOME														
Premiums		1,117	1,328	1,545	1,765	1,994	2,236	2,489	2,755	3,029	3,322	3,623	3,931	4,256
Income and growth		1,272	1,279	1,261	1,340	1,512	1,711	1,927	2,159	2,409	2,685	2,983	3,290	3,616
Transfer from / (to) Investment Reserve		3	57	164	208	133	33	7	(17)	(5)	(62)	(101)	(21)	29
OUTGO														
Claims		901	1,019	1,135	1,361	1,407	1,467	1,755	1,977	2,303	2,418	2,831	3,314	3,739
Commission		168	179	190	206	220	239	258	279	301	324	347	374	402
Expenses		246	268	295	318	346	376	407	440	476	514	555	600	644
Tax		64	57	45	45	58	73	87	106	124	144	168	191	216
Shareholders' transfer		0	0	0	0	0	0	0	0	0	0	0	0	0
Fund c/f		8,472	9,613	10,918	12,301	13,909	15,734	17,650	19,745	21,974	24,519	27,123	29,844	32,744
Investment Reserve b/f		2,030	2,238	2,411	2,491	2,532	2,656	2,898	3,193	3,544	3,919	4,392	4,957	5,497
Net return on Investment Reserve		212	230	243	249	257	275	302	334	370	412	463	518	572
Transfer to / (from) Investment Reserve		(3)	(57)	(164)	(208)	(133)	(33)	(7)	17	5	62	101	21	(29)
Investment Reserve c/f	2,030	2,238	2,411	2,491	2,532	2,656	2,898	3,193	3,544	3,919	4,392	4,957	5,497	6,039
TOTAL assets to cover solvency		2,238	2,411	2,491	2,532	2,656	2,898	3,193	3,544	3,919	4,392	4,957	5,497	6,039
EEC solvency margin		402	461	523	592	668	753	842	941	1,043	1,161	1,279	1,406	1,538
(Inv Res − EEC SM) / (Fund + Inv Res)		17%	16%	15%	13%	12%	12%	11%	11%	11%	11%	11%	12%	12%

Interest rate 10·4%

Open Fund – Model B with double new business *Example 3*

	2003 £'000	2004 £'000	2005 £'000	2006 £'000	2007 £'000	2008 £'000	2009 £'000	2010 £'000	2011 £'000	2012 £'000	2013 £'000	2014 £'000	2015 £'000
Fund b/f	32,744	35,761	39,120	43,002	47,126	51,538	55,694	60,650	66,514	72,407	78,783	85,492	93,064
INCOME													
Premiums	4,601	4,968	5,362	5,784	6,234	6,708	7,213	7,760	8,343	8,961	9,620	10,328	11,068
Income and growth	3,957	4,324	4,743	5,203	5,700	6,191	6,716	7,343	8,019	8,728	9,481	10,314	11,124
Transfer from / (to) Investment Reserve	108	32	(398)	(404)	(412)	15	(369)	(930)	(739)	(800)	(760)	(946)	560
OUTGO													
Claims	4,286	4,489	4,223	4,724	5,233	6,733	6,417	5,946	7,178	7,757	8,661	8,916	12,846
Commission	431	462	497	532	570	611	656	701	751	804	861	922	988
Expenses	692	746	804	866	930	1,000	1,076	1,157	1,241	1,335	1,433	1,540	1,650
Tax	240	268	301	337	377	414	455	505	560	617	677	746	810
Shareholders' transfer	0	0	0	0	0	0	0	0	0	0	0	0	0
Fund c/f	35,761	39,120	43,002	47,126	51,538	55,694	60,650	66,514	72,407	78,783	85,492	93,064	99,522
Investment Reserve b/f	6,039	6,556	7,205	8,376	9,675	11,117	12,261	13,929	16,360	18,844	21,651	24,708	28,281
Net return on Investment Reserve	624	682	772	895	1,031	1,159	1,298	1,501	1,745	2,007	2,298	2,626	2,920
Transfer to / (from) Investment Reserve	(108)	(32)	398	404	412	(15)	369	930	739	800	760	946	(560)
Investment Reserve c/f	6,556	7,205	8,376	9,675	11,117	12,261	13,929	16,360	18,844	21,651	24,708	28,281	30,641
TOTAL assets to cover solvency	6,556	7,205	8,376	9,675	11,117	12,261	13,929	16,360	18,844	21,651	24,708	28,281	30,641
EEC solvency margin	1,677	1,831	2,006	2,193	2,392	2,583	2,807	3,070	3,334	3,620	3,922	4,260	4,556
(Inv Res – EEC SM) / (Fund + Inv Res)	12%	12%	12%	13%	14%	14%	15%	16%	17%	18%	19%	20%	20%

Interest rate 10·4%

Open Fund — Model B with double new business *Example 4*

		1990 £'000	1991 £'000	1992 £'000	1993 £'000	1994 £'000	1995 £'000	1996 £'000	1997 £'000	1998 £'000	1999 £'000	2000 £'000	2001 £'000	2002 £'000
Fund b/f		7,459	8,472	9,613	10,918	12,301	13,909	15,734	17,650	19,745	21,974	24,519	27,123	29,844
INCOME														
Premiums		1,117	1,328	1,545	1,765	1,994	2,236	2,489	2,755	3,029	3,322	3,623	3,931	4,256
Income and growth		1,272	1,279	1,261	1,340	1,512	1,711	1,927	2,159	2,409	2,685	2,983	3,290	3,616
Transfer from / (to) Investment Reserve		3	57	164	208	133	33	7	(17)	(5)	(62)	(101)	(21)	29
OUTGO														
Claims		901	1,019	1,135	1,361	1,407	1,467	1,755	1,977	2,303	2,418	2,831	3,314	3,739
Commission		168	179	190	206	220	239	258	279	301	324	347	374	402
Expenses		246	268	295	318	346	376	407	440	476	514	555	600	644
Tax		64	57	45	45	58	73	87	106	124	144	168	191	216
Shareholders' transfer		0	0	0	0	0	0	0	0	0	0	0	0	0
Fund c/f		8,472	9,613	10,918	12,301	13,909	15,734	17,650	19,745	21,974	24,519	27,123	29,844	32,744
Investment Reserve b/f	2,030	2,530	2,790	3,021	3,164	3,275	3,477	3,805	4,194	4,650	5,140	5,741	6,446	7,141
Net return on Investment Reserve		264	288	307	319	335	361	396	438	485	539	604	673	743
Transfer to / (from) Investment Reserve	500	(3)	(57)	(164)	(208)	(133)	(33)	(7)	17	5	62	101	21	(29)
Investment Reserve c/f	2,530	2,790	3,021	3,164	3,275	3,477	3,805	4,194	4,650	5,140	5,741	6,446	7,141	7,855
TOTAL assets to cover solvency		2,790	3,021	3,164	3,275	3,477	3,805	4,194	4,650	5,140	5,741	6,446	7,141	7,855
EEC solvency margin		402	461	523	592	668	753	842	941	1,043	1,161	1,279	1,406	1,538
(Inv Res − EEC SM) / (Fund + Inv Res)		21%	20%	19%	17%	16%	16%	15%	15%	15%	15%	15%	16%	16%

Interest rate 10·4%

Open Fund — Model B with double new business *Example 4*

	2003 £'000	2004 £'000	2005 £'000	2006 £'000	2007 £'000	2008 £'000	2009 £'000	2010 £'000	2011 £'000	2012 £'000	2013 £'000	2014 £'000	2015 £'000
Fund b/f	32,744	35,761	39,120	43,002	47,126	51,538	55,694	60,650	66,514	72,407	78,783	85,492	93,064
INCOME													
Premiums	4,601	4,968	5,362	5,784	6,234	6,708	7,213	7,760	8,343	8,961	9,620	10,328	11,068
Income and growth	3,957	4,324	4,743	5,203	5,700	6,191	6,716	7,343	8,019	8,728	9,481	10,314	11,124
Transfer from / (to) Investment Reserve	108	32	(398)	(404)	(412)	15	(369)	(930)	(739)	(800)	(760)	(946)	560
OUTGO													
Claims	4,286	4,489	4,223	4,724	5,233	6,733	6,417	5,946	7,178	7,757	8,661	8,916	12,846
Commission	431	462	497	532	570	611	656	701	751	804	861	922	988
Expenses	692	746	804	866	930	1,000	1,076	1,157	1,241	1,335	1,433	1,540	1,650
Tax	240	268	301	337	377	414	455	505	560	617	677	746	810
Shareholders' transfer	0	0	0	0	0	0	0	0	0	0	0	0	0
Fund c/f	35,761	39,120	43,002	47,126	51,538	55,694	60,650	66,514	72,407	78,783	85,492	93,064	99,522
Investment Reserve b/f	7,855	8,561	9,420	10,821	12,375	14,100	15,555	17,566	20,376	23,279	26,548	30,117	34,253
Net return on Investment Reserve	814	891	1,003	1,150	1,312	1,470	1,642	1,881	2,164	2,470	2,809	3,190	3,543
Transfer to / (from) Investment Reserve	(108)	(32)	398	404	412	(15)	369	930	739	800	760	946	(560)
Investment Reserve c/f	8,561	9,420	10,821	12,375	14,100	15,555	17,566	20,376	23,279	26,548	30,117	34,253	37,236
TOTAL assets to cover solvency	8,561	9,420	10,821	12,375	14,100	15,555	17,566	20,376	23,279	26,548	30,117	34,253	37,236
EEC solvency margin	1,677	1,831	2,006	2,193	2,392	2,583	2,807	3,070	3,334	3,620	3,922	4,260	4,556
(Inv Res − EEC SM) / (Fund + Inv Res)	16%	16%	16%	17%	18%	18%	19%	20%	21%	22%	23%	24%	24%

Interest rate 10·4%

Open Fund – Model B with shareholders' transfers *Example 5*

		1990 £'000	1991 £'000	1992 £'000	1993 £'000	1994 £'000	1995 £'000	1996 £'000	1997 £'000	1998 £'000	1999 £'000	2000 £'000	2001 £'000	2002 £'000
Fund b/f		7,459	8,439	9,441	10,475	11,461	12,538	13,697	14,807	15,944	17,051	18,322	19,706	21,051
INCOME														
Premiums		1,043	1,117	1,197	1,279	1,367	1,464	1,566	1,674	1,784	1,905	2,036	2,174	2,320
Income and growth		1,271	1,269	1,227	1,267	1,385	1,514	1,645	1,776	1,905	2,041	2,196	2,353	2,510
Transfer from / (to) Investment Reserve		37	123	238	305	249	179	204	231	302	300	272	424	551
OUTGO														
Claims		900	1,014	1,119	1,327	1,352	1,387	1,647	1,834	2,119	2,160	2,251	2,662	3,004
Commission		90	98	105	113	119	128	137	147	157	168	179	192	206
Expenses		149	160	174	185	199	214	229	245	262	280	300	322	343
Tax		119	115	105	105	117	129	140	153	165	176	190	205	219
Shareholders' transfer		112	120	126	134	137	140	152	164	181	191	200	226	252
Fund c/f		8,439	9,441	10,475	11,461	12,538	13,697	14,807	15,944	17,051	18,322	19,706	21,051	22,408
Investment Reserve b/f	2,030	3,030	3,307	3,523	3,639	3,698	3,821	4,032	4,238	4,437	4,581	4,744	4,952	5,022
Net return on Investment Reserve		314	339	355	364	373	389	410	430	447	462	481	494	495
Transfer to / (from) Investment Reserve	1,000	(37)	(123)	(238)	(305)	(249)	(179)	(204)	(231)	(302)	(300)	(272)	(424)	(551)
Investment Reserve c/f	3,030	3,307	3,523	3,639	3,698	3,821	4,032	4,238	4,437	4,581	4,744	4,952	5,022	4,965
TOTAL assets to cover solvency		3,307	3,523	3,639	3,698	3,821	4,032	4,238	4,437	4,581	4,744	4,952	5,022	4,965
EEC solvency margin		393	438	482	527	574	625	674	726	775	833	894	956	1,017
(Inv Res – EEC SM) / (Fund + Inv Res)		25%	24%	22%	21%	20%	19%	19%	18%	18%	17%	16%	16%	14%

Interest rate 10·4%

Open Fund – Model B with shareholders' transfers *Example 5*

	2003 £'000	2004 £'000	2005 £'000	2006 £'000	2007 £'000	2008 £'000	2009 £'000	2010 £'000	2011 £'000	2012 £'000	2013 £'000	2014 £'000	2015 £'000
Fund b/f	22,408	23,705	25,157	26,926	28,723	30,579	31,935	33,832	36,358	38,617	41,042	43,464	46,532
INCOME													
Premiums	2,475	2,641	2,823	3,020	3,231	3,451	3,686	3,946	4,224	4,518	4,831	5,170	5,534
Income and growth	2,663	2,821	3,008	3,213	3,428	3,611	3,798	4,055	4,331	4,602	4,880	5,198	5,562
Transfer from / (to) Investment Reserve	716	713	305	387	474	1,049	716	193	515	552	706	474	865
OUTGO													
Claims	3,459	3,557	3,170	3,537	3,897	5,230	4,727	4,048	5,047	5,366	5,980	5,654	6,423
Commission	220	235	252	269	288	308	330	352	377	403	431	461	494
Expenses	366	392	420	450	481	514	550	589	629	674	720	771	825
Tax	232	244	256	273	292	310	320	335	360	380	402	424	458
Shareholders' transfer	280	294	269	293	319	392	376	345	398	424	462	464	532
Fund c/f	23,705	25,157	26,926	28,723	30,579	31,935	33,832	36,358	38,617	41,042	43,464	46,532	49,761
Investment Reserve b/f	4,965	4,730	4,474	4,619	4,694	4,685	4,071	3,742	3,929	3,796	3,612	3,245	3,085
Net return on Investment Reserve	481	456	451	462	465	434	387	380	383	367	340	314	277
Transfer to / (from) Investment Reserve	(716)	(713)	(305)	(387)	(474)	(1,049)	(716)	(193)	(515)	(552)	(706)	(474)	(865)
Investment Reserve c/f	4,730	4,474	4,619	4,694	4,685	4,071	3,742	3,929	3,796	3,612	3,245	3,085	2,497
TOTAL assets to cover solvency	4,730	4,474	4,619	4,694	4,685	4,071	3,742	3,929	3,796	3,612	3,245	3,085	2,497
EEC solvency margin	1,077	1,144	1,224	1,306	1,391	1,457	1,545	1,660	1,764	1,876	1,990	2,130	2,278
(Inv Res – EEC SM) / (Fund + Inv Res)	13%	11%	11%	10%	9%	7%	6%	6%	5%	4%	3%	2%	0%

Interest rate 10·4%

Open Fund — Model B with shareholders' transfers *Example 6*

		1990 £'000	1991 £'000	1992 £'000	1993 £'000	1994 £'000	1995 £'000	1996 £'000	1997 £'000	1998 £'000	1999 £'000	2000 £'000	2001 £'000	2002 £'000
Fund b/f		7,459	8,439	9,441	10,475	11,461	12,538	13,697	14,807	15,944	17,051	18,322	19,706	21,051
INCOME														
Premiums		1,043	1,117	1,197	1,279	1,367	1,464	1,566	1,674	1,784	1,905	2,036	2,174	2,320
Income and growth		1,271	1,269	1,227	1,267	1,385	1,514	1,645	1,776	1,905	2,041	2,196	2,353	2,510
Transfer from / (to) Investment Reserve		37	123	238	305	249	179	204	231	302	300	272	424	551
OUTGO														
Claims		900	1,014	1,119	1,327	1,352	1,387	1,647	1,834	2,119	2,160	2,251	2,662	3,004
Commission		90	98	105	113	119	128	137	147	157	168	179	192	206
Expenses		149	160	174	185	199	214	229	245	262	280	300	322	343
Tax		119	115	105	105	117	129	140	153	165	176	190	205	219
Shareholders' transfer		112	120	126	134	137	140	152	164	181	191	200	226	252
Fund c/f		8,439	9,441	10,475	11,461	12,538	13,697	14,807	15,944	17,051	18,322	19,706	21,051	22,408
Investment Reserve b/f	2,030	3,530	3,860	4,132	4,312	4,441	4,643	4,938	5,239	5,542	5,802	6,092	6,441	6,666
Net return on Investment Reserve		366	396	419	434	450	475	504	534	562	590	621	650	667
Transfer to / (from) Investment Reserve	1,500	(37)	(123)	(238)	(305)	(249)	(179)	(204)	(231)	(302)	(300)	(272)	(424)	(551)
Investment Reserve c/f	3,530	3,860	4,132	4,312	4,441	4,643	4,938	5,239	5,542	5,802	6,092	6,441	6,666	6,781
TOTAL assets to cover solvency		3,860	4,132	4,312	4,441	4,643	4,938	5,239	5,542	5,802	6,092	6,441	6,666	6,781
EEC solvency margin		393	438	482	527	574	625	674	726	775	833	894	956	1,017
(Inv Res − EEC SM) / (Fund + Inv Res)		28%	27%	26%	25%	24%	23%	23%	22%	22%	22%	21%	21%	20%

Interest rate 10·4%

Open Fund — Model B with shareholders' transfers *Example 6*

	2003 £'000	2004 £'000	2005 £'000	2006 £'000	2007 £'000	2008 £'000	2009 £'000	2010 £'000	2011 £'000	2012 £'000	2013 £'000	2014 £'000	2015 £'000
Fund b/f	22,408	23,705	25,157	26,926	28,723	30,579	31,935	33,832	36,358	38,617	41,042	43,464	46,532
INCOME													
Premiums	2,475	2,641	2,823	3,020	3,231	3,451	3,686	3,946	4,224	4,518	4,831	5,170	5,534
Income and growth	2,663	2,821	3,008	3,213	3,428	3,611	3,798	4,055	4,331	4,602	4,880	5,198	5,562
Transfer from / (to) Investment Reserve	716	713	305	387	474	1,049	716	193	515	552	706	474	865
OUTGO													
Claims	3,459	3,557	3,170	3,537	3,897	5,230	4,727	4,048	5,047	5,366	5,980	5,654	6,423
Commission	220	235	252	269	288	308	330	352	377	403	431	461	494
Expenses	366	392	420	450	481	514	550	589	629	674	720	771	825
Tax	232	244	256	273	292	310	320	335	360	380	402	424	458
Shareholders' transfer	280	294	269	293	319	392	376	345	398	424	462	464	532
Fund c/f	23,705	25,157	26,926	28,723	30,579	31,935	33,832	36,358	38,617	41,042	43,464	46,532	49,761
Investment Reserve b/f	6,781	6,736	6,688	7,065	7,395	7,667	7,364	7,379	7,945	8,231	8,509	8,654	9,058
Net return on Investment Reserve	670	665	682	717	747	745	731	759	802	830	851	878	900
Transfer to / (from) Investment Reserve	(716)	(713)	(305)	(387)	(474)	(1,049)	(716)	(193)	(515)	(552)	(706)	(474)	(865)
Investment Reserve c/f	6,736	6,688	7,065	7,395	7,667	7,364	7,379	7,945	8,231	8,509	8,654	9,058	9,092
TOTAL assets to cover solvency	6,736	6,688	7,065	7,395	7,667	7,364	7,379	7,945	8,231	8,509	8,654	9,058	9,092
EEC solvency margin	1,077	1,144	1,224	1,306	1,391	1,457	1,545	1,660	1,764	1,876	1,990	2,130	2,278
(Inv Res − EEC SM) / (Fund + Inv Res)	19%	17%	17%	17%	16%	15%	14%	14%	14%	13%	13%	12%	12%

Interest rate 10·4%

Open Fund — Model B with shareholders' transfers and double new business *Example 7*

		1990 £'000	1991 £'000	1992 £'000	1993 £'000	1994 £'000	1995 £'000	1996 £'000	1997 £'000	1998 £'000	1999 £'000	2000 £'000	2001 £'000	2002 £'000
Fund b/f		7,459	8,472	9,613	10,918	12,301	13,909	15,734	17,650	19,745	21,974	24,519	27,123	29,844
INCOME														
Premiums		1,117	1,328	1,545	1,765	1,994	2,236	2,489	2,755	3,029	3,322	3,623	3,931	4,256
Income and growth		1,272	1,279	1,261	1,340	1,512	1,711	1,927	2,159	2,409	2,685	2,983	3,290	3,616
Transfer from / (to) Investment Reserve		130	199	318	377	312	223	217	214	255	220	207	326	419
OUTGO														
Claims		901	1,019	1,135	1,361	1,407	1,467	1,755	1,977	2,303	2,418	2,831	3,314	3,739
Commission		168	179	190	206	220	239	258	279	301	324	347	374	402
Expenses		246	268	295	318	346	376	407	440	476	514	555	600	644
Tax		76	70	59	60	74	90	106	127	148	170	196	223	251
Shareholders' transfer		115	129	140	154	163	173	191	210	236	256	280	316	354
Fund c/f		8,472	9,613	10,918	12,301	13,909	15,734	17,650	19,745	21,974	24,519	27,123	29,844	32,744
Investment Reserve b/f	2,030	3,030	3,209	3,334	3,348	3,300	3,316	3,427	3,556	3,702	3,820	3,987	4,185	4,279
Net return on Investment Reserve		309	324	331	330	328	334	346	360	373	387	405	420	424
Transfer to / (from) Investment Reserve	1,000	(130)	(199)	(318)	(377)	(312)	(223)	(217)	(214)	(255)	(220)	(207)	(326)	(419)
Investment Reserve c/f	3,030	3,209	3,334	3,348	3,300	3,316	3,427	3,556	3,702	3,820	3,987	4,185	4,279	4,284
TOTAL assets to cover solvency		3,209	3,334	3,348	3,300	3,316	3,427	3,556	3,702	3,820	3,987	4,185	4,279	4,284
EEC solvency margin		402	461	523	592	668	753	842	941	1,043	1,161	1,279	1,406	1,538
(Inv Res − EEC SM) / (Fund + Inv Res)		24%	22%	20%	17%	15%	14%	13%	12%	11%	10%	9%	8%	7%

Interest rate 10·4%

Open Fund — Model B with shareholders' transfers and double new business *Example 7*

	2003 £'000	2004 £'000	2005 £'000	2006 £'000	2007 £'000	2008 £'000	2009 £'000	2010 £'000	2011 £'000	2012 £'000	2013 £'000	2014 £'000	2015 £'000
Fund b/f	32,744	35,761	39,120	43,002	47,126	51,538	55,694	60,650	66,514	72,407	78,783	85,492	93,064
INCOME													
Premiums	4,601	4,968	5,362	5,784	6,234	6,708	7,213	7,760	8,343	8,961	9,620	10,328	11,068
Income and growth	3,957	4,324	4,743	5,203	5,700	6,191	6,716	7,343	8,019	8,728	9,481	10,314	11,124
Transfer from / (to) Investment Reserve	541	497	56	94	134	663	284	(286)	(11)	(14)	99	(36)	1,731
OUTGO													
Claims	4,286	4,489	4,223	4,724	5,233	6,733	6,417	5,946	7,178	7,757	8,661	8,916	12,846
Commission	431	462	497	532	570	611	656	701	751	804	861	922	988
Expenses	692	746	804	866	930	1,000	1,076	1,157	1,241	1,335	1,433	1,540	1,650
Tax	279	310	342	382	427	473	514	564	626	689	755	829	916
Shareholders' transfer	394	422	413	453	497	589	594	585	662	715	781	827	1,064
Fund c/f	35,761	39,120	43,002	47,126	51,538	55,694	60,650	66,514	72,407	78,783	85,492	93,064	99,522
Investment Reserve b/f	4,284	4,162	4,073	4,439	4,803	5,162	5,004	5,227	6,073	6,718	7,433	8,103	8,986
Net return on Investment Reserve	419	408	422	458	494	504	507	560	634	701	770	847	847
Transfer to / (from) Investment Reserve	(541)	(497)	(56)	(94)	(134)	(663)	(284)	286	11	14	(99)	36	(1,731)
Investment Reserve c/f	4,162	4,073	4,439	4,803	5,162	5,004	5,227	6,073	6,718	7,433	8,103	8,986	8,103
TOTAL assets to cover solvency	4,162	4,073	4,439	4,803	5,162	5,004	5,227	6,073	6,718	7,433	8,103	8,986	8,103
EEC solvency margin	1,677	1,831	2,006	2,193	2,392	2,583	2,807	3,070	3,334	3,620	3,922	4,260	4,556
(Inv Res − EEC SM) / (Fund + Inv Res)	6%	5%	5%	5%	5%	4%	4%	4%	4%	4%	4%	5%	3%

Interest rate 10·4%

Open Fund — Model B with shareholders' transfers and double new business *Example 8*

		1990 £'000	1991 £'000	1992 £'000	1993 £'000	1994 £'000	1995 £'000	1996 £'000	1997 £'000	1998 £'000	1999 £'000	2000 £'000	2001 £'000	2002 £'000
Fund b/f		7,459	8,472	9,613	10,918	12,301	13,909	15,734	17,650	19,745	21,974	24,519	27,123	29,844
INCOME														
Premiums		1,117	1,328	1,545	1,765	1,994	2,236	2,489	2,755	3,029	3,322	3,623	3,931	4,256
Income and growth		1,272	1,279	1,261	1,340	1,512	1,711	1,927	2,159	2,409	2,685	2,983	3,290	3,616
Transfer from / (to) Investment Reserve		130	199	318	377	312	223	217	214	255	220	207	326	419
OUTGO														
Claims		901	1,019	1,135	1,361	1,407	1,467	1,755	1,977	2,303	2,418	2,831	3,314	3,739
Commission		168	179	190	206	220	239	258	279	301	324	347	374	402
Expenses		246	268	295	318	346	376	407	440	476	514	555	600	644
Tax		76	70	59	60	74	90	106	127	148	170	196	223	251
Shareholders' transfer		115	129	140	154	163	173	191	210	236	256	280	316	354
Fund c/f		8,472	9,613	10,918	12,301	13,909	15,734	17,650	19,745	21,974	24,519	27,123	29,844	32,744
Investment Reserve b/f	2,030	3,530	3,761	3,944	4,021	4,044	4,137	4,334	4,557	4,808	5,041	5,335	5,674	5,923
Net return on Investment Reserve		361	382	395	400	405	420	441	464	488	514	546	575	596
Transfer to / (from) Investment Reserve	1,500	(130)	(199)	(318)	(377)	(312)	(223)	(217)	(214)	(255)	(220)	(207)	(326)	(419)
Investment Reserve c/f	3,530	3,761	3,944	4,021	4,044	4,137	4,334	4,557	4,808	5,041	5,335	5,674	5,923	6,100
TOTAL assets to cover solvency		3,761	3,944	4,021	4,044	4,137	4,334	4,557	4,808	5,041	5,335	5,674	5,923	6,100
EEC solvency margin		402	461	523	592	668	753	842	941	1,043	1,161	1,279	1,406	1,538
(Inv Res – EEC SM) / (Fund + Inv Res)		27%	26%	23%	21%	19%	18%	17%	16%	15%	14%	13%	13%	12%

Interest rate 10·4%

Open Fund — Model B with shareholders' transfers and double new business *Example 8*

	2003 £'000	2004 £'000	2005 £'000	2006 £'000	2007 £'000	2008 £'000	2009 £'000	2010 £'000	2011 £'000	2012 £'000	2013 £'000	2014 £'000	2015 £'000
Fund b/f	32,744	35,761	39,120	43,002	47,126	51,538	55,694	60,650	66,514	72,407	78,783	85,492	93,064
INCOME													
Premiums	4,601	4,968	5,362	5,784	6,234	6,708	7,213	7,760	8,343	8,961	9,620	10,328	11,068
Income and growth	3,957	4,324	4,743	5,203	5,700	6,191	6,716	7,343	8,019	8,728	9,481	10,314	11,124
Transfer from / (to) Investment Reserve	541	497	56	94	134	663	284	(286)	(11)	(14)	99	(36)	1,731
OUTGO													
Claims	4,286	4,489	4,223	4,724	5,233	6,733	6,417	5,946	7,178	7,757	8,661	8,916	12,846
Commission	431	462	497	532	570	611	656	701	751	804	861	922	988
Expenses	692	746	804	866	930	1,000	1,076	1,157	1,241	1,335	1,433	1,540	1,650
Tax	279	310	342	382	427	473	514	564	626	689	755	829	916
Shareholders' transfer	394	422	413	453	497	589	594	585	662	715	781	827	1,064
Fund c/f	35,761	39,120	43,002	47,126	51,538	55,694	60,650	66,514	72,407	78,783	85,492	93,064	99,522
Investment Reserve b/f	6,100	6,167	6,288	6,884	7,503	8,145	8,297	8,863	10,089	11,152	12,330	13,511	14,959
Net return on Investment Reserve	608	617	653	713	776	815	851	939	1,053	1,164	1,281	1,411	1,470
Transfer to / (from) Investment Reserve	(541)	(497)	(56)	(94)	(134)	(663)	(284)	286	11	14	(99)	36	(1,731)
Investment Reserve c/f	6,167	6,288	6,884	7,503	8,145	8,297	8,863	10,089	11,152	12,330	13,511	14,959	14,698
TOTAL assets to cover solvency	6,167	6,288	6,884	7,503	8,145	8,297	8,863	10,089	11,152	12,330	13,511	14,959	14,698
EEC solvency margin	1,677	1,831	2,006	2,193	2,392	2,583	2,807	3,070	3,334	3,620	3,922	4,260	4,556
(Inv Res – EEC SM) / (Fund + Inv Res)	11%	10%	10%	10%	10%	9%	9%	9%	9%	10%	10%	10%	9%

Interest rate 10·4%

Open Fund – Model B with shareholders' transfers *Example 9*

		1990 £'000	1991 £'000	1992 £'000	1993 £'000	1994 £'000	1995 £'000	1996 £'000	1997 £'000	1998 £'000	1999 £'000	2000 £'000	2001 £'000	2002 £'000
Fund b/f		7,459	8,439	9,441	10,475	11,461	12,538	13,697	14,807	15,944	17,051	18,322	19,706	21,051
INCOME														
Premiums		1,043	1,117	1,197	1,279	1,367	1,464	1,566	1,674	1,784	1,905	2,036	2,174	2,320
Income and growth		1,331	1,329	1,286	1,327	1,451	1,587	1,724	1,861	1,996	2,139	2,301	2,466	2,630
Transfer from / (to) Investment Reserve		(24)	63	180	244	183	106	125	146	211	202	167	312	431
OUTGO														
Claims		900	1,014	1,119	1,327	1,352	1,387	1,647	1,834	2,119	2,160	2,251	2,662	3,004
Commission		90	98	105	113	119	128	137	147	157	168	179	192	206
Expenses		149	160	174	185	199	214	229	245	262	280	300	322	343
Tax		119	115	105	105	117	129	140	153	165	176	190	205	219
Shareholders' transfer		112	120	126	134	137	140	152	164	181	191	200	226	252
Fund c/f		8,439	9,441	10,475	11,461	12,538	13,697	14,807	15,944	17,051	18,322	19,706	21,051	22,408
Investment Reserve b/f	2,030	3,030	3,389	3,695	3,912	4,085	4,341	4,707	5,093	5,499	5,881	6,315	6,833	7,256
Net return on Investment Reserve		335	369	397	417	439	472	511	552	593	636	685	735	774
Transfer to / (from) Investment Reserve	1,000	24	(63)	(180)	(244)	(183)	(106)	(125)	(146)	(211)	(202)	(167)	(312)	(431)
Investment Reserve c/f	3,030	3,389	3,695	3,912	4,085	4,341	4,707	5,093	5,499	5,881	6,315	6,833	7,256	7,599
TOTAL assets to cover solvency		3,389	3,695	3,912	4,085	4,341	4,707	5,093	5,499	5,881	6,315	6,833	7,256	7,599
EEC solvency margin		393	438	482	527	574	625	674	726	775	833	894	956	1,017
(Inv Res – EEC SM) / (Fund + Inv Res)		25%	25%	24%	23%	22%	22%	22%	22%	22%	22%	22%	22%	22%

Interest rate 11·0%

Open Fund – Model B with shareholders' transfers *Example 9*

	2003 £'000	2004 £'000	2005 £'000	2006 £'000	2007 £'000	2008 £'000	2009 £'000	2010 £'000	2011 £'000	2012 £'000	2013 £'000	2014 £'000	2015 £'000
Fund b/f	22,408	23,705	25,157	26,926	28,723	30,579	31,935	33,832	36,358	38,617	41,042	43,464	46,532
INCOME													
Premiums	2,475	2,641	2,823	3,020	3,231	3,451	3,686	3,946	4,224	4,518	4,831	5,170	5,534
Income and growth	2,791	2,956	3,152	3,367	3,592	3,784	3,980	4,249	4,538	4,823	5,114	5,448	5,829
Transfer from / (to) Investment Reserve	588	577	161	233	310	875	534	(1)	307	331	472	225	599
OUTGO													
Claims	3,459	3,557	3,170	3,537	3,897	5,230	4,727	4,048	5,047	5,366	5,980	5,654	6,423
Commission	220	235	252	269	288	308	330	352	377	403	431	461	494
Expenses	366	392	420	450	481	514	550	589	629	674	720	771	825
Tax	232	244	256	273	292	310	320	335	360	380	402	424	458
Shareholders' transfer	280	294	269	293	319	392	376	345	398	424	462	464	532
Fund c/f	23,705	25,157	26,926	28,723	30,579	31,935	33,832	36,358	38,617	41,042	43,464	46,532	49,761
Investment Reserve b/f	7,599	7,815	8,066	8,783	9,503	10,221	10,422	11,005	12,217	13,237	14,344	15,424	16,883
Net return on Investment Reserve	804	828	878	953	1,028	1,076	1,117	1,210	1,327	1,438	1,555	1,684	1,824
Transfer to / (from) Investment Reserve	(588)	(577)	(161)	(233)	(310)	(875)	(534)	1	(307)	(331)	(472)	(225)	(599)
Investment Reserve c/f	7,815	8,066	8,783	9,503	10,221	10,422	11,005	12,217	13,237	14,344	15,424	16,883	18,108
TOTAL assets to cover solvency	7,815	8,066	8,783	9,503	10,221	10,422	11,005	12,217	13,237	14,344	15,424	16,883	18,108
EEC solvency margin	1,077	1,144	1,224	1,306	1,391	1,457	1,545	1,660	1,764	1,876	1,990	2,130	2,278
(Inv Res – EEC SM) / (Fund + Inv Res)	21%	21%	21%	21%	21%	21%	21%	22%	22%	22%	23%	23%	23%

Interest rate 11·0%

RESTRUCTURING MUTUALS—PRINCIPLES AND PRACTICE

By D. R. L. Paul, B.Sc., F.F.A., A. M. Eastwood, M.A., F.F.A., D. J. P. Hare, B.Sc., Ph.D., F.F.A., A. S. Macdonald, B.Sc., F.F.A., J. R. Muirhead, B.Sc., F.F.A., J. F. Mulligan, B.Sc., F.F.A., D. M. Pike, B.Sc., F.F.A. and E. F. Smith, M.A., F.F.A.

[Presented to the Institute of Actuaries, 25 March 1991]

Summary of the Paper written by The Bonus and Valuation Research Group of the Faculty of Actuaries. For the full text of this paper see the *Transactions of the Faculty of Actuaries* **43,** II.

CONTENTS

SECTIONS 4–6: MODELLING

Sections 4–6 explored several of the demutualisation issues using a computer model office whose main features were:

(a) The start of the projection period was taken as 1990, with the office's profile being built up assuming financial conditions, tax regimes and bonus declarations similar to those prevailing from 1949 until 1990.
(b) After 1990, the office moved to a dynamic investment strategy, so that the proportion of the fund invested in gilts reflected the office's strength on the statutory minimum valuation basis (see Section 5.8).

The strategy was to maximise the proportion of the fund invested in equities, subject to the A/L ratio (defined in Section 6.1.1) not falling below a 'danger level' of 1·15. The danger level of 1·15 was chosen as a rule of thumb, on the grounds that the mismatching test used (Section 5.9) only allowed for a 25% fall in equity prices, which is by no means extreme, and that some further mismatching test might have to be satisfied even immediately after a fall in equity prices.

(c) The model office wrote conventional with-profits 25-year endowment assurances on males aged 30 at entry. The model computed the asset shares of individual tranches throughout with terminal bonuses being declared so as to equate final asset shares with the actual payouts.

Three yardsticks of financial performance were chosen as measures to compare different offices, or different scenarios within the same office:

(a) The ratio of assets to liabilities (The A/L Ratio).
(b) The proportion invested in equities.
(c) The relative maturity values payable.

Using these three measures, comparisons were made of:

(a) closure *versus* continuing mutual *versus* demutualising,
(b) the effect of the estate,
(c) the impact of investment shocks, and
(d) the effects of the injection of a purchase price (the model having first been used to explore alternative approaches by which a purchase price might be determined).

Section 7, 'Summary and Conclusion', is reproduced in full below:

7. SUMMARY AND CONCLUSION

7.1 In Section 2, we considered the background which might lead a mutual life office to consider restructuring. We looked back to the roots of mutuals and examined the possible *raison d'être* of a life office. We concluded that the management of a mutual life office should have a clear idea of its current

philosophy especially at the time of a restructuring; this should help guide the decision-taking when considering the options available. Reassessment of a mutual life office's philosophy might itself lead management to consider restructuring, even if the office were strong and vital. (Sections 2 and 4.8)

7.2 The reasonable expectations of policyholders must be the overriding guiding factor when considering restructuring. We do not believe that it is clear-cut that meeting the policyholders' reasonable expectations necessarily entails aiming to pay out to them at least as much as they would have received had any additional estate been distributed amongst them. However, it must also be borne in mind that the policyholders may vote for an alternative scheme of restructuring should they perceive it as being more in their interests. (Section 2.11) At various stages in our modelling, in Section 6, different philosophies were adopted, and it was demonstrated that, even if the additional estate (defined in Section 4.4) is not used *directly* to increase the pay-outs to existing policyholders, they might benefit from restructuring.

7.3 We observed at the end of Section 3.5 that fuller disclosure is particularly relevant at the time of restructuring. Giving details of proposed methods and quantifying asset shares at the time of demutualisation, together with the duty of the demutualised office's Appointed Actuary to safeguard policyholders' reasonable expectations (which would become better defined by the disclosure of such information), should ensure that the interests of existing policyholders are well protected.

7.4 In Section 4.5 we described the 'flywheel effect' whereby an office which has expanded rapidly, on returning to a steadier rate of expansion, can be dominated by the premium income from the recently written business for many years. This result is, of course, not restricted to mutuals which restructure, and merely highlights the need for the actuary to project forward the progress of the office and avoid being faced with the impossible task of making a sudden change in direction. In the case of demutualisation, the potential for profits from future business will be important to the purchaser. Clearly the policyholders of a mutual office which has recently succeeded in expanding its new business base can hope to extract a higher price (as a proportion of current assets) in respect of the opportunity to profit from new business. (Section 6.6)

7.5 In Section 6.2 it was demonstrated that an office with an estate deficit (defined in Section 4.6) can reduce the relative size and effect of this deficit if it continues writing new business. Should such an office close, the estate deficit would be uncovered and it would become impossible to pay full asset shares to the existing policyholders. (Section 6.3)

7.6 Given our chosen parameters and dynamic investment strategy, the constraints on investment in a closed mutual were rather less than we had expected. Even when we incorporated quite severe investment shocks (over and above the in-built solvency margin and mismatching tests), it was not evident that a closed fund must constrain its investment strategy on a contingency basis. It could pursue a more ambitious strategy *until* a shock occurred, although

subsequent investment freedom might be more limited than in a continuing mutual. (Points (1) and (2) preceding Table 14 in Section 6.4)

7.7 We would expect a closed fund to be particularly sensitive to the profile of the office at the time of closure, so it may be dangerous to generalise our results; indeed we would suggest that the robustness of a closed fund should be extensively modelled whenever the option is considered.

7.8 Except for any 'sweetener', the principal financial advantage for policyholders from demutualisation arises from improved investment freedom (or higher guarantees for the same investment freedom). The actual worth of this greater freedom is clearly dependent on the relative performance of equities and gilts, and in our modelling we have sought to highlight this.

7.9 If the existing policyholders are likely to be affected by restricted investment freedom were no restructuring to take place, they might choose to give up a proportion of their asset shares and/or allow any additional estate to be passed ultimately to shareholders. This would be in exchange for access to shareholder capital and the resultant investment freedom allowing the possibility of larger payouts. (Sections 4.7 and 6.8)

7.10 Apart from the receipt of assets given up by policyholders as described in Section 7.9, the purchaser is unlikely to be attracted to the scheme by gains from the existing business alone. The purchaser is more likely to be aiming to profit from business written in the future. The purchaser's assessment of scope for profits from this latter source will limit the size of the sweetener which the policyholders can obtain. (Section 6.6)

7.11 In the context of a demutualisation, the existing policyholders could expect to benefit in exchange for profits from any new business which would have been written had there been no injection of capital and no change in distribution channels. The benefit may take the form of merely increased investment freedom or security, or of an explicit sweetener. The existing policyholders would find it more difficult to argue that they should benefit from additional new business which can *only* be written if further capital is injected. The same can be said of any new business which can be written through new distribution channels opened by the purchaser. (Section 6.6)

7.12 The value placed on the profits from writing new business following restructuring is highly sensitive to the assumptions made. (Section 6.6) This makes it particularly important for the prospective purchaser also to consider whether or not there will be sufficient working capital to support the new business plans and retain the ability to pursue a competitive investment strategy for with-profits business. (Section 6.7)

7.13 We would not claim that the simulation results in Section 6 are of global application, but they illustrate some of the investigations which can be appropriate. We see a need for extensive modelling when considering restructuring options, taking into account the particular circumstances applicable in any actual case.

ABSTRACT OF THE DISCUSSION ON THE TWO PAPERS

Mr A. S. Macdonald, F.F.A. (introducing the paper 'Restructuring Mutuals—Principles and Practice'): In the paper the Faculty Research Group first set out to explore the background to demutualisation, both by examination of recent case studies, and by considering the reasons which might lead a company to abandon mutual status. This line of thought always led us back to the question of how a mutual might justify its existence, and why it might continue to write new business. The view a mutual takes of its mission in life, what we call the *raison d'être* in the paper, will have an important bearing on the action it takes if and when it is forced to consider a major change, and we have discussed some of the pressures which are currently putting mutuals in just that position. However, the question of restructuring a mutual is a much wider one than some recent case studies would indicate, and that is why we called the paper 'restructuring mutuals' and not simply 'demutualisation'.

When we came to the financial aspects of restructuring, we felt that some conventional wisdoms needed to be tested. The benefits of demutualisation, as opposed to alternative courses of action, depend on the answers to certain key questions which we have set out in Section 4.10. We used the model office to explore these questions in a number of carefully chosen scenarios.

I should like to emphasise here, as we have in the paper, that our results are particular and not general, but they have led to some conclusions set out in Section 7, which we feel are useful in themselves. However, more significantly, they point to the need for extensive modelling to be carried out if restructuring is under consideration. To what extent the bases and assumptions underlying the models, and the range of answers produced by the models, should be disclosed and should bear upon the decisions of the policyholders and the Court, is a question which we have not tried to answer.

Mr T. J. Sheldon (opening the discussion): It is appropriate that these two topics of demutualisation and the management of a with-profits fund be considered together, since a restructuring forces a company to think carefully about its strategy, bonus philosophy and policyholders' reasonable expectations.

Needleman & Westall commence Section 2 by posing the question "what is a mutual life assurance company?" and introduce the concept of orphan surplus necessary for an appreciation of the revolving fund and entity theories of mutuals. The Research Group paper introduces the parallel concept of the additional estate, which is defined as total assets less total asset shares attributable to existing policies. The current position is succinctly summarised in § 2.1.8 of Needleman & Westall's paper, which includes the statement that "the company will decide what to do with the orphan surplus". While reference is made to With-Profits Guides, the question of disclosure to policyholders regarding the management of with-profits business in general, and of the orphan surplus in particular, is not examined in detail.

At the end of Section 3.5, the Research Group comment that "without some evaluation of the accumulated asset shares or of the terminal bonuses prospectively payable to existing shareholders, it is impossible to form a true picture of the overall financial position of the office". I support this view and would welcome fuller disclosure of these matters, not only in the event of a demutualisation or restructuring, but as an ongoing communication exercise to enable the office's policyholders and their advisors to obtain a greater understanding of their benefit expectations.

The principal conclusions of the Policyholders' Reasonable Expectations Working Party are set out in Section 2.8 of the Research Group paper and I agree that point (iii) is contentious. It states that "In the circumstances of a 'major change' in a life office (such as a demutualisation), policyholders may reasonably expect that the proposed new arrangements do not disadvantage them as compared with the option of a closed fund." In debating this point, it is helpful to distinguish between reasonable benefit expectations and membership rights, a distinction also drawn by Needleman & Westall. While it might seem unreasonable that benefit expectations be suddenly changed at the time of a restructuring, in a demutualisation membership rights are lost and members could justifiably seek compensation for that loss. GN15, dealing with Section 49 transfers, requires the independent

actuary to consider any loss or dilution of membership rights. As Needleman & Westall point out in § 4.6.5, the membership could vote to elect directors to close the company to new business (subject to anything to the contrary in the company's articles) although, in practice, this possibility has been seen to be remote. The significance of the loss of membership rights in a demutualisation may be a commercial and legal issue, but there is a certain logic in attempting to value those rights by an actuarial evaluation of a course of action which would no longer be open to policyholders once those rights had been removed. Policyholders and their advisors are becoming more aware of the closed fund option, following the recent United Kingdom demutualisations, so, as the Research Group concludes at the end of Section 2.11, the management of a mutual office may well be forced in any event to give careful consideration to the option of closing the fund.

An evaluation of the closed fund option depends critically on the assumption made regarding future rates of investment return in a closed fund compared with that in an open fund. The results of the Research Group's model suggest that, on the assumption of a steady rate of return and provided there is no estate deficit, the closed fund could have as much or even greater investment freedom than the counterpart of an open fund. This is a challenge to the conventional wisdom, that in a closed fund, as the guaranteed liabilities loom ever closer, investment freedom must necessarily become more restricted. Investment freedom in a closed fund can be maintained so long as terminal bonuses provide a large enough proportion of payouts. This is demonstrated in § 5.7.3 and Table 5.2 of Needleman & Westall's paper, where the apparently high free asset ratios can be explained by the assumed terminal bonus scales. In the Research Group paper, a closed fund is shown to be less resilient to investment shocks than an open fund, a result which accords with intuition. This suggests that if a stochastic asset model had been used or if a cyclical pattern of investment returns assumed, the answer to the question "what investment freedom does a closed fund have?" might have been different. Further research in this area seems desirable, especially in view of the wording and interpretation of GN15.

The model results are dependent upon the adopted asset allocation algorithm, described in Section 6.1.2 of the Research Group paper, which aims to maintain an asset/liability ratio of not less than 1·15. The investment strategy is, therefore, governed by the current statutory valuation regulations. An alternative investment strategy would be to back the guaranteed liabilities (sums assured and attaching reversionary bonuses) with fixed-interest investments and to place the balance in equities, subject to being able to meet the minimum valuation basis and solvency margins. It would be interesting to study the effect of different investment strategies on the results produced by the model.

In Section 4.3, Needleman & Westall discuss the valuation of policyholders' compensation for relinquishing a share in the surplus arising from existing business, in particular the apparent difficulty of selecting an appropriate rate of discount to apply to the projected transfers to shareholders. I would agree with the authors, in § 4.3.2, that profits from non-profit business should be valued using a discount rate appropriate to the risks inherent in the block of business. With regard to with-profits business, I would argue that use of the net earned rate is necessary in order to protect the existing policyholders' reasonable benefit expectations. However, the injection of a significant amount into the fund could enable a more liberal investment strategy to be pursued, which could be taken into account when setting the investment assumptions to be used in the valuation of the shareholders' interest. Some of the cash injection may be used to finance new business and could, therefore, earn a higher rate of return than that earned on other assets, but it is debatable whether allowance should be made for this in choosing the net earned rate.

The effect of assuming a small increase in the net earned rate following the capital injection is shown in § 5.7.4. An increase of only 0·2% p.a. is sufficient to compensate for an ultimate differential between the risk discount rate and the base net earned rate of just over 2% p.a. In order to achieve this additional 0·2% p.a. return it would be necessary to increase the proportion held in equities from 80% to nearly 90%. This could not be achieved solely by investing the whole of the capital injection in equities.

The Research Group also highlights the difficulty of selecting a suitable discount rate for the existing business, and shows purchase prices based on a range of net earned rates and risk discount rates. As they point out, the value of the existing business is just one component of the overall

purchase price and all that matters is that agreement be reached on the total price, even though each side in the transaction may have different views of its constituent parts. Provided the shareholders can obtain their required rate of return on the whole investment and existing policyholders' reasonable benefit expectations can be adequately protected, it should be possible to reach an agreement.

As both sets of authors point out, the determination of the goodwill value of a life office is far more difficult than that of the value of existing business. I agree with the Research Group's comment in Section 6.6, "It is not at all clear that the existing policyholders 'own' the profits from future new business" and that they cannot necessarily expect to receive the full value of goodwill through bonus distributions. Nevertheless, it seems reasonable that a fair value for goodwill, based upon levels of new business supportable by the existing fund without further capital injections, be credited to the fund. While the final purchase price will be the result of negotiations between the two parties, the acquirer of a mutual will not wish to pay for goodwill arising from the attributes, such as a new distribution channel, which the acquirer is contributing to the restructured company.

One important consideration in determining a purchase price and in protecting existing policyholders' reasonable expectations is that of taxation. On conversion from mutual status to a proprietary office the taxation basis of the office changes, because of the introduction of additional tax on unfranked shareholders' profits and disclosed Case VI profits in the pension fund. The additional tax arising as a result of making transfers to shareholders in a proprietary company may either be charged to the profit and loss account, which will directly impact on the return obtained by the shareholders, or it may be borne by the long-term business fund. In the latter case, the existing policyholders will require compensation for the additional tax bill in order to preserve their reasonable expectations. A clear description of the treatment of taxation should be included in the scheme for the transfer of business.

The interrelationship between the amount of a sweetener (in the form of a special bonus distribution at the effective date of the demutualisation), free asset ratios and bonus prospects for new business are demonstrated in Section 6.4 of Needleman & Westall's paper. In Examples 6 and 8 in Table 6.2, only the orphan surplus has been distributed by way of a special bonus, and it is claimed that the bonuses that would have been paid by the mutual should be supportable on future new business, provided that new business volumes do not exceed the levels assumed in the goodwill calculation. A large differential between the risk discount rate adopted in the goodwill calculation and the net earned rate could result in 'mutual bonuses' being unsupportable on new business. The authors have based their goodwill payment on a multiple of 10 times the value of one year's new business, and it is not clear how this relates to the levels of new business assumed in their model. It would be interesting to see the effects on the free asset ratios of a goodwill payment based on the new business levels assumed in the model. Table 6.3 shows just how sensitive the future strength of an office can be to investment performance. The difference between the free asset ratios in Examples 5 and 9 from an additional 0·6% p.a. investment return is striking. However, for the same reasons I gave earlier, it is unlikely that an additional yield of 0·6% p.a. could be achieved on the assumptions made regarding returns on gilts and equities.

When calculating a purchase price, there needs to be a check that the bonus rates assumed in projecting the shareholder transfers can, in fact, be supported in the context of the other assumptions underlying the valuation. There are several possible techniques that can be used. Ideally, yearly projected revenue accounts and balance sheets would be produced to study the solvency position. Alternatively, maturity values could be assumed to follow asset shares, which would then need to be computed in the modelling process. The use of a bonus reserve valuation based on discounted cash flows is a helpful short cut, but does not provide information on the solvency position in future years. There is also the question of what value, if any, should be placed on any additional estate. Its existence could permit a more aggressive bonus policy to be adopted or it could be used to fund a period of rapid growth, both of which could significantly enhance the worth of the company to the new shareholders.

In their paper, Needleman & Westall discuss the relative merits of operating the existing business as a closed fund or as part of an open fund following demutualisation. A closed fund approach is, of course, essential if the shareholders do not wish to take an interest in the existing business. Apart from

that consideration, the main advantage of a closed fund would appear to be the transparency of its operation and management compared with the internal mechanisms required to protect existing policyholders' reasonable expectations in an open fund. The hitherto perceived disadvantage of a gradual loss of investment freedom in a closed fund may now be seen in a different light following the Research Group's work. The choice between the closed fund and open fund options may be influenced more by the wishes of the acquirer and operational considerations than the financial position of the mutual office.

In their conclusion Needleman & Westall draw attention to certain problems in effecting a demutualisation by means of a Section 49 transfer, and call on the profession to assist with their resolution. While there may be problems, we do now have useful precedents in the U.K. as guidance for future demutualisations, and the process used does have valuable safeguards. I would not wish to see legislation along the lines of that adopted by New York State introduced into the U.K.

Mr C. S. S. Lyon: I wish to make some general comments on the role of the independent actuary in a demutualisation. GN15 has come in for some criticism, partly for allegedly extending the role of the independent actuary and partly for its reference in § 4.4.13 to membership rights and the question of a closed fund.

The independent actuary is given an important responsibility in the legislation, for he is required to report on the terms of the scheme and express an opinion on its likely effects on the long-term policyholders of the companies concerned. Although the report has to accompany the petition, and is therefore presumably for the guidance of the Court, a summary which indicates the independent actuary's opinion of the effects on policyholders must be sent to policyholders and members. The object of this must surely be to help the recipients to decide whether or not to oppose the scheme. Indeed, having seen the way a particular Court operated when considering a petition for demutualisation, I now believe that the policyholders and members are the people for whose understanding the independent actuary's report ought to be primarily written. In the recent case in which I was directly involved, it was not apparent to me that the judge had had an opportunity of considering the papers beforehand. In such a situation, a detailed actuarial explanation of a scheme, the reasons for it, the effects it will have, and the safeguards built into it for the transferring policyholders, all read out by the petitioners' Counsel, may not be what the Court really wants. On the other hand, this information may be crucial for the policyholders and their advisors, and if a group of them decides to object to a merger or demutualisation, the Court would doubtless want to consider the arguments in greater detail than may be necessary if the scheme is uncontested.

Clearly the policyholders should be informed if the scheme seeks to give a new proprietor an interest in the long-term business without proper consideration being paid to the long-term fund. The paper by Needleman & Westall shows vividly in Section 3.7 how the value of that interest can vary with the future structure proposed. The independent actuary is much concerned with the fairness of the use of such compensation. I think, too, that if a scheme of demutualisation sought to isolate from the with-profits policyholders any positive additional estate built up over past generations—for example, by putting it into a new sub-fund for business from which the proprietors would accrue all the surplus—the implications of that would have to be explained. Continuity of bonus philosophy, and of the role of any additional estate in giving the office freedom in investment policy, are also important subjects for the independent actuary when discussing the effect of the scheme on existing policyholders.

I do not regret that the joint working party under my chairmanship which drafted GN15 thought it right to refer to the question of a closed fund in the context of a loss or diminution of members' rights. The guidance does not state that policyholders of the present generation should be seen to do as well out of the scheme as they would if the fund were closed and they acquired an exclusive right to benefit from the additional estate. In practice, the independent actuary may normally be expected to argue that it is inappropriate for a demutualisation to produce such a result, particularly if there is a large additional estate. However, by agreeing to the scheme and its resulting loss of membership rights, the policyholders will be forfeiting future opportunities of influencing the way in which the business is managed, including the use of the additional estate. If the policyholders are less than confident that

the scheme will not disadvantage them—and their perception may be more intangible than tangible, for example a dislike of the proposed new owners—then who is to say that they should not be aware of the alternative of a closed fund? After all, this is an option the directors could put forward without involving any outside party. In my view, it is for the directors to explain to policyholders why they have rejected that option, and for the independent actuary to express an opinion on the consequences of that rejection.

Indeed, I see it as the very essence of the independent actuary's role that he should do his best to ensure that all relevant issues are covered in documents made available by the directors to policyholders and the Court, including, where appropriate, reports by the Appointed Actuary and consulting actuaries. He can then provide an independent overview of the scheme in the light of those documents, and will not need to raise fresh issues which could cast unnecessary doubt on the scheme in the minds of policyholders.

Mr A. Scobbie, F.F.A.: Having some experience of the process of demutualisation, I intend to restrict my remarks primarily to the practical aspects of the process.

I cannot agree with the view of the Research Group in Section 2.6 that "a proprietary office . . . exists to maximise the profits for its shareholders" and that such an office "is obliged to treat policyholders fairly", but that "The mutual life office exists to offer financial services." This view seems to be typical of those who have been accustomed to a mutual environment. I consider that the Research Group are wrong to imply that the profit motive exists only in respect of shareholders' interests, and is not applicable to policyholders' interests. I also disagree with the statement made in Section 2.10 in support of the mutual culture "that being able to look after the best interests of policyholders with no concern for shareholders leads to better investment performance, actuarial management and general strategy". My own organisation has certainly not suddenly deteriorated in management and investment terms as a result of demutualisation. The truth is that all offices (both mutuals and proprietaries) operate in a fiercely competitive market to provide policyholders with the best possible returns and quality of service. Any office not doing so is unlikely to survive long in the market place, and it is naive for mutuals to think that they have some inherent advantage in investment, actuarial or general management.

In my view the negotiations attending a demutualisation must remain confidential, and it is not in the best interest of the policyholders or the long-term future of the office that negotiations should be conducted in public. This applies not only to the evaluation of goodwill, but also to the value placed on future surplus from the existing business to be allocated to shareholders. The stream of future profits from existing business has no one unique value. Clearly, the value to policyholders will be different from the value to shareholders, and consequently it is a matter for negotiation between the parties concerned. Obviously, the directors of the mutual office, acting on advice from their Appointed Actuary and consulting actuaries, have a duty to maximise the compensation which the policyholders are to receive. On the other hand, there is certainly a minimum value below which they should not proceed. I therefore disagree with the view, in Section 3.5, that an evaluation should "be disclosed for the benefit of policyholders". The policyholders' real protection stems from the fact that they already have a number of parties looking after their interests:

(1) It is the legal duty of the directors to obtain the best possible deal for the policyholders. If the directors have concluded that demutualisation is the best course, they must be in a position to recommend the scheme and must satisfy themselves as to the criteria, which are outlined in § 2.5.4 of Needleman & Westall's paper.
(2) The responsibility for actuarial advice rests clearly with the Appointed Actuary.
(3) It is the normal practice for the Appointed Actuary to be supported and advised by a firm of consulting actuaries.
(4) The independent actuary will have carried out fairly exhaustive investigations.

The cry for disclosure seems to rest on the belief that the directors and their actuarial advisors will fail in their basic responsibilities, and that somehow others will be able to obtain a 'better' answer. Not even the Government Actuary normally attempts to do that. In this connection I support the

comments of Needleman & Westall, in § 2.5.8, on the responsibilities of the independent actuary if he were to consider schemes which are not put forward by the directors. This would place the independent actuary in the untenable position of second guessing the directors and effectively entering into commercial recommendations. This is neither sensible nor acceptable. I would also counter the argument for disclosure with the proposition that the directors may have negotiated a price which is in excess of what the policyholders could reasonably expect. Why should they have to disclose such a commercially sensitive fact, when disclosure could lead to the collapse of an eminently satisfactory deal for the policyholders?

Neither paper appears to have considered the possibility of a contested demutualisation. As part of such a contest, it is probable that inducements might be offered to policyholders, which could well be difficult for them to evaluate properly, or for the directors and their advisors to evaluate on their behalf. What concerns me most about such contested bids is that there are no statutory or other regulations which protect the mutual office from highly contentious, unsubstantiated and, perhaps, irresponsible statements which may well accompany such publicised bids, and which will no doubt be given extensive press coverage. At least with public companies the rules of the Stock Exchange would apply to all communications addressed to shareholders and to statements in the press. The directors of the mutual office are duty bound to give serious consideration to such bids, which leads the office to suffer considerable extra expense, delay and uncertainty. This undermines the confidence of both the existing and prospective policyholders, the market place, the management and the staff. There is an urgent need for rules to be established which give the same level of protection to mutual offices considering merger or demutualisation, as they would receive as a quoted company under the Stock Exchange rules.

Mr A. E. M. Fine: I was advisor to the boards of two U.K. mutuals which recently demutualised and which are frequently referred to in the papers; and I was, and still am, the Appointed Actuary of one of them. In advising the boards of Pioneer and FS, I first advised them on the options available, which included carrying on as they were, closure to new business, merger and demutualisation. A suitable partner had to be found. The mutual ethos being a strong one, the preferred partner had to be a mutual organisation. FS was seeking distribution, Pioneer was seeking capital. Once a partner was found and demutualisation was established as the best option, the structure and price had to be agreed. The price is the amount transferred into the long-term business fund of the new company and would be exclusive of any additional capital to be left in the shareholders' fund of the new company. The deal is like any private transaction for the purchase and sale of an insurance company. The vendor is the board of the mutual acting for the policyholders, and it is the board's duty to hold out for a price that fully reflects the office's infrastructure and ability to generate new business; in fact to obtain the best deal it can for its policyholders. The purchaser has its own reasons for making the purchase and its own idea of price. It may be more concerned about not having to put in further capital than about the actual price itself.

The mutual life office would not be used to appraisal values, and it is likely that the calculations required would not have been carried out. There are three key values:

(1) the embedded value at the shareholders' risk discount rate,
(2) the embedded value at the lower policyholders' earned rate, and
(3) the appraisal value at the shareholders' discount rate but including goodwill.

It is the last of these that forms the basis for the negotiated price, but it is the middle value (assuming that the second value is also the middle value) that is the minimum value that should be acceptable to policyholders. In practice the minimum is greater than this, because allowance has to be made for the expenses of demutualisation, a sweetener to policyholders (usually a special bonus) and, as the opener said, for any tax consequences of demutualisation.

The question of the estate, its definition, its value and who owns it, hardly ever arose. Demutualisation is a subject where the main issues are bonus prospects and bonus earning power. Ownership of the estate is not a relevant issue. I believe in the need for an orphan surplus or additional estate. The 'no estate' theory implies that the viable path for a company is difficult to get onto and can be so narrow that it is easy to come off once on it.

Loss of membership rights is a difficult area, and there is a danger in actuaries trying to compare pecuniary benefit with non-pecuniary loss. Actuaries involved in this area, particularly independent actuaries, should simply list the gains and losses for the various classes of policyholders.

The structure of a demutualisation is an issue that depends on the circumstances, and no generalisation for the future can be made on the basis of experience. However, there are three questions which keep recurring in relation to the FS and Pioneer demutualisations, and I answer these as follows:

(1) Why was the existing fund not ring-fenced?
   - —administrative simplicity,
   - —the problems of financing new with-profits business in the future, and
   - —ring-fencing would involve a smaller capital injection, and hence less security and flexibility.

(2) Why 90/10 instead of, say, 95/5?
   - —90/10 is a typical division of surplus. 95/5 would have involved less capital, and hence less security and flexibility. 90/10 provides a more reasonable return to shareholders if capital is to be injected into the fund in future.

(3) Why were profits from linked business not given 100% to shareholders?
   - —profits from linked business were needed to pay reasonable bonuses and the compensation to with-profits policyholders could be quite heavy.

As a member of the GN15 Working Party, I recall that the underlying thinking behind §4.4.13, mentioned by Mr Lyon, relating to closed funds, was that the independent actuary had to compare the proposed scheme with the status quo. For some companies the status quo would involve looking at closure of the fund. In the case of London Life, Pioneer, FS and FMI, closure was not a remote option, but I believe it was correct to look at the closed fund alternative. Comparison of closure of a fund with the other options is not easy, as demonstrated in the papers. One thing I did was to set up internal financial management procedures that attempted to ensure bonus prospects which, on reasonable assumptions, would be at least as good as those which would have existed had the fund closed to new business. Closure of the fund should be a last resort, because it involves the disposal of the infrastructure for obtaining new business without obtaining any value in return, and has implications for staffing within the mutual.

Mrs M. P. Pell (a visitor): As a lawyer, I will concentrate on one aspect of the paper by Needleman & Westall, namely the legal question concerning membership rights. The rights of a policyholder are a function of the contract between the policyholder and the company granting him the policy. Equally, membership rights are a function of the constitution of the company granting him membership, although they are acquired purely as a consequence of taking out a policy. It is, therefore, impossible to generalise on policyholders' and members' rights or on the nature or value of their rights to any surplus. However, I agree with the authors that, if it is appropriate or desirable to offer compensation to policyholders or members, the capacity in which that compensation is given should be analysed and explained. It may make a difference, not only to the nature and timing of receipt of the compensation, but also to its tax treatment.

It is interesting to consider members' right in a winding up, although whether those rights have any value is another matter. On the likely assumption that a policy gives no legal entitlement to a specified share of any surplus, then the assets representing the surplus obviously belong in law to the company itself, and the constitution should, therefore, provide what will happen to that surplus in the event that the company is wound up. It may provide that the surplus is distributed to with-profits policyholders, and, in such a case, it seems entirely appropriate for the policyholders to receive any compensation referable to the surplus in that capacity. If, however, the constitution provides that, on a winding up, surplus property should be distributed to members, then the members will have a right to receive it in accordance with their rights and interests as set out in the constitution. If the constitution makes no provision, but if the company is incorporated under the Companies Acts, the same rules should apply. The members will be entitled to participate in accordance with their 'rights

and interests'. Where there is no provision in the constitution, the meaning of 'rights and interests' will be more difficult to ascertain, but, in a company limited by guarantee with only one category of member, it is strongly arguable that the members should share equally in surplus property on a winding up. In the case of statutory companies the position is likely to be similar, although the legal route by which this conclusion is reached will be different. However, whether a right in the circumstances of a winding up has any value when the business is still a going concern is a matter of some conjecture.

The value of votes to a purchaser is in their ability to convey control. Where the vote is not transferable or is only transferable where the policyholder's interest in the policy itself is transferred, then voting control cannot, in practice, be physically transferred. Instead, the member relinquishes or agrees to relinquish his vote so that the acquiring company can exercise voting control of the business in its new form. Whether actual agreement (perhaps by special resolution) is required will depend on the rules set out in the constitution. In these circumstances, particularly where a special resolution is required, it seems logical to conclude that a vote has a value regardless of the policy which has given rise to it. From a purchaser's point of view, the unexpired term of the vote given up is irrelevant, and its value is in its ability to be used for the present transaction. The purchaser will never acquire the actual vote which is being exercised, and it would seem more appropriate to value votes on the basis that each has equal value.

If the consequence of this analysis is unacceptable to an insurance company as a matter of commercial logic, it is open to the company to seek appropriate alterations to its constitution. In order to know what authority to seek from members at a general meeting and to explain the effect of what is proposed it is still necessary, in my view, to analyse the legal position on these points in relation to the particular company.

Mr N. B. Masters: I should like to provide a few details concerning the demutualisation of Federal Mutual Insurance, and also to mention some points which arise from FMI's experience.

FMI was established in 1925 by the National Federation of Meat Traders, and has had a very strong sense of mutuality. It never reached any great size, and the Financial Services Act, combined with the rise in mortgage rates, effectively closed the business by default. Overrun expenses began to develop, which could only be overcome by radical restructuring, which would have left the company unviable. It was decided to seek a purchaser and obtain some value for the infrastructure of staff and systems built up over the years. The Equitable of the U.S. agreed to purchase FMI, and a closed fund was established within Equico International, a shell subsidiary, into which the assets and liabilities of FMI were transferred. Most importantly for the policyholders, the expenses of the closed fund were capped at £40 p.a. per policy plus 5% p.a. increase. The Equitable also paid a small additional amount into the closed fund in respect of the goodwill, represented by the staff and systems.

While the closed fund approach has many attractions, in the particular case of FMI it has caused a problem, namely the relatively large volume of illiquid assets: the top-up mortgage portfolio that FMI specialised in. This shows that, in deciding on a closed fund versus an open fund approach, the suitability of the assets as well as the characteristics of the liabilities needs to be considered. We are taking a radical approach to overcome this liquidity problem, and intend, for the current year, not to declare a reversionary bonus, but to maintain a full interim and terminal bonus. This is an effort to create the equivalent of what the Research Group paper, in Section 4.5, calls the 'flywheel effect'; namely raising working capital from the existing policyholders.

Both papers acknowledge that policyholders provide working capital to the company, but appear to dismiss this as minimal, and deny the policyholders any real share in the goodwill or the orphan surplus. I believe that this is misconceived, and that the current policyholders provide significant amounts of capital. This is not generally appreciated, because we concentrate on the asset share as the accumulation of premiums less expenses, forgetting that many of these expenses are paid out supporting and developing the infrastructure of the company—training, recruitment, systems development, and the like—and these amounts are written off in the balance sheet. If a shareholder provides capital, this is recorded on the balance sheet and is there for all to see. When a policyholder supplies capital, it is lost. I strongly suspect that, if we recorded these contributions, much of the

orphan surplus would find a home as would part of the goodwill. Asset shares are very powerful for many things, but they need to be modified when it comes to examining capital utilisation and goodwill. This point is relevant not only to life offices that are about to demutualise, but also to the financial reporting of any large with-profits fund, so that rates of return on capital can be properly assessed.

Like most mutuals, the brochures put out by FMI stressed the virtue of being mutual, and many sales were clinched on this point. We feared that policyholders would object, pointing out that they reasonably expected the company to remain mutual. In practice we had no objectors, probably because it was clear that FMI could not continue. For a stronger mutual, however, I am sure that this would be a real issue, both with the policyholders and with the sales force who would have been selling 'mutuality' for many years.

Mr B. Hayes: The central issue in any demutualisation is what rights, if any, policyholders have to such orphan surplus and such orphan goodwill as may arise. The main arguments centre around membership rights, the nature of membership itself and policyholders' expectations. On the arguments presented in the papers, I believe it is not unreasonable to give policyholders less than the full orphan value. They must derive some benefit, but I suspect that membership is simply a convenient peg on which to hang the benefit which must be given to ensure the success of the scheme, for the simple reason that policyholders must be considered in the context of any scheme put before the Courts. For this reason, the word 'compensation' is inappropriate when the question is really "what benefit should accrue to ensure their acquiescence, and, where necessary, their support?" If the policyholders are not to get the full orphan value, who should? If there is orphan value in the company which is not distributed in some form to policyholders, any capital injected by investors will simply add to the value already there. If they get 100% of the company for their capital injection, they will get the residual orphan value for nothing—unless it is given to somebody else, for example future policyholders.

It is not clear to me in any of the examples given by Needleman & Westall where the capital injection ends up. It may be that the orphan value is left in limbo within a with-profits fund where the rate of shareholder draw-down is restricted, or as some sort of undistributable estate. However, it remains orphan value nevertheless, and will ultimately accrue either to shareholders or to future policyholders, unless it is left in limbo indefinitely. There is one other possible recipient of this benefit; an argument can be made that the residual orphan value should accrue to the State. Indeed, it is not unlike unclaimed Court awards or untraceable intestacies, where the same principle applies. The value has been left by untraceable prior generations, and in a sense it is a close parallel to what the House of Lords *subsequently* decided might have happened in the case of the TSB. The general concept was, I believe, first suggested by Leckie in the United States of America in terms of state compensation funds, but the same principle applies.

I wonder if the authors see any pressure on capital arising from the Third E.C. Life Directive, which would seem to amend Article 17 of the existing Directive and require that the valuation method for with-profits policies should take into account future bonuses of all kinds. This would seem to require that provision be made for at least accrued terminal bonus in reserves. If an office operated on the basis of smoothed asset shares, and said so publicly, it would seem to require that the minimum reserves that should be held would be accumulated asset shares, excluding negative values. This would be fatal to the revolving model of with-profits business and put serious pressure on the allowable capital of mutuals generally. If so, it may provide another powerful stimulus to demutualisation.

Mr N. A. M. Franklin, F.F.A.: I will concentrate on the role of the independent actuary in a life portfolio transfer involving demutualisation. As explained in §2.4 of the paper by Needleman & Westall, most demutualisations are likely to follow this route for two excellent reasons:

(1) to profit from the requirement under Section 49 of the Insurance Companies Act that an independent actuary report on the terms of the scheme of transfer, and
(2) in order to obtain the sanction of the Court for the scheme, which is then *binding* on the members.

Under Section 49, the only direction given to the independent actuary is that a summary of his report "sufficient to indicate the opinion of the actuary on the likely effects of the scheme on long term policyholders of the companies concerned" be circulated to the policyholders (unless the Court directs otherwise, which is unlikely in a demutualisation). It seems clear that the independent actuary is there on behalf of the policyholders of the company being demutualised.

In past U.K. reconstructions not involving loss of membership rights, it has been customary for the independent actuary to restrict his comments to the security and bonus prospects of policyholders. In a demutualisation there would typically be a sweetener paid to existing with-profits policyholders. In these circumstances it is easy for the independent actuary to show that bonus prospects are improved by demutualisation, and therefore to comment favourably on the same. Unfortunately, this misses the point that, in the demutualisation of a major mutual in a healthy financial state, there will be a large sum of money—namely the orphan surplus—to dispose of. Is it satisfactory that its disposal be excluded from the remit of the independent actuary, especially as the Court, in practice, attaches such weight to his report?

GN15 was presumably drafted to address this problem. Like Needleman & Westall, I believe that GN15 is misguided. It appears to be based on one of the conclusions of the Joint Working Party on Policyholders' Reasonable Expectations; namely, that at the point of reconstruction, the current with-profits policyholders suddenly become entitled to the orphan surplus. This conclusion is criticised in Section 2.9 of the Research Group paper. It is difficult to object to a windfall gain for the current members, but I see no reason why they should be *entitled* to the orphan surplus. My concern is that, if there is to be a windfall gain on demutualisation (and this will depend on the financial structure of the demutualised company), it seems unreasonable that the new shareholders should significantly benefit from it, unless they are identical with the existing membership. Perhaps a way forward is to require the independent actuary to explain in his report the components of the orphan surplus and how it is to be allocated under the scheme as between current policyholders, future policyholders and shareholders. His function would be to explain, not to comment as to the fairness of, the allocation—that being left to the DTI and the Courts. The independent actuary's comments would be restricted to his traditional role; namely security and bonus prospects. The Research Group's suggestion in Section 3.5 that more information be provided on asset shares is helpful.

Mr V. W. Hughff: Having spent a whole career with a mutual life office, I enjoyed the relative simplicity of knowing for whom I was working. The owners of the surplus have changed from being entirely with-profits insured to include a major proportion of with-profits pension policyholders, but the policyholders are the only consideration. I do not envy those who have to satisfy shareholders as well as competing for with-profits business. It is said of proprietary offices in the Research Group paper that, "with-profits policyholders' funds may provide the larger part of the office's capital" (Section 2.6). What they mean is equity capital, and reward and equity rights should go with it.

References are made to North American regulations which afford a great deal of protection to policyholders, as indeed they should. These regulations were born of a background of some early demutualisations carried out for the benefit of management and other insiders, causing Wisconsin to ban all demutualisations 100 years ago, and New York to do the same in 1922. It is a common provision in the States of the U.S.A. that members have pre-emptive rights to all the stock in the demutualised company, and this is a vital safeguard. Like democracy, it can be very inconvenient and clumsy, but it is the only safe way. No directors or employees should gain anything from the change of ownership, other than what they might have gained by being members.

The main reasons for recent demutualisations have been the difficulties into which offices have got themselves, normally through mismanagement—maybe over a period of years. The actuary is not always in a position to stop the mismanagement, nor to impose his own remedial action when the faults become manifest. There are other major sources of difficulty. One is taxation, which in some countries has caused companies to demutualise, and another is legislation. The papers have referred to the Financial Services Act 1986, which, if it did destroy or decimate the independent advisor market, would cause a marketing management problem that could prove very expensive. The other difficulty which can prove disastrous, is when a mutual office has a very large capital base relative to

its liabilities, but the capital is unduly committed by current pressures to regard the failure to maintain bonus rates as company failure. For some reason it is acceptable for a bank to halve its dividend, but not for a life office to reduce its bonus rates. Somehow we have to define policyholders' unreasonable expectations, for it does not seem sensible to give up all the advantages of a mutual fund, possibly with 100 years of history behind it and with the potential of hundreds more to come, for a temporary and externally imposed disadvantage.

Mr P. J. Turvey (in a written contribution which was read to the meeting): Corporate reconstructions provide an additional reason for demutualisation not discussed in either paper. For example, there have recently been a number of domestications, whereby local branches of overseas mutuals have been converted into proprietary subsidiaries. These transactions pose most of the questions discussed in these papers, and are a useful source of precedents. Such cases include Swiss Life's domestication of the U.K. branch of a Swiss company, National Mutual's domestication of the U.K. branch of an Australian company, and the domestication of Friends' Providents' Irish branch. The recent restructuring of Irish Life involved similar issues.

Needleman & Westall properly give careful consideration to the calculation of compensation for the existing policyholders. This bottom-up approach is important when designing or evaluating any proposed scheme of demutualisation. There is, however, another way of looking at a scheme which produces equally important insights, which I call the top-down approach. This states that the expectations of the various groups of potential beneficiaries—current and future policyholders, management and staff, and future shareholders—must be equal to the total available resources: the orphan estate plus the goodwill of the office, adjusted for any synergy (positive or negative) arising from the demutualisation, together with any new capital which is being subscribed.

My firm has been involved, in one way or another, with five out of the six recent demutualisations in the U.K. and Ireland, in addition to having extensive discussions on others which have not come to fruition, and I now share our insights into some of the key practical points which have emerged:

(1) The question of whether the existing with-profits business should stay as 100/0, or be converted to 90/10, is likely to be heavily influenced by the wishes of the new partner. If the new partner has plenty of capital, and wants an instant flow of profits, he will prefer the 90/10 route. However, if he is unwilling to tie up capital to buy future profits, he is likely to prefer the 100/0 route.

(2) A 100/0 closed fund can be of great value to the new company, even if it does not receive a share of the cost of bonus. This is because the closed fund will almost certainly be subject to tax on an $(I-E)$ basis, which, in practice, will be available to the continuing business to give tax relief on expenses. The commercial present value of this tax relief could be as much as 10% of those assets of the closed fund which relate to life policies.

(3) In Section 5.4 of Needleman & Westall's paper, reference is made to the possibility of a closed fund supporting the continuing business. I have some concern on this point, especially when the closed-fund policyholders have been given to understand that their assets and liabilities have been ring-fenced. If surplus in the closed fund is used in the published valuation to cover the solvency margin or mismatching reserves of the continuing business, it is exposed to a real commercial risk. If the surplus is used—as it could be—to cover new business strain on continuing business, the risk is higher. The level of risk will vary from case to case, and policyholders would have legitimate grounds for complaint if there were a material risk that the closed fund might suffer an irrecoverable financial loss as a result of supporting new non-profit business.

(4) In the case where a demutualised office is continuing to write with-profits business in the same fund, with bonus rates at the same level as if demutualisation had not occurred, I believe that careful consideration needs to be given as to how long it can afford to continue to write with-profits business—especially with the increasing volumes that may flow from the new partner—before it is forced to take remedial action such as:

—reducing bonuses to take account of the shareholders' proportion, or
—starting a new bonus series, or
—switching new business to unit-linked.

The cost of the shareholders' proportion is a real strain on the resources of the fund compared to a mutual existence, and even if this cost is pre-funded at the time of the demutualisation, the outgo cannot be supported for ever.

Mr N. H. Taylor: I believe that there is a danger that we may be taking demutualisation out of context. It is, after all, a subject which is technically very interesting, and which has been subject to a certain amount of hype by both merchant banks and consulting actuaries. Demutualisation is not a strategy; it is a major action in support of a strategy, which is there in support of an objective. Most offices have agreed their long-term ambitions, whether these are set out formally or not. For mutual offices, the overriding objective must be to do their best for their policyholders or at least their with-profits policyholders. By observation and discussion, the way mutuals seek to satisfy this objective is to adopt a 'grow bigger strategy'. Organic growth is likely to be the first choice, but a few offices feel they need to join a stronger institution. Demutualisation is simply a means of achieving a merger, although a straight Section 49 transfer is likely to be preferred when the merger is with another life office. Demutualisation and flotation—akin to the Abbey National Building Society—is still awaited.

Thus, offices have a number of options—organic growth, demutualise and merge with another company, merge with another life office, demutualise and float, or cut back their activity; and they should look at all of these. Having decided on their preferred course of action, they should prepare contingency plans to deal with the unexpected, and these should be carefully thought through.

The Research Group have rightly mentioned the mutual office culture, but I do not believe they have given it the importance it deserves. On demutualisation there is normally going to be a significant culture shock—the more so if the new shareholders are demanding. We have only to look at some of the older established proprietary offices which, until recently, seemed to be managed as quasi-mutuals, to see such a change in culture.

Like others, I appreciate the points made by Needleman & Westall in Section 2.5, and their conclusion that the roles of the directors and the independent actuary are in danger of overlapping. However, our Memorandum on Professional Conduct and Practice reminds us of our duty to third parties. In a case where the policyholders have lost confidence in their directors—likely when an office is in difficulty, as we have seen—they will almost certainly look to the independent actuary for guidance, even though the report is strictly for the Court. Everyone else has, or may be thought to have, a vested interest, except the DTI who operate behind the scenes. Independent actuaries have seen their roles in different ways. GN15 gives us guidance based on experience, but it is advisory not mandatory, and it is certainly not restrictive. Independent actuaries can continue to use professional judgement as to their role in each particular case, and I am sure that GN15 can be reconsidered as further experience is gained.

I believe that suggestions from the profession on improvements to life office demutualisation and merger law are desirable. I would couple this with the need to protect policyholders' interests when a proprietary office is taken over. With more activity expected in this area, we have an important role to play in getting both the law and our own guidance into a better form.

Mr T. W. Hewitson, F.F.A.: The calculation of the aggregate asset shares and hence the additional estate, as defined in Section 4.4 of the Research Group paper, that is "the difference between the office's total assets and the total of the asset shares of all the office's in-force policies", is undertaken by a number of large with-profits offices, which can then monitor directly the development of the additional estate. It is open to debate whether the A/AS ratio, that is the ratio of the assets to the asset shares, should then be published as an indication of the financial disposition of the office, but it is certainly a valuable tool for internal purposes. An adverse trend in this estate may indicate the need to control the level of growth of particular types of policy, or to adjust the bonus policy or investment policy so that they synchronise better with each other. In particular, it was very interesting to see from Table A6 of the Research Group paper that a modest change in reversionary bonus policy can remove many of the apparent constraints on investment policy.

An office needs to be sure of its ultimate objectives before proceeding down the route of demutualisation. For example, a need for capital might be met by subordinated loan capital,

assuming that the current proposal in the Draft Life Framework Directive is adopted. However, there may be other reasons—such as securing a distribution network—why a demutualisation may be preferred. There is at present no specific legislative route for this change in status. However, the three most recent demutualisations in the U.K. have all followed the route of a Section 49 transfer, for which there are a number of precedents and some established case law, notably the London Life judgment. This referred to the need to ensure that the proposed scheme is fair as between the interests of the different classes of persons affected, including policyholders and employees. Also, a comparison is to be made between the effect of the scheme and the position if there had been no scheme. However, alternative schemes do not need to be considered. Furthermore, a scheme would not necessarily be rejected simply because many of the employees would be made redundant. In my view, this leaves a fairly wide open door for the development of future schemes. However, it does not appear to require comparison with a closed fund scenario, particularly if this is unlikely to be the outcome if there had been no scheme of transfer. In practice, a closed fund was a probable option in the short term for the three recent demutualisations if their schemes had not been approved.

The views expressed in Section 3.1 of the Research Group paper are not necessarily those of the DTI or GAD, which did not see any draft of those comments beforehand. While the vote by members is not a formal requirement, I believe that in the absence of any overriding considerations, a strong vote in favour must be quite persuasive for the Court in coming to its conclusion, as was indicated by Mr Justice Hoffmann in the London Life case. Also, while the contents and length of any circular to members are a matter for the companies concerned, they must surely be seen to provide a balanced account of the proposed scheme.

On the wider issues raised here, there is no clear solution at present to the issue of a large mutual office with a sizeable estate which wishes to demutualise. Ultimately, the question of ownership of the estate might have to be resolved in the Courts, should a Section 49 transfer and demutualisation of such an office be contemplated.

A suggestion is made in Section 2.9 of the Research Group paper that "the additional estate might be used to set up a policyholder trust fund invested entirely in the share capital of the newly demutualised life office." This is an interesting idea, but would need further thought about how to allocate voting rights, how to set an appropriate dividend and bonuses each year, and the transferability or otherwise of any shares held by the trust fund. Alternatively, some part of the company might be sold off, as suggested in § 2.3.3 of the paper by Needleman & Westall. If the staff and/or administrative systems were transferred to another company, then an appropriate financial consideration would need to be negotiated, both at inception and for subsequent services. In addition, some binding agreements would be required for the provision of services to policyholders in the mutual. Some difficult conflicts of interest could then arise, but the insurance company would still have to be run in a fit and proper manner.

Mr L. M. Eagles: Consideration of the orphan surplus or additional estate leads to very important consequences; namely that it may be possible to demutualise, *inter alia*, by walling off assets to support existing policyholders' reasonable expectations in full, as was done, for example, for Southern Life Association in South Africa. However, in practice I believe we need to handle this concept of the additional estate or orphan surplus with great caution.

In a recent case, I was the Appointed Actuary of a small mutual which was almost wholly with-profits, where the board, for reasons connected with the Financial Services Act, had decided to seek a reconstruction or merger. The office was in a strong position. Total assets exceeded the aggregate of all in-force asset shares by a substantial margin; further, a bonus reserve valuation showed that for in-force business both current reversionary and terminal bonus rates could be supported. My first inclination, therefore, having read the papers on the Southern Life demutualisation, was that I would find considerable orphan surplus. Consideration of the run-off of a closed fund revealed a rather different situation. Despite the strong financial position, the office would, if closed, be forced to reduce the proportion of the funds held in equity-type investments. This was firstly to avoid terminal bonus rates becoming much more volatile than the policyholders previously had been led to expect. The office had been committed to a high degree of smoothing of maturities, and the board wanted, if

possible, this practice to be continued, along with the current bonus rates. Secondly, the solvency of the fund became vulnerable to a fall in the market value of equities when closed—so that it would no longer be prudent to maintain a high equity backing ratio, even though that was essential to policyholders' reasonable expectations.

So, I endorse the conclusions reached in Section 6.4 of the Research Group paper, but in particular the statement that "The investment freedom of a closed fund would be more severely and irreversibly impaired than the investment freedom of a continuing mutual office, following a fall in market values of the assets." The projections showed the orphan surplus disappearing like the smile on the Cheshire Cat. The problems are compounded as the apparent orphan surplus reduces, because it is no longer possible to hold mismatching reserves as low as 3% or 4% of assets. They may become nearer 10%. So, an apparent orphan surplus at first sight should not delude us. The situation—at least in the U.K. where there is often high equity backing—is, in practice, often going to require more complex solutions than walling off without adjustment.

Mr G. G. Wells: I shall restrict my comments to the paper by Needleman & Westall. Paragraph 2.2.4 rightly recognises the likely need for more capital in the future if mutuals are to remain competitive. However, mutuals should, perhaps, seek alternatives such as switching their sales emphasis to unit linked or unitised with-profits and/or placing greater emphasis on terminal rather than reversionary bonuses.

In Section 2.3 the authors discuss alternatives to demutualisation. I believe that, if the force driving the reorganisation is the speed of release of surplus, for example to take advantage of profitable new opportunities, then the sale of a block of in-force business to a bank, or perhaps a surplus relief treaty, might represent a further alternative.

Orpan surplus is a key area in any demutualisation. Its treatment will depend on the scheme involved, in particular whether the with-profits fund is to be closed or to remain open. If the fund is closed the orphan surplus will accrue to the policyholders of the closed fund. This amount represents a windfall profit which has not been earned by such policyholders. In such circumstances, should the policyholders be willing to accept a reduced goodwill payment, if any? The purchaser would certainly be keen for such an approach. Under the open fund approach the purchaser should make some contribution for its participation in the orphan surplus. Whether this is based on the actuarially derived amount will depend on the relative strengths of the parties involved. Furthermore, because orphan surplus is a sensitive quantity, the purchaser will only wish to pay for that part of the orphan surplus which can be identified with some degree of certainty. In practice, the volatility of the orphan surplus to small changes in assumptions may well result in a non-actuarial method being more appropriate in assessing the compensation a purchaser is willing to pay for its participation in the fund's orphan surplus.

The discount rate to be employed in valuing policyholders' compensation is discussed in Section 4.3. The acquirer will use a risk discount rate—for example, 12% to 15% net—to assess the value of the compensation. To the extent that this rate is higher than the net return on the assets of the fund, the difference in value has to be reconciled if the transaction is to take place. A possible method might be to subtract the excess of the value of in-force business, calculated on the net return of the fund relative to that using a risk discount rate, from the goodwill element of the acquirers' purchase price. This will allow the value of in-force business to be presented in a light that is more readily accepted by the policyholders, although potentially reducing the value of goodwill to no more than a sweetener.

I agree with the authors, in §4.4.5, that the determination of goodwill is a difficult area, where considerable judgement must be exercised, both in the case of valuing a proprietary company and a mutual. In the case of a mutual, the fact that the management will be operating under a completely different environment must be factored into any goodwill payment, along with the assessment of future new business. Because of the uncertain nature of future new business, I believe there are grounds for goodwill payments to be made on an 'earned' basis. With this the vendor receives payments for future new business that is actually generated (relative to an agreed base-level assessment), rather than the usual approach of making an up-front payment based on a subjective multiplier applied to the value of one year's new business. However, the price actually paid is that which matches a willing buyer and a willing seller.

If a number of potential purchasers exist for a mutual, but their structures for the reorganised company differ, the choice of the directors will not necessarily be ruled by the absolute values offered. They will also need to assess what is in the best long-term interests of the policyholders – for example, an open fund versus a closed fund.

The use of expense guarantees for a closed fund will not be viewed with any great relish by a potential purchaser, although it could be allowed for in the price paid – for example by a reduced value for goodwill. In practice, a general provision providing for expenses to be apportioned in a fair and equitable manner agreed by the actuary seems to be a more acceptable and commercial stance to be taken by the parties involved. The apportionment of tax, such that the closed fund bears no more tax than a mutual, must again be viewed in the context of the price paid—the reorganised company will be taxed as an entity, and not by its constituent funds.

For an open fund, the use of asset shares seems to be an essential requirement, so as to protect policyholders' reasonable expectations (although the notional earmarking of assets to policyholders is a possible alternative). There is no one method used to calculate asset shares, so the policyholders rely on the actuary, post-demutualisation, to protect their reasonable expectations. However, the basic principle is straightforward, the roll-up of premiums at an appropriate investment return allowing for expenses and notional mortality costs. This should be capable of being assessed with a fair degree of accuracy, and as such the policyholders' reasonable expectations should be largely protected. The main advantage of the open fund route is its attractiveness, subject to cost, to potential purchasers who perceive a need to write with-profits business. For companies wishing to reorganise because of a lack of capital and/or distribution, this is likely to be one of their main attractions. If such mutuals insist on a closed fund route, effectively destroying the reorganised company's with-profits capabilities, their potential suitors are likely to be greatly diminished in number, and this might work against the policyholders' reasonable expectations.

The President (Mr H. H. Scurfield): Coming as I do from a large mutual company, I have always understood that if we stopped writing new business the bonuses available to with-profits policyholders would gradually increase as the estate was paid out, that is the tontine principle, which was referred to in the papers. These papers have caused me to rethink this proposition.

I have been reminded recently that the smoothing of payouts on current claims comes not so much from the estate as from the ongoing business, that is the current generation's smoothing is provided by the next generation's business, so, if there were no new business, where would the smoothing come from for the claims on the current business? It would all have to come from the estate which is limited in size. Many companies, especially those providing the current large payouts, have only a very small proportion of fixed-interest investments in their with-profits funds. If they became closed funds then, in order to provide smooth payouts and guarantees to policyholders, the proportion held in fixed-interest investments would have to increase; and, as the fund ran down, a very high proportion would have to go into these investments. What would that do to the size of payouts?

The model in the Research Group paper could provide some answers, but I should like to run it with more realistic investment assumptions, which bring out the significant differences which we have seen in the returns from ordinary shares and fixed-interest investments over the past 40 years. I calculate that the additional return from ordinary shares over gilts during the 1950s was 17% p.a.; during the 1960s, 6% p.a.; during the 1970s, $2\frac{1}{2}$% p.a.; and during the 1980s, 9% p.a. The 40-year average was 9% p.a. It is a large figure. The model in the Research Group paper implies the use of a very much smaller figure, even in Appendix 6 where sensitivity tests are carried out.

There is another way of looking at the same phenomenon if two 25-year annual premium with-profits policies are considered. Let us assume that in one all the premiums are invested in equities, and, in the other, in gilts. The maturity proceeds from the equity policy exceed those on the gilt policy by a factor of three times. This is approximately true of policies maturing now, 10 years ago or indeed 20 years ago.

Returning to the closed fund, an increase in the proportion of fixed-interest investments would, if history repeats itself, produce a much lower return, which would have to be subsidised from the estate if the original realistic expectations were to be maintained. So, my unanswered question is: would there be enough estate to provide that subsidy, and does the tontine principle really apply?

Mr J. Plymen: When mutuals were established early in the last century, life assurance was a very straightforward business. Apart from immediate annuities, most of the business was with-profits life assurance carrying a significant bonus loading. There was no pensions business. Under these circumstances mutual status without any capital was unacceptable. Now, every factor affecting life assurance is less predictable; the long-term rate of interest, so stable in Victorian times, has fluctuated between 2½% p.a. and 16% p.a. over the last 50 years. Instead of deflation, inflation at 5% p.a. or more seems to be a feature of the economy, with consequent threat to expense margins. Mortality rates, after falling for the last 100 years, are now more likely to rise than to fall because of AIDS. With pensions business becoming more important a high proportion of the fund must now be invested in equities, which have no capital or income security. At present levels of the equity market, something like 25% of the equity fund needs to be kept as an investment reserve, apart from any further reserve requirements for mortality and expense.

Obviously, life assurance operations now require significant capital backing. The original mutual set up without capital could never be started now. Mutual life offices have provided this capital by underpaying their maturity policyholders—that is, by breaking their mutual status. Without access to the capital market, mutual offices tend to be restricted in their investment policy, keeping their equity content down to perhaps 60%, rather than the 80% to 90% that is becoming proper practice. Demutualisation on the basis of a 10% participation can provide an extra 15% of reserves, permitting a better investment policy and greater profitability.

The basis for demutualisation should produce a figure which is fair to both sides, but subject to negotiation according to the particular requirements of each party. I suggest that a fair basis is as follows. A sum is paid into the life fund which, when invested in U.K. equities, is sufficient to provide an income of one-ninth of the present policyholders' surplus. Earnings are increased in the proportion of nine to ten: nine goes to the policyholders, as before, and one to the shareholders. The policyholders' interest for the year is quite unaffected. In practice, this preliminary figure may need a certain amount of adjustment. It is necessary to make sure that the present bonus distribution is a fair figure, maintainable in the future and free from any exceptional once-and-for-all payments. Allowance must also be made for any differential taxation between the life fund and the shareholders' fund.

An alternative method is to calculate the full appraisal value of the business, allowing for all possible factors, profitability, surplus strength and the rate of long-term growth for the business as a whole. The demutualisers' contribution then becomes one-ninth of this appraisal value. It is like a company raising a rights issue. I suggest the use of this simple 'income purchase' technique, which is based on financial first principles rather than on actuarial calculations. The traditional actuarial procedure, which has to assume some long-term rate of interest on equities, is like a tower built on sand in that an elaborate mathematical structure is erected on shaky statistical foundations. The main problem is that you have to assume a rate of return from an equity portfolio relative to gilt edged over the next 25 years. The Research Group have assumed a yield difference of 3% p.a. The President said that, since 1945, it has been somewhere between 3% p.a. and 17% p.a, an average of 9% p.a. Any interest assumption made for the traditional valuation can be no more than speculation.

Mr C. W. McLean, F.F.A.: I wish to comment on the nature of mutuality and the interaction between the closed fund option and the role of the independent actuary. I agree with Needleman & Westall in §2.5.8: we must clearly separate the actuarial issues from the commercial ones.

Concerning the commercial issues, the Research Group, in Section 2.1, begin with possible reasons for the failure of mutuals, "such as a severe deterioration in asset values . . ., rapid unforeseen changes to distribution channels . . ., sudden loss of customer confidence . . ., or the introduction of new regulations", yet the most obvious is omitted—bad management, writing business at a loss or allowing expenses to escalate imprudently. We must admit—even for with-profits business—the concept of efficiency as well as profitability, and this adds a useful perspective to the assessment of a demutualisation that involves no changes in operating management. Unfortunately, this commercial reality cannot easily be abstracted into an actuarial model. The value to society as a whole of maintaining an entity that can only offer what others already do, but rather less effectively and on a

smaller scale, may be negligible. The relatively small goodwill values negotiated to-date support this conclusion. Thus the rationale of mutuality has a qualitative aspect as well.

There are also some philosophical arguments. Section 2.6 of the Research Group paper draws some artificial distinctions between mutuals and proprietaries. The mission of some mutuals may well be identical with that of many proprietaries. None of the latter has purely financial objectives, and no proprietary would pretend that shareholders are the only stakeholders in the business. Most businesses, whatever their ownership, exist to create and service customers, and the price and profit margins on such activities are set by the market place under competitive conditions. I can find no evidence that mutuals enjoy a flexibility with non-profit charging of the sort described in this section.

With these thoughts in mind, it is much easier to assess the value of a specific mutual remaining as an entity. For mutuals, as with proprietaries, if the service is not unique, the *raison d'être* must ultimately depend on commercial ability. As the industry forces described in the Research Group's Section 2, 'Background Climate', apply to most life offices—yet few have demutualised—it is difficult to escape the commercial judgement that the market is making when demutualisation goes on the agenda. Where an independent actuary suggests that the addition of more capital or new distribution—but not new management—can allow him to predict the security and long-term bonus prospects for policyholders, it is a long way from actuarial theory.

What the Research Group paper shows is just how much investment freedom may be available to the closed fund. There are also additional benefits. Both papers neglect the potential for cost reduction, which could be one of the greatest advantages of closure. Many commercial businesses view cost cutting as a sensible method of generating capital, and life offices should be no different. Why should we think that the ability to sell new policies can get this sort of company out of trouble? It seems unlikely that it could sell new policies profitably. A distributor acting rationally will not only not pay goodwill for business it is to introduce in future, but will not leave any profit in the business for others. Such an owner of a proprietary will get 10% of life surplus, but retain 100% of its own sales commissions.

The case study I presented to the CIRIEC Symposium in September 1990, concerning the Time Assurance Society, details one company where the percentage reduction actually achieved under management contract with capped expenses was in excess of 50%. We would be surprised to find just how many costs can be shed when an orientation to new business acquisition ceases. However, these kinds of commercial calculations go beyond the remit of the independent actuary. To put such an alternative to members may require disclosure of membership lists to others, to give equivalence to the rights of bidders for listed, non-mutual businesses. I think this is the clearest anomaly to come out of the comparison of contested bids for mutuals with Stock Exchange rules, as referred to by Mr Scobbie.

It is in this area that further guidance or legislation is required. Mutual life offices do not have the same checks and balances as shareholder-owned companies, and Section 49 recognises that. The Appointed Actuary and the independent actuary have special positions, but each, for his or her own reason, has some potential conflicts. While integrity is not in question, the public credibility of the profession could be put at risk by conflicts that arise in demutualisation. Policyholders may not understand that we are just trying to make the best of legislation that is not really designed for this purpose.

One method of demonstrating the value added by alternative proposals would be to tilt back the balance that presently exists against competitive offers. If the alternatives are to be actuarially sound, they will have to involve actuaries in valuing a possibly hostile offer. The profession could then run into problems if the independent actuary has not given a purely actuarial report. That report should not be capable of misuse by a defending board by claiming it covers anything other than appraisal of one closed option from an internal perspective. There are many possible forms for closed alternatives to take, and the independent actuary will not be in a position to comment on specific external offers that may only be made in the course of the demutualisation. I agree with Mr Scobbie that he should not. However, the corollary of this is that the independent actuary's report should not be capable of being used by mutual company boards as a defence that can be used to repel all attacks. The independent actuary can only support one proposal: he is not there to reject other commercial offers. We must ensure that he retains his independence and his purely actuarial basis.

Mr A. K. Gupta, F.F.A.: I once worked with the Appointed Actuary of a proprietary company on a radical restructuring of its with-profits fund. This restructuring had some similarities to a demutualisation, and, for various reasons, we decided to go through Section 49 procedures. In such situations it has become customary for the Appointed Actuary to produce a report, and we found that we had to ask ourselves several questions about the report. Who is to be reported to: the directors; the independent actuary; the Courts; the policyholders; or the DTI? What should be in the report? Should it be limited to information relevant to the policyholders, or should it contain information on the finances of the company relevant to shareholders? What will the report be used for? Is it a public document or only for the use of the board? Is an extract of it to be circulated to policyholders? We studied the precedents, but they provided little help. In such situations the Appointed Actuary can be in a quandary. On the one hand he is advising the board, and on the other he has an obligation to protect the policyholders, and this conflict of interests can increase if he is to be the Appointed Actuary of the reconstructed company. There is, currently, no guidance on the role of the Appointed Actuary in such situations. Guidance would be helpful in this area and would strengthen the position of the Appointed Actuary.

Another situation arose during my membership of the committee which drafted GN15. I disagreed with the rest of the committee and my reasons are precisely those described by Needleman & Westall in Section 2.5. My particular concern is that it is the directors' responsibility to consider alternative schemes, and not the independent actuary's. Furthermore, the valuation of membership rights is a commercial matter, and again not one for the independent actuary. I believe that GN15 could be placing the independent actuary in an untenable situation and that the brief of the working party set up to draft GN15 was too narrow. It might have served the profession better if it had been widened to include consideration of the roles of the various parties involved in a Section 49 transfer.

I was concerned to read some of the statements made in Mrs Pell's recent paper 'Transfers of U.K. Long Term Business', on Section 49 transfers, to the Staple Inn Actuarial Society, which was written from a legal viewpoint. In particular, I was surprised by the following sentence in §4.5:

"It is considered that policyholders do not, as policyholders, have a legal right to have their reasonable expectations met, either in a mutual or a proprietary company. If reasonable expectations are in danger of not being met, of course the DTI may exercise its powers of intervention, but this fact, on its own, does not necessarily imply a breach of the directors' fiduciary duties."

The profession's interpretation of policyholders' reasonable expectations in these circumstances is almost universal. The Research Group, in Section 2.9, did not totally agree with the third conclusion of the Working Party on Policyholders' Reasonable Expectations, and I share their reservations. As far as I am aware, policyholders' reasonable expectations have never been tested in court, and a major demutualisation would certainly bring them under the microscope. I am concerned whether the actuarial profession should take too strong a stance on these with the current lack of legal backing, and given the opinion expressed by at least one lawyer knowledgeable in this area.

I am drawn to one conclusion: the current framework for demutualisations is inadequate. The position of the Appointed Actuary is unclear, and the independent actuary is being put in an untenable situation. Policyholders' reasonable expectations and membership rights are being confused, and this can be particularly significant where a mutual has been demutualised and where non-profit policyholders have votes. Furthermore, comparison with the closed fund option may not be relevant. Mrs Pell has already spoken on membership rights, but I should like to quote again from her paper, in §7.7:

"There is also an assumption that members can influence the activities of the Board through the exercise of voting power—presumably by appointing new directors of a more sympathetic nature. (It would after all be a decision of the Board whether to close the fund, not the members.) This is of course correct in theory, but in practice the voting power in a mutual is dispersed among so many people that it is far more difficult to wield that power effectively than it is in a company with a share capital."

In any demutualisation it is the responsibility of the directors to develop the scheme. The actuaries involved as actuaries are advisers, and they do not act with any executive authority. The commercial

interests involved in a significant demutualisation are considerable, and the position of the actuaries advising on it should not be overstated. If the profession chooses to adopt a position which could prove ultimately to be untenable in the Courts, it could be to the long-term detriment of the profession. We should lobby for the correct framework to be put in place, and seek to work with lawyers and other interested parties to develop and install it.

Mr G. W. James (a visitor): As a lawyer, I begin by stating the universal principle to which all lawyers subscribe: that there is no such thing as a universal principle; everything depends on the circumstances.

The membership rights of a mutual policyholder are an adjunct of the policy contract. Thus a person cannot become a member without being a policyholder in some guise, and equally cannot become such a policyholder without also being a member. That is of some importance. Can it then be correct to look upon the membership rights independently and discretely from those enjoyed under the supporting policy contract? It is dangerous to draw general conclusions, but, if one has to be drawn, I think it is preferable to view the membership rights as an adjunct to, and a protection of, the contractual rights. They are part of the amalgam of rights enjoyed by the policyholders, and I do not believe that they can be analysed separately or distinctly from the purely contractual rights. In my view they supplement, support and protect the contractual rights, but how do they do this?

It is dangerous to generalise, but I think they can be split into questions of economic benefit and of control. Given the fact that the policyholder will normally regard the contract as the sole repository of his entitlement to economic benefit, it seems more in keeping with the practical reality to analyse membership rights wherever possible in that context.

The question of control is at the heart of mutuality. It is the autonomy which policyholders enjoy over their company which is all important. Where there is a major change, and policyholders are to give up that autonomy, I believe that they are entitled to some idea of all the realistic alternatives to whatever demutualisation or other proposition is being put forward. These alternatives should be at the back of the minds of those negotiating the transaction. In an environment which offers little legal and regulatory guidance in this area, that principle seems to me to be an important one. I hesitate to suggest whether it should apply to the minds of the directors, of the independent actuary, of the DTI, of the Court, or of all of them.

Mr C. E. Barton: Mutuality is uniquely appropriate to participating life assurance. Originally, public spirited individuals may have provided guarantees, but, once a with-profits life office is successfully established, there should be no need for a separate body of shareholders to provide capital, the provision of which is a central feature of the business itself. It is, of course, necessary that a sufficiently high proportion of the assets should be non-consolidated, and paid as benefits in the form of terminal bonuses.

Both papers make much of demutualisation being a means of raising capital. However, it is pertinent to note that, in general, proprietary offices have not raised fresh capital despite immense expansion. There have been some instances in recent years of new capital being raised, but this has been for new developments in fields other than life assurance, where the whole of the profits are to accrue to shareholders. It is not so long since ventures of this kind were sometimes financed from policyholder funds.

Both papers quote the commonly held view that policyholders should not, and do not, expect a fund to be closed. I agree. If a fund is properly and equitably managed there should be considerable advantage to the policyholders in continuing to write new business. Surely demutualisation is rightly regarded, if it is considered at all, as even less likely than closure. Until recently there had been a few instances of funds closing and of mergers between mutual funds, but demutualisation had never been heard of in this country, so it can hardly have figured in the expectations of the vast majority of existing policyholders. I suggest that those who have chosen a mutual rather than a proprietary office (and it would be interesting to know the proportion of policyholders in each type of office who have consciously made a choice on this) are more likely to be more concerned about abandoning mutuality than about closure of the fund.

Needleman & Westall state in § 4.2.3 that members of a mutual office should not be considered as shareholders. I cannot accept this, and I do not see that the two important differences they quote are valid. They say there may not be any clear entitlement to the assets specified anywhere. Whilst it is desirable that the attribution of assets between members should be specified, surely there can be no doubt that in common sense the assets *in toto* belong to the members. I say this notwithstanding the ruling of High Court judges in the TSB case. I agree that, where non-profit policyholders are members, this may be confusing, and this is an example of where detailed specification would be desirable. The other important difference cited is that membership of a mutual office is only temporary and is dependent on the existence of a policy. However, being a shareholder is also dependent on the continued holding of shares. Buying shares is analogous to paying a premium under a participating policy; and selling shares is analogous to the discontinuance of a policy. It matters not that in the case of a fixed-term endowment assurance there is a predetermined date beyond which the policy cannot be maintained.

Needleman & Westall say, in §§ 2.1.8 and 2.1.9, that mutual policyholders accept that there will be an orphan surplus which will be passed on from one generation to another, but then go on to say, "Much of this is, of course, implicit because the company does not state it." How can it be suggested that policyholders accept this situation when they do not know of it? The question of whether they understand does not arise; they do not know about it because they have not been told. The authors consider that this matter is being modified by the requirement to publish With-Profits Guides. In the few guides I have seen, one from a mutual and two from proprietary offices, there is no intimation of orphan surplus or entity theory in these or any other terms.

I dislike the euphemism, 'orphan surplus'. A more apt description would be 'hijacked surplus'. Orphan surplus would be an appropriate term for those (not insignificant) unclaimed amounts which have accumulated in life offices where policies have matured, or lives assured have died, but the persons entitled to the benefits cannot be traced.

Both sets of authors assume that, if demutualisation is to take place, then for future new business, and possibly existing business too, the basis of allocation of surplus between policyholders and shareholders should be the traditional 90/10. Whilst this basis has become firmly established in the U.K. over many years, over the last 40 years or so its inherent irrationality has become more and more apparent to actuaries, but not to the public at large. In 'The Flock and the Sheep' (*J.I.A.* **108,** 361) Redington drew attention to the fact that the proportion of with-profits premiums represented by the in-built bonus loading had changed, so that the shareholders' 10% of surplus had increased from about 1% to about 4% of the premium. J. G. Wallace referred to this feature and others in his Presidential Address to the Faculty in 1973 (*T.F.A.* **34,** 1). Then there is the effect of the artificially low rate of interest used in published net premium valuations, which means that the shareholders' share in respect of reversionary, but not terminal, bonus is increased by between 50% and 100%. The effect of tax can be another reason for the shareholders' share being not what it appears to be. I understand these points have been taken into account in both papers in evaluating the shareholders' interest, but they still have relevance as regards the effect of variations in the future from what has been assumed, and also as regards future, post-demutualisation policyholders.

Mr M. J. de H. Bell (closing the discussion): Over the past few years I have been involved in a number of Section 49 transfers, involving both mutual and non-mutual companies. One of the things I have learnt from that experience is that no two situations are the same. This particularly applies in the case of a demutualisation.

My first comments are about the culture of a mutual company, and what mutuality means. There are a number of people who take out policies with mutual companies because they understand what it means and they think that, because there are no shareholders, all the profits will come to them. We know that this is not necessarily the case; and we also know that anybody taking out a with-profits policy is taking much on trust and has based his judgement, if he is sophisticated, to a large extent on past experience.

However, for a demutualisation to succeed, it needs both the blessing of the management (particularly the senior management) of the company concerned, and also of the board of directors.

These persons will find themselves in a rather different role in future, being responsible to shareholders who probably expect profits rather sooner than policyholders do.

Any demutualisation must have clear objectives and all the parties involved must fully understand what they are doing. Mr Fine said that when he advises a company thinking about demutualisation, he needs to go through what they are trying to achieve, and whether they are trying to achieve it in the best way. It is essential that, in any transaction of this nature, the policyholders can be seen to be as well off, and preferably better off, than they would otherwise have been. If it cannot be demonstrated that they will be better off, then I cannot see how anybody could justify going through with the exercise. The other *sine qua non*, so far as I am concerned, is that the acquiring company should not be perceived to have obtained too good a 'buy'; in other words, it must be paying a price which is fair not only to it but also to the policyholders.

Why should a company contemplate demutualisation? This topic was referred to by a number of speakers. The reasons given in the papers are those which one would expect: source of capital, distribution, and so forth, but it is important that a company contemplating demutualisation for one of these reasons should also explore other possibilities. Mr Hewitson mentioned the possibility of issuing subordinate capital. I understand that it is likely that such capital will not have to be taken to be part of the liabilities of the company in looking at solvency. Another possibility, which may solve some of the problems, is merging with another mutual. Mr Wells picked up the possibility of selling off part of the portfolio.

The roles of the various parties seem to be very much intertwined. There are the directors whose scheme it is; the Appointed Actuary, who may or may not be a director, but who also has a responsibility both to his policyholders and to his board; the DTI; the independent actuary, who is crucial to the exercise; and the Court, to whom the independent actuary is reporting. As a number of speakers have said, there are very few guidelines laid down. If one is following the Section 49 route—contemplated by most, if not all, the speakers, the Court is guided by the independent actuary, who is guided by GN15. There is also the law of the country, in particular company law and insurance legislation.

The question of § 4.4.13 of GN15 and whether the independent actuary should report on the closed fund situation has been thoroughly discussed. A number of speakers argued strongly that it was not up to the independent actuary to report on these areas; others took a contrary view. I am somewhere in the middle. I appreciate the difficulty of the independent actuary in reporting on this aspect, as his role is confused if he has to look at a number of different schemes. I subscribe to the view, as one or two speakers have said, that the independent actuary is commenting on the proposed scheme. On the other hand, if the independent actuary does not comment on the closed fund option I am not sure who does. The directors can comment on it to some extent in their circular to policyholders, but if they do not do so, then it is reasonable for the independent actuary to express a view thereon.

I now consider membership rights and the extent to which the independent actuary should be concerned with them. The independent actuary is the one person who stands aside from many of the parties, and, therefore, it is proper for him to comment on them, although the extent to which he can comment on their value is less clear.

The President (Mr H. H. Scurfield): It is some time since the Institute and the Faculty discovered that we were both preparing sessional meeting papers on the same subject to be presented at about the same time. There was a time when we thought that we might put the two papers together into one; but the two methods of approach were so different that it was agreed that we should have two separate papers. Because they were complementary, we agreed to discuss them together. I am glad that we have done so.

The only disadvantage has been the enormous volume of reading. The big advantages lie in the extent to which the papers have added to current thinking and have generated such valuable discussions, both here and at the Faculty meeting, on this very important subject.

We are indebted to all the authors of the two papers. The discussions of them have demonstrated clearly how much interest there has been in their work—and indeed in the underlying value of it. I ask you to thank them in the usual way.

Mr G. Westall (replying): During the discussion I noted that there was a certain looseness in the use of the terms open fund and closed fund. It was as if the definitions of them were well understood. The open fund may well be constrained by what the scheme says, and open funds may take on a variety of different forms. A closed fund does not necessarily mean that it will have all of the orphan surplus placed in it; there can be a closed fund with anything from none of the orphan surplus to all of it. A 100/0 fund need not be closed. The orphan or 'hijacked' surplus may not have been important in the demutualisations we have seen so far, but if we have a case involving a strong mutual, it may well be the most important consideration in the whole arrangement.

On the question of GN15, I have a further objection which other people have not raised, namely that the wording is obscure. We are not saying that we feel the closed fund option should not be considered. In our view, it would be a dereliction of duty if the directors did not consider it. We object to the Institute laying down rules which seem to extend the actuary's authority beyond that which he has legally. GN15 also seems to be saying that the Institute does not trust the directors of mutual companies to discharge their duties.

I agree that demutualisation is unlikely to be an end in itself, but will more often than not be a part of the general strategy of the company, and I reiterate that it will not be easy, and may well be a most difficult transition for the management involved.

Mr D. R. L. Paul (replying): The Research Group can make available the disk on which our model runs for anyone who wants to try some more 'what if?' type questions.

Actuaries of mutual life offices have to ensure that they understand the principles upon which they are running their operations. Some parts of their business will be non-profit, primarily unit linked. In these sectors the objectives may be the same as those of a proprietary office. However, to manage his with-profits business, the actuary—especially the Appointed Actuary—has to understand his office's philosophy. In particular, he must be clear how he defines policyholders' reasonable expectations; and he must know whether his is a revolving or an entity fund. Perhaps, above all else, he must know the criteria which are applied to judge his mutual office's success now and in the future. It is perhaps these success criteria which are the most difficult to grasp, but actuaries should not be tempted to adopt profitability as the criterion unless they can rigorously define profitability in relation to with-profits business, which is, by and large, priced retrospectively in current conditions.

Another issue for actuaries to address is the suitability of the legal, actuarial and practical framework which exists in the U.K. and which will evolve in Europe, for demutualisations and restructurings. The regulators have a major part to play in this sphere. It is also in the interests of the mutuals that the framework is not so rigid as to prevent the most effective development of their business. No speaker at either sessional meeting supported a wholesale move towards New York style legislation, with its unequivocal stance on the ownership of the orphan surplus.

There are two issues which specifically need to be addressed by the Institute and the Faculty. The first is the clarification of policyholders' reasonable expectations. This topic is, if anything, more obscure now than it was before the working party on this subject reported at the seminar in Birmingham (*J.I.A.* **117**, 733).

The second is the reference to fund closure in GN15, and the independent actuary's responsibilities, about which many speakers have voiced their concerns. Policyholders' reasonable expectations and fund closure are inextricably linked, and the unease about the working party's findings compounds the difficulties with GN15 which many have expressed. The Research Group calls on the Institute and Faculty to devote some of their energies towards the compilation of more widely accepted joint guidelines.

WRITTEN CONTRIBUTIONS

Mr P. J. Twyman: During a period in which the industry will face structural changes, it is inevitable that some demutualisations will occur. The paper by Needleman & Westall provides a useful framework for anyone contemplating such action. Unfortunately, there is a very strong implication throughout the paper that the growth or viability of mutuals will be constrained due to lack of

distribution or lack of access to additional capital. There may well be other constraints facing mutuals, such as the availability of a strong and professional management team and a product portfolio and market fit that enables profitable business to be written. Demutualisation is unlikely to remedy these latter two ailments.

Merger with other mutuals is covered briefly. At a practical level, the major impediment to this otherwise rational behaviour is the question of sovereignty. Notwithstanding their prime objective to serve their policyholders, a number of weaker mutuals appear to be preoccupied with the preservation of the status of directors and senior management.

A current difficulty facing all demutualisations is the uncertainty which surrounds disclosure of the existing capital base and the corresponding compensation for policyholders who relinquish control. If more realistic reporting systems are accepted and adopted universally, this should lead to greater disclosure and knowledge of the financial position of individual companies. Proposals for demutualisation and/or merger could then take place against a background of an informed policyholder base rather than, as at present, policyholders being informed for the first time when crucial decisions must be taken.

There is an implication in the paper that the only source of capital is demutualising and introducing shareholders. Two other sources which will provide relief for a considerable period are gearing up the existing capital base by borrowings and releasing capital from the existing business by designing more capital efficient products. Either of these methods have the potential to double the available capital for a well-run company.

The authors of 'Demutualisation of a United Kingdom Mutual Life Insurance Company' subsequently wrote: The opener states categorically that the discount rate for with-profits business should be the net earned rate to protect policyholders' reasonable benefit expectations. Mr Fine makes a similar point, that the minimum value that should be acceptable to policyholders is the embedded value at the lower policyholders' earned rate. We believe that this is not necessarily the case, and that the scheme should be looked at as a whole. There may be circumstances where a higher rate may be justified, and the policyholders may still be better off. For example, extra capital may enable the company to hold a higher proportion of its assets in equities. A 1% increase in the fund can lead to a 4% increase in equity holdings. This gearing can have a considerable impact. Alternatively, there may be a significant reduction in future expenses as a result of the scheme. The important thing is to assess the scheme and other alternatives, in their totality, to see which is best.

The opener also comments on the supportability of bonuses for new business, and makes the point that a large differential between the discount rate adopted in the goodwill calculation and the net earned rate could result in mutual bonuses being unsupportable on new business. Whilst this is theoretically correct, and is the reason why the free asset ratios in Example 6 in Table 6.2 steadily reduce, the outcome will depend upon many factors, not least the actual volumes of new business. In particular, the availability of extra capital may more than offset this effect if a higher investment return can be achieved, as illustrated in Example 9. A mechanical application of the calculation of the value of future new business in the model would give a multiple of 20 times, and thus a goodwill payment of approximately £1 million. So, using the assumptions in the model would improve the position compared with a 10 times multiple used in the paper.

A number of speakers refer to the subject of the independent actuary and GN15. We would agree with many of Mr Lyon's comments, especially those in his third paragraph, but we feel that these should apply to the particular scheme, not any alternative scheme which the actuary might feel should be considered. He points out that GN15 does not insist "that policyholders of the present generation should be seen to do as well out of the scheme as they would if the fund were closed", and suggests that the independent actuary would normally argue that it is inappropriate for a demutualisation to produce such a result. However, a full presentation of the effects would make it difficult for directors to make a recommendation that did not select the alternative which gave the most to existing members and policyholders. We do not believe that the Institute should be pre-empting the responsibilities of the directors in this way. In spite of Mr Taylor's comment on GN15, we feel that it will be difficult for an independent actuary to ignore the closed fund on the basis that it is only an

advisory guidance note. As we have stated, experience so far does not cover a large mutual or a mutual with a large orphan surplus.

More than one speaker feels that orphan surplus is not an issue. Mr Fine states that, in his experience, the question of the estate hardly ever came up during demutualisations and the issues were bonus prospects and bonus earning power. He also states that ownership of orphan surplus is not a relevant issue. These views are presumably due to his experience being limited to companies having no, or very small, additional estates, and whose bonus prospects at the time were, perhaps, at risk. This will not be the case for a stronger mutual considering demutualisation. We also find these views difficult to reconcile with his subsequent comment that he believes in the need for an additional estate.

Mr Eagle's comments on the disappearing orphan surplus are most interesting. It would seem that the particular company had a specific view of terminal bonus. A smoothed and non-volatile terminal bonus may well lead a prudent actuary to reserve for it, which, in turn, may have led to the financial position being somewhat different from the apparent position. We are cautious about this particular case being used as a general example.

We are somewhat surprised by Mr Fine's answers to the three questions to which he refers:

(1) implies that writing with-profits in the existing fund is detrimental to existing policyholders, otherwise why is there a problem of financing new business?
(2) states that 90/10 shareholders get a more reasonable return. Surely shareholders should get what they pay for, so the return is independent of the split. In fact, the higher the shareholders' share in existing business, the greater the difference in value placed on their share by shareholders and policyholders, and the greater the adverse tax consequences.
(3) seems to contradict answers 1 and 2 which suggest that a high capital injection is favourable.

Mr Fine's final comment needs to be approached with care. Bearing in mind Mr McLean's comments, it is surely more important to assess the future prospects for the company on a realistic basis, and closure might then be a long way from the last resort. If the new business infrastructure is not capable of adding value, and a purchaser cannot be found, then the rational solution will be its closure. The laws of supply and demand apply to life operations as with any other economic enterprise. If the demand is not there, then the supply will ultimately have to be reduced.

Mr Masters' analysis of the capital position is based upon an assumption that much expenditure has no value because it cannot be capitalised in the balance sheet. If the expenditure has a nil value we would prefer it not to be made. On the other hand, we would prefer to see its value determined by the return produced rather than balance sheet position. If the infrastructure is capable of generating some future value, then this value will be reflected in the goodwill payment which can be distributed, if appropriate, to the existing policyholders. Mr Masters also ignores the fact that shareholders provide capital through retained earnings (not reflected in the balance sheet) and as participants in a 90/10 fund.

We agree with Mr Hayes' comment that any money paid into the fund to convert it to a 90/10 (or other ratio) fund needs to be grossed up. However, in the circumstances of a conversion to a 100% shareholder company, with no new with-profits fund, the orphan surplus and all the purchase price must be a genuine windfall for someone—either the existing policyholders, the shareholders, or perhaps the State.

If the Third Life Directive insists on reserves for accrued terminal bonuses, we would expect that, for all but the very strongest companies, it would require a radical change in the way in which they operate their with-profits funds.

We agree with Mr Turvey that, if surplus in the closed fund is used to cover solvency margins or mismatching reserves, then it is at risk. However, the company is considered in total for these items, so it is difficult to see how it can be avoided.

We appreciate the President's interjection and his questions on whether perceived wisdom has been stood on its head. We would offer the following comments:

—A closed fund does not necessarily mean a lower equity content or a lack of ability to smooth bonuses, provided high enough terminal bonuses are given.

—With-profits policyholders do not provide capital in the early part of their policies—they consume it. They only provide capital at later durations by means of terminal bonuses or, after they leave, by payments less than their asset share.
—A tontine will be difficult to avoid, but can be reduced by high terminal bonuses; inevitably these will become more volatile if a high equity content is to be maintained.
—The major difficulty we perceive with a closed fund, which is not part of a vigorous, growing company, is the long-term impact on expenses.

Mr Barton puts forward a vigorous promotion of mutuality and a definite view of the position. However, we would take issue with some of his opinions:

—We consider distribution, rather than capital raising, as the primary motivation for demutualisation, as discussed in § 2.2.6.
—We have no more knowledge about the feelings of mutual policyholders than Mr Barton, but we suspect that their benefit expectations may be more important than the mutual status or closure of the fund in many cases. What concerns them, we suggest, is the £ in their pocket.
—The assets belong to the company and not the members. The members ultimately can control the company, but this is not the same as ownership of the assets. If the members do own the assets, then it would be questionable practice to pass these on to subsequent members. We find the argument that membership of a mutual life company is equivalent to a shareholder, because of its temporary nature and money passes on the end of each status, unconvincing, and the many differences lead us to believe that they are quite different.
—The orphan surplus may be undisclosed, but its existence is known to many, for example intermediaries. Many intermediaries are believed to choose companies because they are 'financially strong', which is another way of expressing large orphan surplus. Orphan or hijacked surplus has not been hijacked from the present generation of policyholders; they would be lucky enough to receive a windfall profit, if it were distributed to them. This is why we use the term.

We are conscious that we may not have done justice to all of the points made in the discussion, but hope that we will be forgiven in view of the length of discussion and subtlety of many points.