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A REVIEW OF THE STATUTORY VALUATION OF LONG-TERM INSURANCE BUSINESS IN THE UNITED KINGDOM

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[Presented to the Faculty of Actuaries, 16 March 1998, and to the Institute of Actuaries, 27 April 1998]

The text of this paper, together with the abstract of the discussion held by the Faculty of Actuaries on 16 March 1998, are printed in *British Actuarial Journal*, **4**, IV, 803-864.

Before the discussion that was held by the Institute of Actuaries, a subsidiary paper, entitled 'Comparison of Reserves for Accumulating With-Profits and Conventional With-Profits Business', was handed out to those who were attending the discussion. This subsidiary paper is reproduced here, commencing on the next page. Note, however, that Appendix 2 of the original showed the results in graphical form, whilst the version reproduced here shows the same results in numerical form.

COMPARISON OF RESERVES FOR ACCUMULATING WITH-PROFITS AND CONVENTIONAL WITH-PROFITS BUSINESS

BY P. W. WRIGHT AND S. F. MARGUTTI

A comparison of reserves for accumulating traditional with-profits business on the basis proposed in the paper, "A Review of the Statutory Valuation of Long-Term Insurance Business in the United Kingdom', is set out in the attached Appendix 1. The policies in question are pure endowment pension plans for terms of ten and twenty-five years, with premiums of £500 p.a. The issuing office is a mutual, and all expenses and mortality have been ignored for simplicity.

The assumptions underlying these results are as follows:

(1) Asset backing is 75% U.K. equities (dividend yield net of ACT 3%) and 25% fixed interest (yield 7%, mean term of 5 years).

(2) Overall rate of return is 9% p.a. (implying dividend/capital growth on equities of 6.5% p.a.). Of this 9% p.a. return, 6% is distributed by way of annual/reversionary bonus and 3% p.a. by way of terminal bonus. For the traditional policy the basic sum assured is taken as the sum of the premiums payable, and this, combined with the assumption regarding investment return, implies a compound reversionary bonus rate of 3.4% for both policy terms.

(3) In the resilience scenario (taken as +3% interest yield, −25% equity value) the traditional policy is valued by the net premium method using a rate of interest of 5%. This allows a small margin against the Regulation 69 maximum to allow for future bonus emergence. It is considered that this 5% basis is equivalent to a 3.5% rate of interest in the base position, although this does not impact on the overall reserve.

(4) For the accumulating with-profits policy the PRE surrender value is taken as 98% of asset share. For the traditional with-profits policy it is not assumed that considerations of PRE surrender values impose any restriction on the reserve required in the resilience scenario.

Appendix 1 also shows the impact on the required reserves, at a selected duration, of an investment shock equal to a fall of 15% in the value of equities. Following the shock the traditional business has been valued (in the resilience scenario) at 5.5%.

Appendix 2 shows, in tabular form, a comparison of the asset shares, reserves and unit funds for the policies used in Appendix 1. It shows results for policies where the annual/reversionary bonus reflect returns of 7% p.a. and 5% p.a.

The conclusions of the various comparisons are:

(1) The reserves for the longer term accumulating with-profits policy never exceed 98% of asset share, and fall below this level sometime after the mid point of the contract. For the shorter-term policy the BRV test 'kicks in' towards maturity because of the relatively low terminal bonus cushion.

(2) The reserves for accumulating with-profits business are below the equivalent figures for traditional business for short-term policies, but the reverse applies for longer-term policies. The reserves for accumulating with-profits business are, however, more responsive to changes in asset values for both longer and shorter terms.

(3) The level of reversionary bonus has less impact on the reserves required for accumulating with-profits business than for traditional business, particularly at the early durations.

(4) Regular premium ten-year business is not particularly attractive from a reserving viewpoint on either approach.

(5) Differences in relative levels of reserves appear to bear some relation to differences in guarantees (both at maturity and implied on surrender) provided.

APPENDIX 1

A.1.1 *10-year policy*

Duration	Asset share	Traditional with-profits reserve	Accumulating with-profits reserve
	£	£	£
1	545	654	534
5	3,262 (2,895)	3,754 (3,695)	3,196 (2,836)
9	7,096	7,814	7,778
10	8,280	9,014*	9,014*

A.1.2 *25-year policy*

Duration	Asset share	Traditional with-profits reserve	Accumulating with-profits reserve
	£	£	£
1	545	510	534
5	3,262	2,986	3,196
10	8,280	7,367	8,115
15	16,002 (14,202)	13,823 (13,294)	15,682 (13,917)
20	27,882	23,368	25,157
24	41,850	34,225	34,751
25	46,162	37,520*	37,520*

Notes

(1) *This is the reserve the day before the maturity date, and reflects the guaranteed benefits grossed up by a factor of 0.775.

(2) The figures in brackets are based on a fall of 15% in the value of equities at the valuation date.

(3) If the BRV test is weakened in the way put forward in ¶5.2.14 of the paper, the 9-year reserve for the 10-year accumulating with-profits policy falls by about £230.

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APPENDIX 2

Table 1. Reversionary bonus equivalent to 6% p.a. return; term 25 years

Year	Conventional reserve	Accumulating with-profits reserve	Asset share	Unit fund
	£	£	£	£
1	510	534	545	530
2	1,060	1,116	1,139	1,092
3	1,653	1,751	1,787	1,687
4	2,294	2,443	2,492	2,319
5	2,986	3,196	3,262	2,988
6	3,732	4,018	4,100	3,697
7	4,539	4,914	5,014	4,449
8	5,410	5,890	6,011	5,246
9	6,351	6,955	7,096	6,090
10	7,367	8,115	8,280	6,986
11	8,466	9,379	9,570	7,935
12	9,653	10,757	10,977	8,941
13	10,936	12,259	12,510	10,008
14	12,323	13,897	14,180	11,138
15	13,823	15,682	16,002	12,336
16	15,445	17,557	17,987	13,606
17	17,199	19,294	20,151	14,953
18	19,096	21,135	22,509	16,380
19	21,148	23,087	25,080	17,893
20	23,368	25,157	27,882	19,496
21	25,769	27,350	30,937	21,196
22	28,368	29,675	34,266	22,998
23	31,181	32,139	37,895	24,908
24	34,225	34,751	41,850	26,932
25	37,520	37,520	46,162	29,078

Table 2. Reversionary bonus equivalent to 6% p.a. return; term 10 years

Year	Conventional reserve	Accumlating with-profits reserve	Asset share	Unit fund
	£	£	£	£
1	654	534	545	530
2	1,354	1,116	1,139	1,092
3	2,101	1,751	1,787	1,687
4	2,900	2,443	2,492	2,319
5	3,754	3,196	3,262	2,988
6	4,668	4,018	4,100	3,697
7	5,646	5,132	5,014	4,449
8	6,693	6,471	6,011	5,246
9	7,814	7,778	7,096	6,090
10	9,014	9,014	8,280	6,986

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Table 3. Reversionary bonus equivalent to 7% p.a. return; term 25 years

Year	Conventional reserve	Accumulating with-profits reserve	Asset share	Unit fund
	£	£	£	£
1	541	534	545	535
2	1,128	1,116	1,139	1,107
3	1,765	1,751	1,787	1,720
4	2,457	2,443	2,492	2,375
5	3,207	3,196	3,262	3,077
6	4,022	4,018	4,100	3,827
7	4,907	4,914	5,014	4,630
8	5,868	5,890	6,011	5,489
9	6,912	6,955	7,096	6,408
10	8,047	8,115	8,280	7,392
11	9,281	9,379	9,570	8,444
12	10,621	10,757	10,977	9,570
13	12,079	12,259	12,510	10,775
14	13,664	13,897	14,180	12,065
15	15,388	15,682	16,002	13,444
16	17,263	17,627	17,987	14,920
17	19,304	19,748	20,151	16,500
18	21,524	22,059	22,509	18,189
19	23,940	24,578	25,080	19,998
20	26,569	27,325	27,882	21,933
21	29,432	30,318	30,937	24,003
22	32,548	33,581	34,266	26,218
23	35,942	36,888	37,895	28,588
24	39,637	40,161	41,850	31,125
25	43,662	43,662	46,162	33,838

Table 4. Reversionary bonus equivalent to 7% p.a. return; term 10 years

Year	Conventional reserve	Accumulating with-profits reserve	Asset share	Unit fund
	£	£	£	£
1	679	534	545	535
2	1,407	1,116	1,139	1,107
3	2,188	1,751	1,787	1,720
4	3,026	2,443	2,492	2,375
5	3,926	3,196	3,262	3,077
6	4,892	4,073	4,100	3,827
7	5,931	5,347	5,014	4,630
8	7,047	6,773	6,011	5,489
9	8,247	8,184	7,096	6,408
10	9,538	9,538	8,280	7,392

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Table 5. Reversionary bonus equivalent to 5% p.a. return; term 25 years

Year	Conventional reserve	Accumulating with-profits reserve	Asset share	Unit fund
	£	£	£	£
1	479	534	545	525
2	993	1,116	1,139	1,076
3	1,545	1,751	1,787	1,655
4	2,138	2,443	2,492	2,263
5	2,774	3,196	3,262	2,901
6	3,458	4,018	4,100	3,571
7	4,192	4,914	5,014	4,275
8	4,981	5,890	6,011	5,013
9	5,828	6,955	7,096	5,789
10	6,739	8,115	8,280	6,603
11	7,717	9,379	9,570	7,459
12	8,769	10,757	10,977	8,356
13	9,899	11,999	12,510	9,299
14	11,113	13,276	14,180	10,289
15	12,419	14,618	16,002	11,329
16	13,823	16,026	17,987	12,420
17	15,333	17,505	20,151	13,566
18	16,956	19,057	22,509	14,770
19	18,702	20,688	25,080	16,033
20	20,580	22,400	27,882	17,360
21	22,600	24,197	30,937	18,753
22	24,773	26,084	34,266	20,215
23	27,110	28,066	37,895	21,751
24	29,625	30,147	41,850	23,364
25	32,331	32,331	46,162	25,057

Table 6. Reversionary bonus equivalent to 5% p.a. return; term 10 years

Year	Conventional reserve	Accumulating with-profits reserve	Asset share	Unit fund
	£	£	£	£
1	630	534	545	525
2	1,301	1,116	1,139	1,076
3	2,016	1,751	1,787	1,655
4	2,777	2,443	2,492	2,263
5	3,589	3,196	3,262	2,901
6	4,453	4,018	4,100	3,571
7	5,374	4,926	5,014	4,275
8	6,356	6,182	6,011	5,013
9	7,404	7,392	7,096	5,789
10	8,521	8,521	8,280	6,603

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ABSTRACT OF THE DISCUSSION

HELD BY THE INSTITUTE OF ACTUARIES

Mr R. Frankland, F.I.A. (introducing the paper): I begin by mentioning some of the issues that were brought up when the paper was discussed at the Faculty of Actuaries in March.

It was generally agreed that the regulatory framework for the valuation of long-term business of all types has evolved into a situation where rules and guidance are capable of a wide variety of interpretation, and where piecemeal changes have resulted in a number of inconsistencies. We understand that the regulators believe this to be unsatisfactory; further, it does little to enhance our own credibility as a profession.

Many of the speakers expressed agreement with the proposals within the paper with regard to non-profit business, to unit-linked business and to permanent health insurance business. With regard to conventional with-profits business, there was some reluctance to admit defeat over the desire to replace the net premium method. Others were happy to accept that, in the absence of a generally agreed view as to a valid alternative framework, there is little likelihood of obtaining regulatory support to move away from that method. At the start of this century prophetic actuaries spoke of the 20th century being that in which a replacement would finally be found for the net premium valuation method. Today's prophets appear to accept that, within a decade, the replacement of the net premium valuation method for conventional with-profits business will cease to be a matter of materiality in the valuation of a with-profits life office.

The demise of conventional with-profits business may be largely attributed to the growth of unitised with-profits business. It is with regard to this class of business that most of the debate and argument occurred in the discussion. Indeed, this was an area where the Working Party, itself, was unable to come to a unanimous view on the best approach to be taken. I should, perhaps, say that I do not think that any of the Working Party actually went into this work anticipating that we would end up with the particular conclusions which we have reached.

There was a recognition by most of the speakers that the proposals in respect of accumulating with-profits business made within the paper go no further than is required by the Life Framework Directive, at least as those requirements are interpreted by our regulators. Herein lies a potential difficulty for us, as a profession, for, if we believe that the regulation with which we are having to comply produces results which do not fit comfortably with our own actuarial view of sound and prudent management of a life office, we cannot just ignore that regulation. Does the profession wish to look for a change in the Directive? If so, such demands fell outside the scope of this Working Party.

The discussion by the Faculty turned more than once to the nature of the concession negotiated between the industry and the regulators which allows offices to make allowance only for the reversionary bonus component of policyholders' reasonable expectations (PRE) in determining statutory liabilities. It has not been the Working Party's intention to try to remove or to reduce the benefit of that concession. However, the requirement to take account of reversionary bonus PRE in both resilience and non-resilience scenarios, coupled with the requirement to have regard to PRE in the event of both surrender and claim, all taken in conjunction with the regulator's definition of 'yield', seem to lead inexorably to the conclusions of the paper. The key PRE issue concerns the situation where asset shares have raced ahead of unit value. A fall in market value which still leaves asset shares above unit value would not appear to justify the use of a market value adjuster. The rest of the logic flows from this single simple assertion.

There were requests for a comparison between the proposals for accumulating with-profits business and the current situation of conventional with-profits contracts. Copies of these results are in the short paper 'Comparison of Reserves for Accumulating With-Profits and Conventional With-Profits Business', by P. W. Wright and S. F. Margutti (which appears in *B.A.J.* immediately before this discussion), which was handed out before this meeting. I will not go through them in detail, but make two observations. The relationships between the net premium valuation and the proposed accumulating with-profits reserve are not steady, but are not inconsistent with the differences in PRE, particularly PRE on surrender. The key issue, though, is the greater sensitivity of the proposed accumulating with-profits reserve to changes in asset values. For a balanced office, this should reduce the volatility of the margin between asset and liability values.

With regard to the suggestion of the Working Party made in ¶5.2.14, there was support for this approach, and we believe that this weaker test should be given serious consideration.

I now have a few comments unrelated to the Edinburgh discussion. The view of the Working Party is that, irrespective of the outcome of the debate on unitised with-profits policies, the profession must give serious consideration to the incorporation of the other changes proposed, and how they are best codified and maintained in the future. The practice of relying on papers that were written over a decade ago, fine though they may have been, does not seem an appropriate means of applying guidance in a modern regulatory regime, nor does it facilitate the necessary process of review and update.

There are changes which have occurred since the paper was written to which I would draw your attention:

(1) In ¶4.3 we consider the relationship between fund growth rate and expense inflation rate. A decade ago 2% was proposed, assuming a typical gross real yield on index-linked gilts of 3%. We observed that since 1988 a more typical yield would have been 3.5%, and therefore proposed an upper limit to the 'real' fund growth assumption of 2.5%. In recent months the yield on index-linked gilts has fallen below 3%, but we believe that the proposals in ¶4.3 remain sufficiently robust to cope with this development.

(2) We have become aware of the issue of special dividends and share buy backs. We were asked to work within the constraints of the Life Framework Directive. The effect of the yield constraints of that Directive, as interpreted by the Regulator, is to exclude any profit distribution by companies in whose shares an office is invested by either of these means. Regulation yield is thus currently depressed by current corporate dividend policy, and this seems to us as anomalous.

A major difficulty facing the Working Party was an awareness that, in reality, the statutory valuation is dominated more by the impact of resilience scenarios than by the current investment environment. We are aware of the need to reconsider the form of the resilience regime, and, indeed, another working party is currently addressing this issue, though work has not been sufficiently advanced to incorporate examples of the effects of their proposals into our own work. This has been unfortunate. My view is that, with an appropriate resilience regime, the proposals contained in this paper would result in a far more stable free asset ratio over time for an office which managed its business taking account of PRE, and with an appropriate dynamic approach to the allowance for PRE in the valuation reserves. Without a sound approach to resilience we shall not achieve these benefits, and, in that situation, we shall find the industry being driven by bad regulation providing misleading answers on solvency matters.

Mr C. J. Hairs, F.I.A.: I will confine my remarks to the proposals for accumulating with-profits business, and will concentrate on a few essentials. My fuller comments appear as a written contribution.

I believe that the proposal on accumulating with-profits business should, in its present form, be vigorously resisted by the profession. My over-arching concern is in the implicit limitations on the Appointed Actuary's ability to reflect, in reserving, the freedom of the office to control the form of its future bonus rates. One example, in ¶5.2.11, is in the use of a particular concept of supportable bonus rates which, in most circumstances, forces an implicit assumption that all future bonuses in the valuation scenario will be in to-be-reserved-for reversionary form. By accumulating with-profits I mean the long-term business arrangement in which, in addition to certain benefit guarantees, the policyholder has a right to share in the business profits of the fund concerned, in exchange for which part of the policyholder's accumulated with-profits premiums are at risk of loss, through sharing in any business losses of the fund. With-profits has a dual nature; it is a mix of guarantees and equity-style participation, and since, today, we talk about with-profits in terms of asset shares, we need to see the asset share as consisting of two parts, namely:

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(1) the value of the guaranteed or reversionary benefits that have to-date been promised, together with whatever allowance for future reversionary additions is appropriate on the basis of PRE; and
(2) an 'equity' element.

The equity element consists, not only of a share of investment appreciation within the fund, but also of the value of other profits and losses recognised to-date. This exposure to the overall risks of the business is very significant, since it shows the equity element as having a true non-guaranteed nature, not just an investment-linked one (smoothed or otherwise). It is the equity element which is the basis of the contribution of current with-profits policyholders to the risk capital of the fund, but the equity element cannot do its job if we are required to treat it as a liability for solvency purposes. You should not treat something which is part of an office's solution to its solvency challenge as though it were part of the problem. The Working Party's proposed approach, by failing to allow recognition of the full range of an office's future bonus choices, effectively fails to distinguish properly between the 'equity' and the 'guaranteed benefits' elements of the contract.

The equity element is, of course, (subject to smoothing) related to the terminal bonus element of total benefits. You may be wondering why I am so concerned when, in ¶5.2.1, the Working Party states so clearly that it "took it as a fundamental principle that the valuation reserve in both basic and resilience test scenarios can exclude any terminal bonus element". The devil, as they say, is in the detail. Paragraph 5.2.2(2) recommends that any surrender value adjustment, which is an almost invariable feature when resilience testing, should be taken, in the first instance, against any accrued terminal bonus cushion. Now, it is generally the resilience conditions that determine the minimum overall reserve. So, this rule removes, at a stroke, the benefit for reserving purposes of most or all of the terminal bonus content of the business, thus 'giving away' most of the concession, referred to in ¶5.2.1, that we worked so hard for when the Third Life Directive was implemented into United Kingdom law.

What we should be doing in the resilience condition—and, indeed, in any condition of depressed asset values—is to recognise that, in the absence of asset value bounceback—which, of course, you cannot take account of for valuation purposes—the company would, over a period of years, manage its whole bonus structure, reversionary bonus rates as well as terminal, to re-build a suitable terminal bonus content. We do not just hit the terminal bonus cushion—we should hit the margin for future reversionary bonuses as well, in whatever combination is suitable within the constraints of PRE. So let us drop the 'terminal bonus cushion first' rule from ¶5.2.2, and, instead, require the Appointed Actuary, certainly having regard to PRE, to reflect in the reserves the view that he or she considers to be both proper and prudent as to the make-up of future bonuses, as between reversionary and terminal. The result would be a solvency reserving minimum standard which, I suggest, would more properly have regard to PRE. I cannot believe that such a change would contravene the wording of regulation, though it is for those with more knowledge of the detail of insurance law than myself to check. Similar changes would, I believe, be required elsewhere in the proposals, in particular in relation to the supportable bonus rates concept.

This is not a soft option for the company. It would put the onus fairly and squarely on the board and the Appointed Actuary to consider and to understand its various bonus policy options in different circumstances in a very clear and concrete way, and to be sure that it could justify against PRE those options for which it wished to take credit in its valuation. This is no small responsibility. However, it is much to be preferred to a proposal which, if implemented as suggested through professional guidance, would put the profession at loggerheads with boards, seeking to implement the ultimately indefensible.

While it is hazardous to set solvency standards too low, the other extreme is also dangerous. To require of any business a higher level of capital than is necessary can undermine, not only individual businesses, but ultimately a whole industry. The present proposals, if left unmodified, could do that to with-profits business, in my view. I do hope that a rethink will take place. It is very important.

Mr N. J. Dumbreck, F.I.A.: If we had complete freedom to rewrite the U.K. liability valuation regulations, unconstrained by European directives, then we might well be looking to abandon the net premium method entirely and to adopt a gross premium approach, which could be applied consistently across all product types, as has been done in Canada, Australia and South Africa. However, having heavily influenced the valuation principles in the Third Life Directive only five years ago, we cannot realistically expect them to be torn up now. Hence the Working Party needed to come up with pragmatic proposals for reform within the constraints of the current system. That is what they have done, and I believe that they are to be congratulated on this paper.

The area most in need of reform is the valuation of accumulating with-profits business. There is evidence of considerable variation in reserving standards between companies, and this, coupled with the unsustainably high levels of annual bonus on much of this business, suggests to me that greater financial discipline is needed.

In general I support the Working Party's proposed approach for this type of business, but I have three concerns:

(1) This is the reliance placed on the somewhat hypothetical concept of a 'mass discontinuance surrender value'. There is a risk that much creative energy will go into justifying additional penalties on mass discontinuance, leading to spurious differences between companies. Perhaps a requirement for clear disclosure in the regulatory returns is the best way of addressing this reservation.

(2) This relates to the allowance for future non-guaranteed bonuses in the prospective test. The difficulty of measuring solvency and the capacity to fulfil PRE in a single valuation was recognised by Scott's Working Party (Scott *et al.*, 1996), and they proposed two separate investigations. That approach did not find favour, but the problem remains. There is a danger that, by requiring greater provision for future bonus expectations in the statutory valuation, we will reduce the likelihood that those expectations will actually be met, by creating unnecessary constraints on asset backing. In the resilience scenario, the combination of the immediate fall in capital values and the absence of any allowance for future dividend or capital growth is a relatively harsh test, and to require an allowance for future non-guaranteed bonuses, in addition, seems very onerous. While policyholders will doubtless have an expectation of continued annual bonuses, even in adverse conditions, in practice such bonuses will only be declared if surplus is available to pay for them. Rather than weakening the investment assumptions in the resilience test, I would prefer to reduce or eliminate the allowance for discretionary bonuses in this test. This might require a change to Section 3.9.6 of the proposed new GN8.

(3) This relates to the practicality of the reserve calculations, which depend on the availability of individual asset shares. I suspect that some companies will need time to adapt their systems, and we should recognise this when making changes to professional guidance.

Mr P. J. Nowell, F.I.A.: I think that everyone agrees that the status quo is not sustainable, and that we must put in place a robust methodology for valuing accumulating with-profits business, in particular, and, not least, before responsibility for supervision passes to the Financial Services Authority (FSA). I am broadly happy with the proposals made, although my own office will have a reduction in published free asset ratios, as, currently, we do not apply the first charge rule as vigorously as would be required by the paper. However, as Mr Frankland said, any decrease in free asset ratio would be likely to be much less following a market set back, and the risk of published insolvency for an office which does not accumulate excessive guarantees should not be increased.

I am concerned if the reservation about these proposals centres around not reserving adequately for guarantees, or if actuaries genuinely believe that most with-profits policyholders think that they have invested in some sort of geared-up unit-linked policies. I do not believe that most with-profits policies are sold as more risky than unit-linked ones. Such policies are, in any event, covered under ¶¶5.2.6 and 5.2.7, so, if they are sold in this way, they can be reserved for appropriately.

With regard to the criticism of the resilience reserve parameters, I am not really convinced that the 25% equity fall is too severe in current or, indeed, in almost any circumstances. However, there is certainly an argument for a more sophisticated approach to bringing in cross correlations between asset classes which, overall, might make the tests less severe.

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The paper refers to the depression of the running yield on equities by the practice of companies buying back their shares. This was also mentioned by Mr Frankland, together with the related practice of paying special dividends. This issue is also relevant to other areas of actuarial work where the valuation basis is linked to dividend yields—for instance the MFR. I wonder whether it would be possible to allow for the these factors when calculating the yield and still stay within the European Union Third Life Directive. We could, for example, ask the compilers of the FT All-Share Index to publish an alternative yield incorporating the share buy backs and special dividends, and, perhaps, ratio up our Regulations 69 yields on U.K. equities by the ratio of this new yield to the traditional dividend yield.

It has been estimated that special dividends and share buy backs and restructurings together accounted for 0.6% of the average market capitalisation of the All-Share Index over 1997, and for 1998 to-date already represent a similar addition to the annual yield. So it could, if it went on at this rate, almost double the yield this year.

A similar adjustment would also be appropriate for overseas markets, in some of which the practice of share buy backs is very common, and has been for some time. There may well be some practical problems in obtaining the necessary adjusted yields, but these should not be insuperable.

Mr A. Arbaney, F.I.A.: I would suggest a fundamental change to the proposals that have been made in the paper. The change relates to with-profits business—principally, traditional with-profits business, as covered in Section 6. The paper assumes that the resilience test continues in broadly its current form, and gives examples of how it would be applied. My suggestion is that there should be a standard valuation basis, along the lines that the authors have suggested, but without the resilience test. Alongside the standard basis there should be a genuine solvency test, which is similar in many ways to the resilience test, but which is applied without some of the artificial and obscure margins in the standard valuation basis. This would be, like the resilience test, a minimum test, against which to measure the results of the main valuation. A proper solvency test is important for with-profits offices. Its use goes further than a measure of solvency, as the office's decisions on investment and bonus policy will take into account the effect on the solvency position. The basis, therefore, has an indirect effect on policyholder benefits.

The resilience test was introduced about 15 years ago, but I feel that the actuary's understanding of the dynamics and resilience of with-profits business has not increased as much as it should have done after 15 years of using the resilience test. The mistake was to link the resilience test to the standard valuation basis, which included artificialities, such as the net premium method, and also certain inconsistencies, which I shall come on to.

There are four issues that need to be addressed in order to produce a more useful solvency test:

(1) The requirement for using the net premium method should be removed. That method is too artificial and opaque for a solvency test.

(2) There is a technical inconsistency in the application of the resilience test which should be removed. In a resilience scenario which assumes an increase of 3% in interest rates, one might be assuming interest rates of, say, 9%; one then applies the valuation regulations which require that investments after three years should assume an interest rate of no more than, say, 6%. The two interest rates of 6% and 9% cannot co-exist, and there is no provision within the resilience test to allow for the re-basing of the value of the fixed-interest assets to the lower interest rate of 6% after the three years. This leads to an artificial margin which should be removed.

(3) There could be a more severe test for the fall in the value of equities after you have removed the net premium margins. You could have a test of a fall of, say, 50% from current levels and then assume that the equities are then switched into fixed-interest investments.

(4) There should be an allowance for management over-runs in managing a with-profits office; that is financial losses incurred, because it will take time for management to take the corrective action required as circumstances change. This is already included in the regulations in respect of new business and expenses of closure. I feel that the principle should be extended to bonus decisions, changes to surrender value scales and changes of asset mix.

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One outcome of the technical inconsistency in the current regulations is that it may lead to incorrect conclusions. For example, I have seen information on certain long-term funds which leads me to believe that the funds would be closer to insolvency if interest rates reduce. However, the results of the resilience test shows a higher reserve when interest rates increase. The same probably applies to a number of other long-term funds. How does an actuary explain this to the company's directors?

One can produce a solvency valuation basis simply by introducing margins. I believe that this is no longer good enough, and that a valuation basis should be soundly based, preferably with a strong commercial bias addressing the issues of main concern to a company.

Mr J. A. Jenkins, F.I.A.: I have no difficulty with the proposals made by the Working Party for conventional non-profit and unit-linked business. I do, however, have concerns regarding the proposals for with-profits business.

For unitised with-profits business, I believe that the proposals are too harsh. Specifically, I do not agree that the application of market value adjusters must always be taken first against terminal bonus. The Working Party's approach implies, to my mind, that any particular contract can have either a terminal bonus attaching to it, or a market value adjuster attaching to it, but not both. This is, in my view, over simplistic, and it is possible to have both applying at the same time. For example, in the event of a sudden market fall, it is quite reasonable for an office to reduce its terminal bonus rates immediately, but not so as to reflect the full fall in asset values. This course of action would be part of the normal smoothing process applied to maturity values. However, to protect itself as far as surrenders are concerned, the office would introduce a market value adjuster to bring the surrender value down to the revised asset share. In this situation, the market value adjuster is being applied partly to the face value and partly to the terminal bonus. This situation would clearly need to be corrected by a further reduction in terminal bonus in due course if the market did not recover, but, with offices commonly smoothing over a three to five year period, smoothing is a significant factor, and cannot be overlooked.

Appendix D, Example 2: Alternative approach in resilience scenario

	Face value	Terminal bonus	Total value
	£	£	£
Before market fall:	10,000	4,000	14,000
After market fall:			
—revised asset share = 10,741			
—for maturities:	10,000	2,636	12,636
—terminal bonus reduced by 34%			
—overall payout reduced by 10%			
—for surrenders:			
—MVA = 10,741/12,636 = 0.85	10,000	2,636	12,636
	× 0.85	× 0.85	× 0.85
	=8,500	=2,241	10,741
—cf Working Party's approach	10,000	741	10,741

==> Reserve in resilience test scenario
(ignoring BRV test)
= 8,500/0.775 = 10,968

— as opposed to 10,000/0.775 = 12,903

— difference of 1,935

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The table shows an example of the effect of this approach applied to the resilience test part of Example 2 from Appendix D. Instead of regarding the resilience test PRE surrender value of £10,741 as being split £10,000 face value and £741 terminal bonus, it could be regarded as £8,500 adjusted face value and £2,241 adjusted terminal bonus. The adjusted face value is 15% lower than the unadjusted face value, this corresponding to the fall in the gilt portion of the assets. This does not, in my view, go against PRE — it would be perfectly reasonable to argue that the unadjusted terminal bonus applies to maturities only, and that for surrenders, a market value adjustment needs to be applied to both the terminal bonus and to the face value. If this approach is followed through, then the final reserve in Example 2 is, ignoring the BRV test, some £1,900 less than the reserve for Example 2 proposed by the Working Party.

I appreciate that, in ¶¶5.2.2 and 5.2.3, the Working Party did consider the issue which I have just discussed. However, particularly as far as the resilience test is concerned, the line which the Working Party has taken does not, in my view, correspond with how an office might validly operate its unitised with-profits (UWP) business, in line with PRE.

Turning to some more general points in connection with UWP business, I am uncomfortable with the concept of using mass discontinuance, as I do not think that any office can predict what its action in such circumstances might be. The bonus reserve test seems arbitrary and ill defined, and if a bonus reserve valuation test is necessary, surely it should be present in some form for conventional business as well.

We are aware that another working party is looking at the resilience test. Given that the Working Party's proposals are very closely linked into the resilience test, I do not see how the profession or the regulators can realistically proceed with these proposals (or any others) until there is some indication on what may happen with respect to the resilience test.

I have one further point to make on conventional with-profits business. The Working Party proposes, in ¶6.7, that the minimum reserve should be the surrender value excluding terminal bonus. However, the proposed amendment to Regulation 72 in Appendix E makes no reference to the exclusion of terminal bonus. Further, it is possible that some offices set their surrender value bases to give an appropriate overall payout at various durations. There might be no explicit addition for terminal bonus, even though the surrender value fairly reflects the underlying asset share. In such circumstances there could be significant practical difficulties in implementing this proposal.

Mr M. S. Lees, F.I.A.: I am concerned that those who are finding fault with these proposals really need to come up with some concrete alternatives, because the delay is becoming unacceptable.

I spend much of my time analysing the financial strength of U.K. life offices, and, while I acknowledge the advantages of the U.K. system of allowing some discretion in reserving bases, I would certainly welcome any moves to greater consistency in valuation standards as are being proposed here. This certainly aids comparisons between companies. I suggest that this is in the public interest, as, to a large extent, consumers are more interested in the relative financial strength of different offices than in the absolute level of any particular benchmark. For the majority of with-profits offices, statutory solvency is not realistically threatened, and free asset ratios are mainly used as a marketing tool. I think that it is revealing that most of the companies that I speak to do not have a particular absolute benchmark for their free asset ratios, but, rather, they target the ratio to be in the right place relative to peers. If we are promoting that approach in the marketing of our companies, then surely the profession should be trying to ensure that those free asset ratios are calculated on a more consistent basis.

In ¶5.2.18 it is stated that the general public, independent financial advisers and rating agencies will need to be educated to be comfortable with lower free asset ratios than previously. I understand that concern was expressed at the Faculty discussion that significant increases in reserves for accumulating with-profits business could trigger rating agency downgrades for a number of companies. I represent one of the leading rating agencies, and, as far as my own agency is concerned, I am able to offer some reassurance in this respect:

(1) As many of you know, financial strength ratings are not solely determined by capitalisation; also taken into account are a company's business position, its operating performance, management

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and strategy, financial flexibility, etc. So, the impact on a company's rating of just a change in capitalisation would be diluted by those other factors.

(2) Just as importantly, when looking at capitalisation we would aim to look through whatever reserves may be published by the company to determine underlying capital adequacy. Already for with-profits offices, we would aim to assess capitalisation on a PRE-type basis, and, therefore, would include aggregate asset shares as part of the liabilities where these exceed reserves. This will continue to be our approach, *whether or not* the published reserving basis moves closer to a PRE-type surrender reserve.

Of course, a weakening of statutory solvency does have a second order effect on financial strength, as it may restrict investment or strategic freedom. It also becomes the most important measure of capitalisation if the free asset ratio does start to get dangerously low, but, in general, ratings by my agency are unlikely to fall purely as a result of these proposed changes. However, I would add that the general public and other advisers and commentators will, in general, lack access to asset share information, and so, to these observers, some life offices will appear to have weakened on a published basis. So, education of the public, as suggested, is clearly important. However, I suggest that we should not be encouraging the public to be 'comfortable' with the lower free asset ratios. The implications of this paper are that current reserves for accumulating with-profits business are less than adequate for meeting PRE. Surely the message should be that the previous free asset ratios were too high, and that the new ratios present a truer picture. If, in some cases, this paints a more uncomfortable picture, then so be it.

Mr Hairs spoke about the equity component of asset shares; and, surely, by far the largest source of fluctuation in that equity component is the investment return earned by the company. As assets are currently marked to market value, I suggest that minimum reserves should also be marked to market to avoid spurious gains and losses. Currently, free asset ratios can again fluctuate substantially purely with the equity market. I would welcome a move towards a more stable position.

Mr M. N. Urmston, F.I.A.: I speak as Chairman of the Resilience Working Party.

The parameters of the resilience reserve probably do need to be updated in the light of lower interest rates. Perhaps the 3% rise in interest rates at the current time is somewhat less likely than previously. Equally, perhaps, a fall of greater than 20% is slightly more likely. When it comes to the volatility of the equity market, I would agree with Mr Nowell that a 25% fall in equities is hardly unreasonable at the current time, given, for example, that the markets in Hong Kong fell by over 50% during 1997. It has to be accepted that, if you look at the particular scenarios which are tested, they are fairly unlikely if assessed against what might be called a standard stochastic-type Wilkie model. That may, perhaps, imply that the Wilkie Model is not appropriate for judging a resilience test.

The views of the Working Party are that property should be assessed as a different asset, and that the current rules of minus 20% or minus 10% may not be appropriate, and it may be better to look at the underlying income of the property portfolio, and split a property into its income and its equity elements. If you do that you may well get very different answers, and my perspective is that the GAD would be prepared to consider property in that way. In other words, the Appointed Actuary should understand the income yield from the property portfolio of his fund, and understand its stability, security and how long it will last, and, on that basis, may be able to justify a different test.

The problem, as a whole, with the resilience test is that it has no real proper theoretical base. The Working Party will have to try to establish some theoretical base if it is to make progress. Our approach, in the next few months, is likely to be to assess a mix of accumulating with-profits business and conventional business with the new valuation rules proposed by this Working Party, and with a stochastic model, which I would describe as Wilkie, with jumps in the mean rate of inflation, on the basis of some probability distribution. The principles that we will be looking to apply will be that the probability of eventual ruin — in other words assets being exhausted by liabilities — should be broadly the same whatever the financial conditions, so that one could expect that, after a crash, the resilience reserve could be adjusted so that that position could apply.

In ¶5.2.1.9 there is a suggestion that the solvency margin might be used or be offset, in some way,

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against the resilience reserve. It does seem to us that, in assessing the eventual probability of ruin, the solvency margin ought to be taken into account. The Working Party will be looking at different tests and different sets of assumptions on the basis of the model that I have just described. We will also be looking specifically at statutory insolvency in the first three to five years following a valuation, which I think is the primary interest of the regulator.

I cannot give a great hope that there will be a sudden change in the resilience test, but what I can hope is that there would be a better understanding of how that resilience test is arrived at and how it might change in different financial conditions. I think that that is essential if we are to go forward sensibly with dynamic solvency testing.

Mr C. P. Headdon, F.I.A.: My comments relate wholly to accumulating with-profits business, where I regard the proposals in the paper as being fundamentally flawed. The Working Party seem to have lost sight of the fundamental logic of the statutory solvency regime; that is, that a conservative view is taken of future asset returns and a consistent view is taken of the liabilities. Their failure is to observe that logic can be seen on two particular points. First, in the bonus reserve valuation calculation it is not clear why the rate of future bonus needs to be smoothed down gradually to some long-term rate, given that the statutory valuation interest rate will represent a discontinuity from current actual asset returns. Second, and more importantly, despite the comments about not needing to reserve for terminal bonus, the Working Party seem to fail to realise that that is just what they are proposing, in a wide range of circumstances, through the focus on surrender values closely related to asset shares. The detail of the resilience calculations proposed means that, implicitly, all or part of the accumulated terminal bonus will often need to be reserved. The proposals have the rather curious feature that more prominence is given to non-contractual surrenders, where there are no guarantees and which may not happen, than to the contractual benefits.

It is easy to look at current investment conditions, or well-behaved projected sets of future conditions, and feel that the proposed method produces reasonable results. However, a proposed statutory solvency test should be robust in the long term, and should be able to cope with a wide range of financial circumstances. Under the proposals in the paper, it is easy to think of investment conditions, such as a sharp fall in markets before the valuation date or a prolonged bear market, where the surrender value part of the calculation would dominate for most policies. One then ends up with a liability valuation very close to the market value of assets. Unless an office has an orphan estate or shareholder capital, there is nothing left to finance the minimum statutory solvency margin.

In my view, the proposed method has been based on an over-precise interpretation of PRE. The logic of basing a statutory solvency reserving test on the PRE surrender value also seems dubious. Term assurance policyholders have a perfectly reasonable expectation of receiving the sum assured on death. That does not mean that we need to hold the sum assured as the current reserve.

When looking at issues like this, I think that it is helpful to stand back and apply some basic common sense. I tried that approach to Example 1 in Appendix D. I see a policy which has been in force, presumably for a few years, and has built up 10% of its value in non-guaranteed form. We do not know the past history, but, on the face of it, there is no evidence of reckless over-distribution. There are 10 years to go until a contractual payment arises, and earlier values are not guaranteed. The current valuations of assets do not appear to be at exceptional levels, yet the calculations say that a reserve in excess of the market value of assets is required. It is by no means obvious to me that that is a reasonable result as a test for statutory solvency.

If these proposals are implemented, actuaries will need to act to protect their offices. There seem to me to be three likely consequences: a move to front end loaded policies; payment of relatively poor surrender values to avoid creating expectations; and a deliberate retention of earnings to build up an estate to finance solvency margins — in short, a total reversal of the customer-orientated trends of recent years. In the final analysis, statutory solvency is about protecting policyholders. If the actuarial profession supports these proposals, I believe that it will put the development of with-profits business back 25 years, and we will possibly be signing its death warrant. That would be particularly ironic if it happened during the term of office of a President whose theme was the need for the profession to act in the wider public interest.

Mr T. W. Hewitson, F.F.A.: I believe that the proposals in this useful Working Party paper set out a sound framework for the valuation of long-term liabilities. Following the broad support that these proposals have received in a number of fora, including the discussion at the Faculty, I am confident that my regulatory colleagues will wish to take forward suggestions for amendments to the regulations, although, of course, there will need to be proper consultation and discussion over the precise form of words in any amended statutory rules.

I would also hope that the profession will be able to amend the corresponding GN8 guidance to take account of the various proposals set out in the paper. Indeed, I believe that many of these proposals already reflect best actuarial practice, as applied by most Appointed Actuaries.

Accumulating with-profits business is the area in which most discussion on this paper has taken place. Our starting point must be the statutory requirement and the standard E.U. actuarial principle, that there should be an appropriate recognition of profits over the duration of the contract. This should mean that no artificial valuation surplus may be created through discounting units at the inception of a contract, other than, perhaps, to cover clearly defined acquisition costs. Similarly, the provisions should increase, thereafter, in such a way as to avoid any undue release of surplus. The proposals in this paper should, indeed, assist in ensuring that these criteria are met fully. I accept that the proposed standard may impose a high reserving requirement on companies that declare high guaranteed levels of accumulation each year, or which limit their discretion on early discontinuance. However, such offices are creating a high level of expectations for their policyholders, and they need to demonstrate that these can be fulfilled.

I should add, though, that any forthcoming proposals to amend the valuation rules are not intended to require companies to hold provisions close to 100% of asset shares in all circumstances, but rather are intended to take clearer account of the expectations that have been created for policyholders over the calculation of potential claim values at each duration. Indeed, I would see this need to demonstrate that such claim values can be met fully as an important principle in the context of the development of insurance-based ISAs, which are likely to be relatively short-duration contracts. It would not seem reasonable, for example, to assume that amounts of accruing terminal bonus, that may, in some cases, be as high as 20% or 30% of asset shares, can be regarded as capital of the life insurer that is free of all foreseeable liabilities to policyholders. Some working capital may be needed to support other business and to allow adequate smoothing, but the proportion of asset shares shown as such capital should, I believe, be kept within reasonable and clearly expressed bounds. Nor, incidentally, would I see a distinction between potential future reversionary bonus and terminal bonus as being particularly meaningful in this context.

If alternative means of securing these aims can be devised (namely achieving an appropriate recognition of profits over the duration of the contract and demonstrating to all concerned that claim values at each duration can be met in accordance with expectations), then, of course, we should all be willing to look at them. However, the proposals in this paper do seem to provide a sound basis of meeting these objectives. Consequently, I believe that the recommendations in this paper should be supported in principle, and that we should find a practicable means of applying these principles to amend the regulations and in developing suitable professional guidance.

Mr J. F. Hylands, F.F.A.: I recognise the need to address a number of the issues that arise in the context of the statutory valuation of accumulating with-profits business. I have no problem with the Working Party's view that it is necessary to have regard to PRE on surrender or transfer, both in the basic and in the resilience test scenarios. However, I believe that a serious problem arises because the Working Party treats the PRE surrender value as though it were a guaranteed surrender value, which it is not. This leads to the erroneous conclusion that the terminal bonus cushion must take the first hit in the application of the resilience test. The consequence of this is that the approach to statutory valuation which the Working Party advocates does not reflect properly the range of approaches that a prudent Appointed Actuary might reasonably use when managing bonus rates in the event of a resilience scenario, or something like a resilience scenario, actually occurring, always having due regard to PRE. In effect, the Working Party's approach is to negate, in the resilience scenario, the intended effect of the concession that terminal bonus need not be reserved for.

In my view, the Working Party's approach would demand excessive capital backing from accumulating with-profits business, and I believe that it would be seriously damaging to our industry. I agree with Mr Headdon when he pointed out that some of the actions that would be taken by offices to mitigate the effects of these proposals, were they to be adopted, would run directly contrary to recent trends towards making our products more customer focused. The Working Party, themselves, acknowledge that the recommendations would require increased reserves on the part of many offices, but hold out the prospect of some compensating weakening of the resilience test. From what Mr Urmston said, it is by no means clear that such weakening is likely to come about, and, in any event, the connection between the statutory valuation and the resilience test is so intimate that I believe that the profession would be ill-advised to accept recommendations on the one without a full understanding of what is required for the other.

Mr. G. J. M. Shaw, F.I.A.: I agree with the Working Party's conclusions in respect of non-profit and unit-linked business and PHI. However, I have concern regarding the impact of the proposals on with-profits business. The consumer finds the with-profits product, with its smoothing, attractive. It is a unique product for the life insurance industry. I believe, though, that greater prescription, whether it comes through PRE or through disclosure, makes smoothing difficult, and a with-profits policy becomes much more like a managed fund contract. We have unitised with-profits designs, and accumulating with-profits designs, with high annual bonuses backed predominantly by equities with low income yields. The consumer has benefited from equity backing in the past, and, therefore, I think that we need to be careful if we adopt technical solutions which may, at the end of the day, result in lower values for the consumer. With the higher returns, it would be a pity if we could not find a methodology to deal with the growth in income that we expect to come from equities, which actually underpins the assumptions made in the investment policy for many with-profits funds.

In the past, offices have financed their growth from an absence of terminal bonus reserves. PRE surrender value post-resilience indirectly creates some terminal bonus reserves, as has been pointed out previously. On the basis of the figures given in Appendix 2 of the paper 'Comparison of Reserves for Accumulating With-Profits and Conventional With-Profits Business' (which appears in *B.A.J.* immediately before this discussion), there is little opportunity to generate working capital on a 10-year policy and a reduced opportunity to generate working capital on a 25-year policy. Single premium policies are equally impacted. This has implications for financial management. There is a PIA requirement to show projected surrender values, and it is a reasonable consumer requirement. They form part of PRE. However, they are not guaranteed in most policies, and we need to avoid treating them as though they are.

The paper considers PRE surrender values in a resilience test environment, and builds a reserving structure on it. In a crisis, steps may need to be taken to modify PRE. PRE and resilience tests are not found in most European countries, although it is true that there are maximum technical rates. We need to be careful that we are not creating regulatory arbitrage, which is against the interest of the U.K. life insurance industry. Clearly, if we adopt these proposals it will lead to some changes, whether in current designs of product, lower annual bonus rates, lower equity backing or in methods of providing capital. Some of these changes may result in the consumer not being better off. If lower levels of free assets become the norm, then clearly the profession has a job to do in educating various parties.

There is a suggestion, in ¶6.6, concerning applying the same principles for accumulating with-profits to conventional with-profits business, on the basis that it is not desirable to have regulatory arbitrage, and we need to match the calculation of mathematical reserves to PRE. As far as conventional business is concerned, we also do not have, in most cases, guaranteed surrender or transfer values. Here there is no market adjustment factor statement to create PRE as to how the surrender value of a conventional contract may vary. There is no value of units. There is no terminal bonus linked to the value of the units. We, therefore, have a very different product and very different PRE circumstances, and we need to avoid simply carrying across the principles. So, the paper, I believe, has significant implications. Companies are likely to have to make significant changes if they wish to reduce the impact of the paper on the future. We should not take these steps lightly.

Mr B. Bergman, F.I.A.: I have reservations regarding the suggestion, made in ¶4.7.3, that, for premium-paying unit-linked pension policies, the greater of the immediate paid-up reserve and the premium paying reserve, on a policy-by-policy basis, be set up. It seems to me that such a regulation would leave an office's interests uneasily sandwiched between the opposing requirements of our solvency regulator (the Treasury) and the sales regulator (the PIA). The proposal, as far as new products or players are concerned, would lead to products which are designed to hedge offices against this paid-up reserving risk, namely by the levying of escalating policy fees, irrespective of whether or not the policy is paid up. Products designed in such a manner are unlikely to throw up significant reserves under ¶4.7.3, but they are likely to lead to the erosion of small, particularly paid-up, policies. This would upset our sales regulator.

If providers feel unable, for marketing reasons, to levy policy fees, given the recent adverse publicity surrounding their impact, we will have very little scope for new entrants. Just imagine the business plans of a proposed new operation in the U.K. unit-linked pensions market which has to reserve on the basis that all its new policies to young policyholders go paid up immediately. The company would effectively have to reserve for all its future expenses without any allowance for income!

A further difficulty which arises in any basis which assumes the immediate bulk paying up of a portfolio is that the paid-up maintenance expense assumption, despite being one of the most critical aspects of the basis, is very difficult to set. Without having been through such a situation, the bulk paid-up maintenance expense per policy would be very subjective.

Another, more minor, impact of the ¶4.7.3 proposal is that most valuation software would need to be amended to calculate reserves on the two bases, for each policy, simultaneously. Alternatively, two runs through the valuation data would be necessary, once on a premium paying basis, and then, a second time, on a paid-up basis, with the individual policy results then being compared in a third program, possibly a spreadsheet.

I think that we need to think carefully about adding margins to the basis, just for margins' sake. How many policyholders take the life office's valuation basis into account when deciding whether or not to lose their job or to make their policy paid up for some other reason? Perhaps the Working Party is worried that some future legislative change will cause this odd scenario to arise, but then a possibility also exists that pensions business could, for example, lose its gross roll-up basis — indeed, this happened to a degree only last year — yet no one is suggesting that we anticipate such changes in our valuation basis.

We need to acknowledge that pension business is subject to a paid-up risk, just as it carries a surrender value or transfer risk. The statutory solvency basis should take these two risks into account by ensuring that:

(1) the reserve held is never less than the transfer value which would be paid; and
(2) allowance is made for the future paying up of premium-paying policies at a prudent, but sensible, level, if this produces higher reserves than the non-paid-up scenario.

Mr H. W. Froggatt, F.I.A.: Part of the Working Party's problem has been in attempting to combine into a single figure concepts of solvency, resilience and PRE, and this has not been helped by certain aspects of the Third Life Directive, as it pointed out, nor by having a net premium valuation as the current practice for regular premium conventional with-profits business. It may be that the current proposals are the best practical compromise that can be agreed, given the constraints and the attitudes of the regulators, but they are not elegant, and they contain potential inconsistencies which may well become most apparent in extreme circumstances.

On the positive side, I, like other speakers, support the introduction of a gross premium valuation basis for much non-profit regular premium business. This gives better results in changing conditions than the current net premium valuation, particularly if the resilience test is retained in anything like its current form.

I think that it is high time for a claims inception/liability or multiple state model to become the standard for much PHI business. Similarly, I have no great problems with proposals related to discounted cash flow tests as being appropriate for linked business.

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For with-profits business, I worry that we will restrict its operations in ways which are not to the benefit of policyholders. Discussion about PRE, such as in this discussion, may itself be creating expectations, and needs to be handled with care. We should remember that the basic concept underlying with-profits business is that policyholders pay increased premiums or accept reduced guaranteed benefits in return for a substantial share of future profits. As a result, the office can produce better returns for policyholders arising from the increased investment freedom from being able to finance its own business, rather than having to borrow at market rates, and also from the profits received in writing non-profit business. In this context, I do not think that policyholders would expect offices to adopt over-strong valuation bases which unnecessarily restrict their investment freedom. I am pleased that the Working Party is not insisting that terminal bonus be valued, and is permitting reserves to be less than asset shares, at least in some cases.

With regard to PRE surrender values, a clumsy expression, as we have heard in the discussion, offices will interpret and attempt to influence in different ways, leading to lively debate for years to come. The bonus reserve valuation test for accumulating with-profits business refers to the supportable bonus rate. Consistent with my earlier remarks, I would support an adjustment to the initial bonus rate to allow for the special features of the Section 69 yield, otherwise it becomes all too easy to finish up with reserves that I feel are unjustifiably in excess of the funded value.

In conclusion, the proposals leave me uneasy. They are going to have implications for PRE and for managing PRE. I might also be happier if we knew what the associated resilience requirements would be, and how they will interact. I agree that a substantial public relations effort will be required to counter impressions arising from any deterioration of published free asset ratios resulting from the proposals if they are accepted.

Mr C. M. George, F.I.A.: I comment first on the proposals for cash flow testing, as set out in the new Regulation 66 guidance in Section F.3.3 of the proposed revised GN8. The guidance on assumptions for growth rates and expense inflation rates is helpful, although, in my view, the precise wording is too prescriptive for a Guidance Note. For example: "the Appointed Actuary must not assume a difference of more than 2.5%" between the unit growth rate and the expense inflation rate, in ¶F.3.3.2, is fine until you try and take credit for a fixed-priced management contract. Of more importance, however, is that there is no guidance on what is usually the most important assumption in the cash flow test, namely the actual level of expenses to be used. The guidance on Regulation 71, in Section F.3.7, does not help, with ¶F.3.7.3 suggesting that a per policy basis, a global basis, or some other undefined third basis are all acceptable. Fine *et al.* (1988) recommended that a proportion of expenses be reserved for on a per policy basis, but, unfortunately, this has not been developed in these proposals. A per policy basis does fit with the policy-by-policy assessment, suggested in ¶F.3.3.1, and required in F.3.3.6, and I would agree with this for variable expenses. However, we should not be forced to over reserve, and we should retain the ability to cover overheads on the global basis, perhaps against margins in larger contracts. It should, therefore, be made clear that this is acceptable, given that it is potentially outside the proposed mandatory policy-by-policy cash flow assessment. Equivalent cross subsidy is, of course, an inherent feature of the net premium valuation for traditional with-profits business.

My second issue concerns another part of the Guidance Note. In ¶F.3.3.6 it is stated that the Appointed Actuary is only required to consider immediate conversion to paid-up status when performing cash-flow tests for regular premium pension contracts. Generally, I believe that this is fine, notwithstanding some of the earlier comments. However, a number of contract designs only grant the right to a paid-up contract on payment of one or two years of complete premium payments. It is possible to argue that an assessment that fails to recognise the valuation strains for policies as they reach the point at which they achieve a paid-up amount is inconsistent with Regulation 66.

Mr C. E. Barton, F.I.A.: I would like to question the relevance of a prospective approach for the investment element of participating business. It may be worth recalling that, around 40 years ago, when actuaries were beginning to think about the possibility of equity-linked assurances, there was a tendency to treat them in the same way as conventional with-profits assurances, but expressed in a currency of non-monetary units. There was one significant difference. The equity-linked assurance was to be viewed in the same light as a conventional with-profits assurance with its level annual premium, uniform reversionary bonus and net premium method of valuation. Not surprisingly, this approach did not become established, and instead it has all along been accepted that, for the investment element of linked business, there is no question of using a prospective approach. Neither is there a retrospective calculation; it is simply the current value of the assets which is relevant, not a discounted value.

This treatment of the investment element of linked business does not alter the fact that a prospective approach is essential for any guarantees of benefits to be paid in future and, of course, for non-profit assurances. This is notwithstanding that we cannot predict the future. It is because we have become much more conscious of the unpredictability of the future that we are now more chary about mortality and expense guarantees, and the transaction of non-profit endowment assurance business has virtually ceased. It has been recognised that significant guarantees of future investment performance are not viable. This being so, it is surprising that there is still an adherence to the prospective approach in valuation for the investment element of with-profits business. The practice which has evolved is a prospective approach which allows, either explicitly under the bonus reserve method, as referred to in ¶5.2.11, or implicitly under the net premium method, for an assumed rate of future reversionary bonus which is supportable by the premiums being paid under current contracts at the valuation rate of interest. This involves considerable shortcomings if it is based on a uniform rate of interest and a uniform rate of reversionary bonus, regardless of the original term and the duration in force of each contract, with no direct allowance for terminal bonuses. It may be that the practice is no longer so crude, and that some allowance is now made for varying rates of future bonus, but, in any event, this process is circuitous and futile. We simply end up with the number that we started with; a value of liabilities equal to the current assets. To the extent that we do not do so in practice, the difference is merely the value of planned margins in the assumptions and imperfections in the process.

I wonder, therefore, whether there should not be yet another Working Party to consider treating with-profits business similarly to linked business, where the core consideration is the current value of assets, with guarantees and smoothing being dealt with separately. This would be much clearer, and would provide a valuable discipline in requiring attention to be focused on smoothing in a defined way, rather than in the nebulous manner which has applied for so long. If E.U. legislation needs to be changed, so be it.

Why was the preservation of the balance between policyholders and shareholders of a proprietary company included in the terms of reference? This was cited by the Working Party, in ¶6.1, as an advantage in retaining the net premium method of valuation for conventional with-profits business. We have here, not a balance, but an imbalance arising from the artificiality of the net premium method, such that the amount transferred to shareholders is significantly greater than it is purported to be. This defect is long overdue for correction.

Professor A. D. Wilkie, C.B.E., F.F.A., F.I.A.: I just comment on one item in the whole valuation story. Although it is, perhaps, not directly relevant to the main topic of this discussion, it concerns words that I wrote when a working party of three actuaries were drafting the valuation principles which are now Article 18 of the Third Life Directive. They are quoted in ¶2.2.2: "a prudent valuation is not a 'best estimate' valuation, but shall include an appropriate margin for adverse deviation of the relevant factors". I knew that that meant *one* margin. If I had meant different margins, I would have said "shall include appropriate margins for adverse deviations of each of the relevant factors".

However, I understand that the DTI has interpreted it to mean 'margins'. It was not meant to mean 'margins', and I think that everybody who read it between my drafting it and the Council of Ministers finally approving it thought that it meant one appropriate margin.

Mr P. J. L. O'Keeffe, F.I.A.: I want to respond to the speaker who complained about the tests outlined in ¶4.7.3, on the question of the comparison between the valuation of pension policies on an on-going basis or on a paid-up basis. Ten years ago, when I was a member of the working party that

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produced Fine *et al.* (1988), there seemed to be a practice among life offices to group data, and then to apply the test on groups of data. So, you might have tens of thousands of policies, where you valued them as if they were going to be on-going at a particular time, next you valued them as if they were all going to be paid up, and then you took the greater of the two.

What we wanted to do was to get to a state where you looked at each individual policy, and determined whether, at a particular point in time, it was more onerous for a policy to carry on in a premium paying situation or for it to be paid up. That was a concession which the current Working Party has carried on. The counsel of perfection is not really to look at the question of whether or not the policy would be paid up on the valuation date, but to do a cash flow projection on the contract and to determine if there is a point in the future when it would be more onerous for the policy to be paid up, and then to value it bearing that option in mind. We thought that really was too elaborate, and so we suggested that it would be adequate to value on the basis of immediately being paid up or carrying on paying premiums. That is what this Working Party has adopted, and that is what I think should happen.

The consequence is that one then looks at premium pricing and takes this feature into account. It was notable that, in what one might see as, perhaps, the dark age of pension policy design, it was perfectly possible to issue a policy where the penalties on becoming paid up were so onerous that the real danger to profitability was not that the policy was going to become paid up at some point, but that the policyholder would carry on paying premiums to vesting.

Mr F. R. Wales, F.I.A.: In 1878, J. Sawley wrote: "The opinion has been expressed, that the net premium method is one which must inevitably disappear before the advance of true actuarial science. Circumstances, however, seem to favour its continuance". ('On Expenses and Selection as affecting the Pure Premium Method of Valuation'. *J.I.A.* **21,** 192). So, I am absolutely delighted that, 120 years later, the Working Party also favour its continuance. I have to admit to being somewhat less happy at the suggestion that a gross premium method should be used for conventional non-profit business. The fundamental objection to the gross premium method for non-profit business is the same today as it always has been — that it capitalises future profits. So, where the with-profits policyholders take the surplus there are questions of equity; where shareholders take it there is a likely conflict with the accounting profession over the recognition of profits. Also, I would argue with the statement in the paper that there was no intellectual support for the use of the net premium valuation — probably there has not been in the last 10 years, but if you go back far enough in the literature, there is.

Having found myself in agreement with the Working Party on the use of the net premium valuation for with-profits business, I would point out that ¶6.1. is a little misleading in stating that the net premium method was selected as the U.K. minimum statutory basis, having regard to its characteristics as a method for valuing regular premium conventional with-profits business. The last part is true; it was selected because of its relevance to regular premium conventional with-profits business. However, if you go right back in history to the beginning of all this, in his paper 'A Solvency Standard for Life Assurance Business' (*J.I.A.* **92**, 75-84), R. S. Skerman proposed five principles, the first of which was a net premium valuation or something stronger. That was implemented, ultimately, by the Comité European d'Assurance, who formally put forward a proposition to the European Commission for the harmonised European approach to valuation. We have the net premium method, not as a U.K. basis, but as a European one, but when we had our first working party there was no such thing as a solvency margin. We were looking at the net premium basis as the valuation standard. Now a solvency margin has been added on top of that. We are facing, today, a much more stringent basis than was originally envisaged by the first valuation working party. So my plea is that the working party which is looking at resilience tests also takes into account the whole question of the solvency margin.

Mr A. E. M. Fine, F.I.A.: The reserving basis should:
(1) be capable of clear description;
(2) have elements which should be objective, not subjective; and
(3) lead to an appropriate, but not excessive, standard of adequacy.

The proposals for the accumulating with-profits business fall down on (1) and (2), and are uncertain as regards (3).

The regulations refer to 'due regard to PRE', and, incidentally, the proposed changes to the regulations, which introduce dangerously more references to PRE, take out the word 'due'. They just say 'regard to PRE', which I think is particularly dangerous. What does due regard to PRE mean? It does not mean reserving for PRE. We have heard references to reversionary bonus PRE and terminal bonus PRE. PRE are too subtle and too complex for reserving. They contain both quantitative and qualitative elements affected by internal and external factors, both of a historical and of a current nature.

What I think they should mean, for reserving purposes, are what the world at large, and policyholders in particular, expect from a reserving basis. They expect enough reserves to meet guaranteed benefits; a standard of adequacy over and above this; avoidance of excessive reserves that could inhibit investment policy; and other matters of importance to the policyholders. The complexity of PRE should be dealt with by constant monitoring by the Appointed Actuary and advice to the board of the financial implications of meeting PRE.

Mr P. W. Wright, F.I.A. (replying): Accumulating with-profits business is typified at the moment by very high rates of reversionary bonus, very high equity backing ratios for many offices, and, for some offices, significant guarantees of no market value adjustments on certain withdrawals at certain points in a policy's life.

We will never reach agreement with those speakers who think that a reserving basis must be judged on its ability to permit that combination to continue in all investment circumstances. These contracts are marketed, in the main, on the basis that they are akin to smoothed unit-linked policies. Where they are not marketed in that way and the PRE surrender basis is clearly not related directly to market values, then the proposals in the paper do give the same kind of reserving freedom as is found in most traditional with-profits policies. However, I remain convinced that the bulk of business is sold on the smoothed unit-linked basis. Unless an office has a great deal of goodwill in the market place, it is very difficult to understand why anyone would take out a policy that gave the office total discretion effectively to gear up any reduction in surrender values in the event of a decline in asset values.

Those speakers who objected to the first charge rule on terminal bonus unfortunately did not address the two issues in ¶5.2.3, which show that that approach is the only sound one which does not produce an anomaly and does not introduce future valuation strains. You cannot assume that terminal bonus cushions can be rebuilt in the future, and that, in the meantime, policyholders will not surrender. I am just not convinced by those speakers who argued for an alternative approach to the application of a market value adjustment.

Mr Froggatt said that the proposals have implications for PRE. Again, I do not agree with that. It is PRE which has implications for the proposals.

Mr Barton made a point about the shareholders' transfer. Members of the Working Party may, or may not, agree with him. However, I believe that this issue can, if necessary, be addressed entirely separately.

Mr Jenkins referred to the net premium valuation being different from the bonus reserve valuation test which we have introduced, but surely, in setting the parameters of a net premium valuation, I had always understood that you are supposed to try to produce a valuation rate of interest which had a similar effect to a bonus reserve valuation providing for appropriate future levels of reversionary bonus. It seems rather hard, in a bonus reserve valuation test, not to start from the bonus that you are declaring. You do not know that the future valuation assumptions are all that you are going to earn in the future when you start the projection process, so to run down from current bonus rates as fast as you can does not seem to me to be entirely unreasonable, subject, possibly, to the initial adjustment, described in ¶5.2.14, to reflect the artificiality of the restriction on the valuation yield.

The President (Mr. D. G. R. Ferguson, F.I.A.): I thank all of the speakers. We have had one of the best discussions and one of the biggest attendances at a Sessional Meeting for some time. That is no accident, as this is an extremely important subject, affecting large numbers of the profession, the companies that they serve, and the policyholders which those companies serve and for whom we are responsible.

I also thank the authors of the paper, both for the work that they have done on the Working Party, and for the paper that they have produced. It is an excellent paper and extremely well put together.

I have no doubt that the strength of feeling and the cogency of the arguments put forward by the objectors to the Working Party's proposals with respect to with-profits business do amount to sufficient cause for the profession to reject those proposals in their current form, and to do so on the record.

We have heard from a number of senior, experienced, respected, practising members, including a number of Appointed Actuaries of major with-profits offices, and their views must not be ignored. Mr Hairs said that we must not turn the solution into part of the problem. He has written to the Chairman of the Life Board of the profession at greater length than he spoke, and this document will be included as one of the written contributions.

Mr Headdon said that it was ironic, in the term of my Presidency, when my theme was the public interest, that we should be considering proposals which will put with-profits business back 25 years, and could sign its death warrant, and that this would not be in the public interest. I accept his arguments. Mr Hylands referred to the danger of making products less customer focused if these proposals are adopted at a time when the whole trend of consumerism should be, and indeed is, pushing us in the opposite direction.

Mr Wales said that the proposals which were put forward in 1975 were much less stringent than the basis which is now proposed by the Working Party. Mr Fine is, perhaps, our most experienced with-profits business practitioner, with more detailed knowledge of more funds large and small than anyone else whom I know, and his arguments weighed in in support of earlier speakers.

We have had a weighty discussion in front of a large and interested audience, and this has been an important debate for the profession. It would not have been possible without the work which has been done by the Working Party, for which I thank them, as I thank Mr Frankland for the eloquent way in which he introduced the paper and Mr Wright for the way in which he replied. I am sure you all want to join me in thanking the members of the Working Party for their work and for their paper.

WRITTEN CONTRIBUTIONS

Mr P. M. Downey, F.I.A. (who spoke at the meeting, and who subsequently submitted this amplified contribution as a replacement for what he said): I am in broad agreement with the approaches put forward in the paper for the statutory valuation of non-profit and linked business. I am also comfortable with the recommendation to retain the net premium method for conventional with-profits contracts. I do, however, disagree with certain aspects of the approach proposed for accumulating with-profits business, and would like to restrict my comments to this area of the paper.

The approach proposed has the appearance of being driven by a desire to establish an acceptable framework for with-profits bonds. In fact, I would have no strong objections with the proposals were they to be limited to this class of contract. With-profits bonds are marketed as an alternative to high interest deposit accounts. It is likely, notwithstanding any caveats in the sales material, that policyholders expect them to exhibit similar characteristics. Furthermore, given the nature of the product, the possibility of widespread surrenders at an inopportune time for the life office cannot be dismissed. I suspect that there may be something of a gap for some offices between how policyholders expect their policies to be treated and how the Appointed Actuary assumes that they will be treated for the purposes of statutory reserving.

My difficulty with the proposals emerges only once they are extended to the broad generality of with-profits business, which, as the paper points out, increasingly takes a unitised form. This is particularly so from the viewpoint of a traditional with-profits mutual life office. For such an office, surplus accrued, but not yet explicitly allocated to policies, represents a major source of capital. The statutory valuation method put forward in the paper, specifically the treatment of the resilience reserve proposed in Section 5.2.8, would have the effect of significantly curtailing this source of capital. As such, it represents a fundamental change to the reserving standards for with-profits business that have hitherto applied.

The paper intimates, in ¶5.2.8.2, that if only offices were to adopt the same bonus philosophy under their unitised business as under their conventional policies, no problem would arise. Yet the emergence of such a large terminal bonus cushion under the latter was not planned. Instead, it arose through many of these contracts being in force during the exceptionally buoyant investment returns of the 1980s. If one assumes a lower return in the future, consistent with a low inflationary environment, it could take many years for the accrued terminal bonus under a regular premium contract to reach the point where it is sufficient to absorb the fall in asset values envisaged in Appendix D. Until then, an office will have to hold a total reserve, including the resilience component, at least equal in value to the underlying asset share.

The paper states, in ¶5.2.6, that a minority of offices retain the ability to cross-subsidise in the resilience scenario. Surely this is a fundamental feature of with-profits business for many offices. At any point in time, different groups of policyholders will enjoy different levels of guarantee, in a form of mutual insurance. In the unlikely event of all policyholders seeking to encash their contracts at the same time, those who happen to be benefiting from particular guarantees will gain at the expense of others.

I do, though, support the unease expressed in the paper over the use of with-profits single premium business to generate capital at outset, by discounting the benefits at a greater rate of interest than that guaranteed in the contract. This is, of course, possible under conventional, as well as under unitised, contracts. However, the valuation standard proposed goes well beyond that required to curtail such a practice.

It has been suggested that a material difference exists in the interpretation of PRE between unitised business, where the policy benefits are expressed in current terms, and conventional business, where the benefits are prospective. Such a distinction is largely illusory. Nowadays, many policyholders, whether unitised or conventional, receive regular updates of the current value of their policy. This, typically, is based on the underlying asset share, and presumably forms the starting point for issues of PRE on discontinuance. As such, to draw distinctions between these two types of contract in a statutory valuation is misplaced, except where they reflect genuine differences in underlying guarantees.

I do, of course, recognise the difficulty that the authors have in coming up with a valuation standard that satisfies the strict interpretation of the European Directives, whilst preserving the practices traditionally applying to U.K. with-profits business. The problem has its origins in juxtaposing liabilities valued using the net premium method alongside assets at market value. The result for most offices is the presence of assets in Form 9 of the supervisory returns which appear to be free, but, in reality, form an integral part of policyholder benefits. The problem is exacerbated by PRE being brought into the equation. The current position of having to determine liabilities with due regard to the reasonable expectations of policyholders, whilst excluding terminal bonus, and hence asset shares, appears untenable. For with-profits business, asset shares are too fundamental to the subject to be ignored in any valuation which purports to take account of PRE. Yet, to reserve for asset share at an individual policy level cuts off the supply of capital from accrued terminal bonus. Until now, this conflict has been circumvented by redefining PRE for the purposes of the statutory valuation in terms only of reversionary bonus. Thus, the valuation liabilities, both the basic reserve and that in the resilience scenario, are set at a level which supports future reversionary bonuses, but not terminal bonus, in line with PRE.

The approach advocated in the paper confuses the issue by bringing asset shares into account for only part of the valuation process. It seems illogical to reserve for the full asset share during the early years of an accumulating with-profits policy, while, at the same time, permitting a reserve late in the term of a conventional with-profits one which may represent little more than half the benefits the policyholder could reasonably expect to receive. To justify this in terms of the different nature of the policy benefits is a somewhat spurious distinction that may exist in theory, but not in practice.

We need a valuation standard for with-profits business, both unitised and conventional, that recognises terminal bonus as an integral part of policy benefits, yet permits the excess over a solvency reserve, with suitable restrictions, to form part of an office's working capital. One option is to perform a traditional valuation in Schedule 4 of the statutory returns, where assets may be taken at written-up book value, with asset shares on an aggregate basis, less working capital, being brought into Schedule 1, where assets are at market value.

Mr C. J. Hairs, F.I.A. (this is the document referred to by the President of the Institute of Actuaries in his closing remarks at the discussion and also by the writer when he spoke): This contribution is intended to set out, in greater detail than is possible at the discussion, my views on the paper, insofar as it relates to accumulating with-profits business.

1 *Introduction*

1.1 From the outset, I must make it clear that I have profound reservations about the Working Party's proposals for accumulating with-profits, which, if implemented in their present form, will, I believe, strike an unnecessary, heavy, and possibly, in some cases, fatal blow at the heart of this business. I sincerely hope that either sufficient amendment will be made or that the profession will make clear to the regulators that the proposals do not have the support of the profession — indeed, in their current form, they are opposed.

1.2 It would be grossly unfair to the regulators to leave them in any doubt as to the views of the profession. Whether they feel that they have any choice in implementing them will, of course, depend substantially on whether they feel that they have any room for manoeuvre under legislation. From my time when I was involved as a member of JAWP (the Joint Actuarial Working Party between the GAD, with regulators attending, and the profession), I felt that the wordings that were implemented would allow the underlying prudential intentions of the legislation to be married with the essential nature of our U.K. products. I trust, therefore, that a way can be found to modify the proposals within legislative requirements, and, in my ¶¶5.7 and 5.8, suggest at least part of the way forward, though there may be other ways in which a similar result could be achieved.

1.3 I believe that I am not alone in my concerns, and I do hope that every Appointed Actuary whose responsibilities include such business will be making his or her views known.

2 *The Core of the Difficulty*

2.1 The Working Party is clearly concerned that the approach to valuation should be consistent with PRE, and, in particular, with the bonus rates that would be implicit in PRE in any particular circumstance. I can sympathise with that. Where, however, I believe the core of the difficulty lies is in the Working Party's approach of limiting, sometimes significantly, through its proposed rules/guidance the Appointed Actuary's scope to recognise the range of bonus options properly available to the company in various circumstances.

2.2 One example of this is in their definition, in ¶5.2.11, of 'supportable bonus rate'. By setting this at the full rate that could be declared based on the valuation interest rate, and then requiring the resulting implicit future bonuses to be treated as liabilities, the Working Party is unnecessarily limiting the office's freedom to recognise that future bonus content, which may be in either reversionary or terminal form, is one of its contributions to capacity to bear risk. (While I recognise that certain exceptions are allowed for, they do not, I consider, go far enough.)

2.3 In this contribution, however, and in my comments in the discussion, I wish to concentrate on the proposals for what I would term the 'surrender value test' against reserve. (In the case of accumulating with-profits, surrender includes, of course, the surrender of the with-profits benefit on switch to unit-linked within an ongoing policy, where this is permitted under the policy.)

3 *The Nature of With-Profits — Definition*

3.1 Before getting into the detail of the issues, it is important, I believe, to ensure that there is an understanding as to the nature of the business under discussion. There are comments within the paper which suggest that there is *not* a common understanding of the fundamentals. This is probably because there are forms of benefit being sold under the name 'accumulating with-profits' (or unitised with-profits) which are more in the nature of smoothed unit-linked. My comments are not aimed at this latter style of contract.

3.2 I start from the position that accumulating with-profits is no different in its essential nature to the more traditional form of with-profits. (This is, I believe, a common, though not necessarily universal, view — those who differ are perhaps thinking of a 'smoothed unit-linked' version.) A definition which encompasses this essential nature is:

— *With-profits* is a long-term business arrangement in which, in addition to certain benefit guarantees (which are typically added to over the life of the policy), the policyholder has a right to share in the business profits of the fund concerned, in exchange for which part of the policyholder's accumulated with-profits premiums are at risk of loss, through sharing in any business losses of the fund.

4 *Some Comments on the Definition*

4.1 The above 'definition' leads to a view of the with-profits process that uses the language of capital management. Such language is not the traditional language that actuaries have used in this field, but it is a language which, following all the developments in recent years in the areas of demutualisation and of orphan estates, is becoming ever more appropriate. (As an aside, I would commend the enunciation of the with-profits process in capital management terms as an area for further work.)

4.2 The definition recognises the dual nature of the with-profits contract, as providing both guarantees and equity-style participation.

4.3 The definition also gives insight into the asset-share concept, in which the asset share is seen to consist partly of:

(1) the value of the accumulated benefits that have to-date been promised, by way of basic benefits and guaranteed or reversionary bonus additions to-date, together with any additions deemed appropriate on grounds of reasonable expectations for further future additions to such guaranteed/reversionary benefits; and of

(2) an 'equity' element.

4.4 The equity element would consist, not only of a share of investment appreciation within the fund, but also of the value of other profits and losses recognised to-date (including the value of future profits/losses where the triggering event has already occurred). This 'but also' element is extremely important, since it shows the equity element as having a true non-guaranteed nature, even in linked terms. The PRE surrender value, a form of asset share, thus should not be treated as though it were a guaranteed minimum liability.

4.5 The equity element in my ¶4.3.(2) is, of course, closely related to the terminal bonus element of the contract. The element corresponding to guaranteed/reversionary elements would be closely related to the statutory reserve if the Working Party's proposal were suitably amended.

4.6 Note that it is both possible and appropriate to distinguish between a realistic and a statutory view of the split between the two elements, where the latter view would include extra margins deemed necessary by society at large, as represented by regulatory requirements, for additional prudential margins.

4.7 With other actuaries, while I have been pleased to see the development and use of asset share methodologies in recent years, I have been concerned that there has been insufficient development of the significance of the guaranteed/reversionary content of benefits. Without an understanding of the two-pronged nature of the asset share, it is too easy to overlook the vital role that the with-profits policyholders, as a group, play in meeting the capital needs of the business.

5 *The Surrender Value Test*

5.1 In ¶5.2.1 the Working Party states that it interpreted current regulations as requiring that the minimum acceptable valuation reserve: "must have regard to PRE on surrender/transfer (...in both the basic and resilience test scenarios)." As a statement of principle, I have no problem with this.

5.2 Where, however, the proposal in relation to the surrender value goes wrong, in my very strong view, is when it goes on to say, baldly and without qualification, that when the PRE surrender value (which basically means the asset share after allowing for costs, tax, etc. that would apply in the event of a mass discontinuance) is less than the face value of the unit fund the reserve cannot be less than that PRE surrender value. This interpretation sits, I believe, quite inconsistently with the Working Party's earlier statement, at the beginning of ¶5.2.1, that it: "took as a fundamental principle that the valuation reserve in both basic resilience test scenarios can exclude any terminal bonus element".

5.3 At this point it is necessary to address two questions. First, where should the two (wholly supportable in my view) statements that I quote in my ¶¶5.1 and 5.2 have led? Secondly, what is the precise technical route by which the Working Party arrived at its erroneous conclusion?

5.4 Taking the first question first, the fundamental principle should, in the context of a surrender value, have led it to recognise that the 'equity element' of asset share (see my ¶4.3), or at least that part of the equity element left over after allowing for any extra margins to meet public solvency standards (see my ¶4.6), does not need to be reserved for. The equity element (or the part left over) is part of the office's *solution* to its solvency pressures, and should not be treated as part of the *problem*! What should be required is for the Appointed Actuary to consider, separately within both the basic and the resilience scenarios, and having regard, *inter alia*, to PRE in each scenario, how the first element of asset share (see my ¶4.3.(1)) should be valued on a solvency basis. The Working Party's statement, quoted in my ¶5.1, should have been interpreted as requiring the two-pronged nature of asset share to be considered. I do not believe that the Working Party's concept of 'the PRE surrender value' is helpful, at least in the present context. 'Having regard to PRE' *must* encompass a proper recognition of the nature of that expectation as well as its quantum. This recognition of its nature should, I believe, lead to an understanding that, for solvency purposes, certain parts of PRE should *not* be quantified.

5.5 With regard to the second question, the technical route to the error is found, I believe, in ¶5.2.2(2), where it came to the conclusion that any MVA or similar surrender adjustment should be taken, in the first instance, against any accrued terminal bonus cushion. This seemingly detailed requirement represents a quite unwarranted limitation on the ability of the company, advised by its Appointed Actuary, to recognise its freedom to manage its future bonus declarations in the way most suitable for the business and its policyholders.

5.5.1 It may be helpful to illustrate this. Take a simple example of a policy with face value of 80 and running a terminal bonus of 20. We will assume that, in the existing (i.e. basic valuation) scenario, the underlying asset share is 100, in other words the company is not needing to apply any smoothing in the current conditions. We will also assume such equity/fixed backing that the resilience condition will correspond to a drop in asset share to 80. On the Working Party's approach this would precisely uncover the terminal bonus content of the business, requiring a minimum reserve of 80 in the resilience condition, and so a minimum reserve of 100 overall.

5.5.2 What this fails to recognise is that, if faced with the resilience change in practice, the company would review its bonus rates and plans in the overall context of the new situation. Insofar as it saw no prospect of immediate recovery in future asset values, but merely normal investment returns from the new base, it would very likely be looking to rebuild into the future a terminal bonus cushion. This might take the form of (say) a reduction of 11% p.a. in normal bonus rates and a managing down of terminal rates, such that maturity payouts were back to asset share levels in, perhaps, 5 years, but reduced normal rates would continue beyond 5 years until whatever level of terminal bonus cushion that was felt appropriate had been rebuilt.

5.5.3 For statutory valuation purposes, the company's Appointed Actuary is, of course, required to take a constrained view of future investment returns, but the same principle can be applied as regards implicit future bonus strategy within that constrained view.

5.6 The Working Party does provide, in later sections of the paper, some indications as to why and how it took the view that it did. I have to say that I find them unconvincing, and comment on several of them in my Section 6.

5.7 However, I believe that there may be a way forward. I suggest that the Working Party look into an amended approach to the rule in ¶5.2.2(2), so as to require the Appointed Actuary to take and reflect in the reserves, separately in both the basic and resilience positions, having regard to the circumstances (including the existence of any surrender value adjustment), and having regard, *inter alia*, to PRE, a view as to the future normal and terminal bonuses which is proper to build into the reserving calculations. Such an amendment would lead to changed wording at the end of ¶5.2.1 and in ¶5.2.8.1, but the result would be a solvency reserving which more properly had regard to PRE.

5.8 As regards 'supportable bonus rates' in ¶5.2.11 (see my ¶2.2), I would recommend, instead, a concept such as 'reasonable bonus rates', or some other expression, in which the split of implicit future bonus content between its normal and terminal elements within the valuation scenario(s) is determined, based on the Appointed Actuary's professional view.

6 *The Paper — Some Comments on Detail*

The comments are limited to Section 5 of the Working Party paper. I show them according to the paragraph numbering of that paper, using italics for the cross-references. I would not wish it to be supposed that I agree with every matter on which I have not commented!

(a) *5.1.1* It is not necessarily anomalous that sometimes less capital is required to support with-profits business than unit-linked business. What squares the circle is that the with-profits policyholder can be both a requirer of capital, in relation to that part of the asset share described in my ¶4.3(1), and a provider of capital, as in my ¶4.3(2). As a result of the latter, it is, indeed, possible for the net reserve for a with-profits benefit to be less than that for a similar quantum of unit-linked benefit.

(b) *5.1.2* While not necessarily disagreeing that changes to the Regulations and/or GN8 may be desirable, and even urgent, I trust that the profession will not feel obliged to give the regulators what passes for a considered and agreed reaction while material unhappiness continues to exist within the membership.

(c) *5.2.3* I may have been the originator of the suggested alternative approach to dealing with MVA situations. I think that the appropriate approach is to reject any single rule, whether it be to apply MVA equally, or to reflect it 100% against the terminal bonus element. The right approach must surely be to rely on the professional judgement of the Appointed Actuary to determine how best to reflect the working out of MVA situations in bonus terms.

(d) *5.2.3 (1)* I believe that the basis for rejection is flawed. In the example where the surrender value is after applying a 10% MVA, the office had clearly got to the point where it felt that a terminal bonus of £2,488 was appropriate. This is quite a different situation to one where the terminal bonus had built up to only £1,100. Where a 10% MVA is in force, it seems not at all unreasonable that future expectations for normal bonus rates could be different to those where no MVA was being applied.

(e) *5.2.3 (2)* It is fallacious to assume that an MVA will be removed only by reduction in terminal bonus. It could occur through a combination of any of: terminal bonus reduction; a reduction in future normal bonus rates; or asset value recovery. I can certainly envisage circumstances in which it is proper to have regard to all these options without falling foul of Regulation 66. I do recognise, of course, that in circumstances in which an MVA is being imposed, the reserve calculation in relation to the amount payable on maturity/retirement or death becomes more onerous.

(f) *5.2.4* and *5.2.5* While I have some reservations on the 'mass discontinuance' approach, I would be surprised, indeed, if others did not comment on this. I agree with much of the Working Party's other comment in these sections. The key, though, is to distinguish between, on the one hand, the MVA mechanism which leads to the amount payable on surrender, and, on the other, the significance for reserving purposes of the dual nature of the underlying asset share, of which the surrender/transfer value is an approximation, but I worry about such phraseology as "the clear impression that the level of surrender values is linked closely to the value of the assets...". A distinction must be made between investment performance as the major influence on surrender values and the concept of 'linkage'. The latter term should be limited to contracts which are truly linked, and hence under which the full linked value is guaranteed, but the wording that is used by the office is, of course, important, and the Appointed Actuary would be expected to have careful regard to it in interpreting PRE.

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(g) *5.2.8* You will understand that, in my view, this 'conclusion' section, having regard to the points made above, should be suitably amended.

(h) *5.2.11* The final sentence of this section shows that the Working Party recognises that normal bonus rates can be held down. What I do not understand or accept is the (apparent) limitation on the Appointed Actuary to allow for those rates to be held down only long enough to close any gap between asset share and funded value, and not for some longer period in order to rebuild the terminal bonus cushion, the existence of which is the necessary norm for with-profits to 'work'.

Mr A. J. Sanders, F.I.A. (1979): I am commenting on the proposal, in ¶4.7.3, to require that sterling reserves for unit-linked contracts be subject to a minimum calculation which assumes that all policies are immediately converted to paid-up status. I am strongly against this proposal, because, while for a particular office it might represent a reasonable approximate approach, there are circumstances where it will give, in my view, an unjustifiably excessive level of reserves, and there may be circumstances where it gives rise to an inadequate level of reserves. In particular, for a new company it requires the assumption, at the end of the first year of trading, that all contracts sold in that year cease paying premiums, which is clearly an extremely remote contingency. This is not just an academic point. The total amount of sterling reserves can increase very substantially purely due to this effect. If implemented, it could influence companies' product design, with adverse implications for policyholders.

The existing insurance company regulations require a prudent approach to all assumptions. The statement, in ¶F. 3.3.6 of the draft guidance note GN8, that: "the Appointed Actuary is not required to consider conversion to paid-up policy status at any intermediate point," provided that the above minimum test is applied, may, in some circumstances, contravene Regulation 64, which requires provision to be made: "on prudent assumptions that shall include appropriate margins for adverse deviation of the relevant factors". Surely the most appropriate approach in GN8 is to require the actuary to take into account the possibility of conversion to paid-up status, and, where this is likely to increase the level of sterling reserves, to require that the actuary makes prudent allowance for this effect. It is quite inappropriate to try to prescribe how this should be done, as circumstances will vary.

It cannot be right to impose this minimum in all circumstances, irrespective of whether it makes a prudent, excessively prudent or inadequate allowance. I would also doubt whether other countries in the E.U. would impose reserving requirements along these lines.