

THE INSTITUTE OF ACTUARIES

THE VALUATION OF A DIVIDING SOCIETY BY A NET PREMIUM METHOD

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[Submitted to the Institute, 27 March 1950]

INTRODUCTION

THESE notes are a description of a method of valuation which is believed to be new in its application to dividing societies, but they are not intended to deal with the general problems with which actuaries are faced in valuing dividing societies. A method of reorganization of a dividing society which results in a fluctuating dividend is also suggested.

Usually a dividing society asks for a valuation only if compelled to do so by the Registrar of Friendly Societies. The members do not think a valuation is necessary and believe that the prophecies of future difficulties are exaggerated. They will almost certainly be aware, and expect the actuary to tell them, that if they go on dividing the whole of the balance each year and do not recruit sufficient new members the dividend will eventually decline, and ultimately the society will be unable to pay even the sickness and death benefits.

I do not consider that it is necessary nowadays to prepare any form of valuation or to make an elaborate tracing investigation merely to demonstrate these defects. It should be possible to persuade the society by general argument that it is unlikely that the present rate of dividend can be maintained, and that they must not divide the whole of the balance each year.

Accordingly, I assume that, before embarking upon any but the most elementary of calculations, the preliminary ground will have been covered so that the actuary will be able to proceed forthwith to a valuation and reconstruction, and I presuppose that the society is prepared to begin the accumulation of proper actuarial reserves.

Further, unless no other course is practicable, I would not suggest that a dividing society should abandon its distinguishing feature, the annual division of profits, and should either discontinue the payment of a dividend altogether or institute a fixed dividend for five years or longer. It is suggested, therefore, that a reconstruction will not be satisfactory unless the future dividend is calculated in such a way that it can fluctuate from year to year. The intention is that the dividend should be a true bonus.

THE DIFFICULTIES OF NEGATIVE VALUES

Generally speaking, ordinary friendly societies have now reached a strong financial position, and having benefited in the past from actuarial guidance continue to take heed of it, but societies which have adopted the dividing principle are a long way behind other friendly societies in this respect, with the result that the actuary usually finds a dividing society in need of reconstruction to prevent a further deterioration of its financial position.

The technical problems involved in the valuation of a dividing society are not much more difficult than those encountered in the case of ordinary societies, but appreciable negative values usually arise in the valuation of a dividing society, and they are an important factor in the scheme of reconstruction. The committee and the members of the society find it difficult, even with the help of explanations, to understand the concept of negative values. An official of a society was once asked by a member to explain to the meeting what was meant by the item 'negative values' to which reference was made in the actuary's report. This is what the meeting was told.

Answer: 'With regard to negative values it is a very difficult matter to explain. But the Valuer in arriving at certain of his calculations cannot take into account certain small decimal points, but these in the aggregate are carried forward and produce negative values, which then have to show in the balance. I think that is about the simplest way I can put it.'

Question: 'Are they hidden reserves?'

Answer: 'Oh, no. Negative values will always come out in these very minute calculations.'

If appreciable negative values arise it is difficult to write a report which will

- (a) bring home to the members the meaning of the valuation result;
- (b) make them willing to agree to a reconstruction; and
- (c) enable them to understand what is being proposed.

These difficulties can, it is thought, be avoided by adopting a net premium method of valuation.

THE METHOD OF VALUATION

As will be seen later it is assumed that the gross contribution may reasonably be said to include a net premium for dividend, being, at each age at entry, the balance of the gross contribution after providing the net premiums for the sickness and death benefits, and the management allowance. It is true that the members, in fixing the total contribution, probably did not look at it in this way, but this allocation is implicit in the scheme of benefits and contributions on the understanding (assumed to be accepted by the society) that actuarial reserves are to be accumulated in respect of the sickness and death benefits.

It is assumed that the society will be able to supply the age at entry for each member as well as information from which the present age may be found. If this should not be so it might still be possible to make some use of the method by working upon an average entry age; it would be necessary to be guided by the circumstances.

The first step is to determine by the usual methods a proper valuation basis, taking fully into account expected future trends of mortality, sickness and interest rates, and the expense ratio, as affecting the present membership of the society, and allowing any margins thought to be necessary. The next step is to calculate, for each age at entry, upon the basis so determined, the level annual contribution per member required to provide (a) the sickness benefits, and

Valuation of a Dividing Society by a Net Premium Method 189

(b) the death benefits. The amount, if any, by which the total of (a) and (b) at any age falls short of the gross annual contribution reduced by the management allocation represents the 'bonus loading', i.e. the level annual sum which will be available for the payment of dividends in respect of an entrant at that age; in other words, the net premium for the dividend. Before proceeding to the valuation suitable adjustments would, of course, be made if at any age the total net premium for the sickness and death benefits exceeds the benefit contribution (the gross contribution less the management allocation).

The sickness and death benefits are valued in the usual way, but, as regards the contributions, separate estimates are made of the present value of

- (i) future annual benefit contributions,
- (ii) future net annual contributions for sickness and death benefits.

It is desirable to value separately the net contributions for each item of (ii).

The difference between (i) and (ii) represents, if the valuation assumptions are borne out in practice, the present value of the future contributions available for dividend, which is another way of saying the present value of the future dividends.

THE RESULT OF THE VALUATION

It is then possible to prepare a valuation balance sheet in the following form:

Valuation Balance Sheet as at.....

£		£	£
Present value of Sickness benefits		Present value of net annual contributions for	
		(a) Sickness benefits	
Death benefits		(b) Death benefits	
Future dividends (i)-(ii)		(c) Dividends	
above		(a) + (b) + (c)	(i) above
		Amount of fund (if any)	
		Deficiency	

A special difficulty in the valuation of a dividing society is to know what provision to make for future dividends. The dividends are benefits to which a member has a right under the rules, and although they are different in character from the more familiar sickness and death benefits they can be valued if it be assumed that the valuation basis will in all respects coincide with the actual experience. This is, in fact, the assumption made when a value is placed upon all the other items appearing in a valuation balance sheet, including even the fund, which it is assumed will not suffer loss by depreciation. The fact that the present value of the actual dividends paid may, or more probably will, differ from the present value shown does not vitiate the valuation since the difference will merely reflect valuation profits or losses. The present value of the actual sickness benefits paid, for example, will almost

certainly differ from the value included in the valuation balance sheet, not only because of variations in the experience but because of selective lapsing which will upset the 'average' value. It should perhaps be mentioned that the assumption underlying the valuation is that there will be neither lapses nor new entrants, and the valuation balance sheet should be considered with this in mind.

The fact that the value of a benefit (the dividend) is found by valuing a contribution is perhaps unusual but that, substantially, is what is done in a bonus reserve valuation.

The deficiency shown might be said to represent, broadly, the amount in addition to the balance of the fund which would have been in hand at the valuation date if proper actuarial reserves (judged on the present valuation basis) had been accumulated in the past in respect of the sickness and death benefits and if the actual dividends had been appropriately restricted. Thus, one of the objects of the valuation, namely, to discover how the fund in hand compares with the actuarial reserve, is achieved. This, it is thought, is not apparent if the usual valuation methods are employed in the valuation of dividing societies; those methods tend to obscure the position owing to the emergence of negative values, and because of the assumptions sometimes made regarding future dividends which in turn affect the negative values.

A further advantage of the method is that it proceeds on the assumption that only the margin in the contributions available for dividend—calculated on the valuation basis—will be used to pay dividends, and no direct statement of the amount of dividend year by year need be made in making up the valuation balance sheet. The method does not involve, for example, the assumption of the continuance of recent dividends.

It is suggested that the actuarial report should include a valuation balance sheet. It enables the members to see clearly the value of each benefit and the relationship between the value of the benefits on the one hand, and the value of the assets and the deficiency on the other hand. Moreover, it brings the society into line with other friendly societies, and, whilst enabling proper comparisons to be made, emphasizes the fact that a dividing society is a friendly society granting a further benefit, namely, an annual cash distribution of 'profits' for which some provision has been made in the contributions by adding a bonus loading.

The validity of a valuation balance sheet prepared on the lines indicated rests upon the assumptions made in connexion with the preparation of the valuation, and particularly upon the assumption that the contributions include a specific net premium for dividend. If, however, this assumption is not regarded as reasonable on the facts of the case, it might well be held to be wrong to show a society as being in deficiency so long as there is a notional dividend allocation which would be sufficient to liquidate the deficiency. In such circumstances the amount of the deficiency could be deducted from the item present value of future dividends, and the valuation balance sheet would show an equality of assets and liabilities. It seems that opinions on this aspect of the matter would be influenced by the view taken as to the relative importance of the sickness and death benefits on the one hand, and the dividend on the other hand. Should all the adjustments fall upon the dividend, or is the dividend of sufficient importance in a dividing society to justify the actuary placing it on a par with the other benefits?

The valuation balance sheet shows that the members have a choice between creating adequate actuarial reserves, and distributing excess contributions in the form of dividends. It is interesting to notice that in a Memorandum issued to Public Valuers before the war by the Registrar of Friendly Societies there is this comment:

Where the valuation discloses that the dividend cannot be maintained at the level enjoyed in the past the Registrar has found in practice that a recommendation to increase appropriations to reserve is more likely to be favourably received than a suggestion to restrict the dividend to a fixed rate.

Suitable comment upon the valuation balance sheet might encourage the society to see the problem in this light.

DEALING WITH THE DEFICIENCY

The present value of future dividends can at this stage be expressed in terms of the present value of a level dividend per member per annum for the remaining periods of membership, thus ignoring the individual amounts of bonus loading and possible divergencies from the valuation assumptions. It is advisable to express it in this way in the report and perhaps to describe it as the 'basic dividend'. The members even after they have been told all the arguments against it usually have a strong preference for a uniform dividend for all members in any particular year, that is to say, they would not want to differentiate between young and old entrants, for example. Friendly society members are not alone in this attitude since in other fields bonuses of equal value are often given in respect of unequal contracts. The elimination or reduction of the deficiency by the absorption of a part of the dividend allocation can similarly be translated into a deduction from the basic dividend to give the 'adjusted basic dividend'—although it is suggested that the alteration might be expressed in the report in terms of building up reserves. However, the resulting adjusted basic dividend is not likely to be the amount of dividend which will be paid, because it represents the dividend which can be paid if all the valuation assumptions are realized exactly in practice. To the extent to which the future experience departs from the valuation assumptions adjustments must be made year by year to the adjusted basic dividend. In fact, when once the actuary passes from the global sum shown in the valuation balance sheet as the present value of future dividends to the level amount of dividend per member per annum, he must make it clear in his report that the society must adopt his recommendations for adjusting the dividend year by year on the lines described below.

As the explanation of how to determine fluctuating future dividends reflecting the actual experience may be difficult to follow when divorced from figures, the following numerical example has been prepared.

NUMERICAL EXAMPLE

The scheme of benefits and the basis of valuation have been chosen solely because the factors required on that basis are to be found in the *Short Collection*. It is improbable that the basis as a whole would be found suitable for a valuation at the present time.

192 Valuation of a Dividing Society by a Net Premium Method

Basis of Valuation

Mortality } Manchester Unity Experience 1893-97, Whole Society
 Sickness }
 Interest 4% per annum

Scheme of Benefits

Sickness (for the whole of life)

10s. per week for the first 13 weeks of sickness

Death £10 payable whenever death may occur

Dividend The cash balance, apart from a reserve of 2 weeks' contributions, divided equally amongst the members at the end of each year

Note. In making the valuation it is assumed that this rule will be altered to secure that proper actuarial reserves shall be maintained. The report should draw special attention to this.

Contributions

6d. per week, of which 15% is transferred to the Management Fund, payable throughout life and during sickness

Number of members as at the valuation date

Age at entry	Age attained										Total
	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70	
21	5	4	3	4	2	—	1	—	—	—	19
22	3	2	4	1	—	3	—	1	—	—	14
23	2	1	2	1	3	1	—	1	1	—	12
24	1	2	—	—	—	2	2	—	—	1	8
25	1	—	1	2	1	1	—	—	—	—	6
26	—	2	—	—	1	—	1	1	—	—	5
27	—	1	—	1	1	—	1	—	—	—	4
28	—	1	1	—	—	—	—	—	2	—	4
29	—	—	—	1	1	—	—	1	—	1	4
30	—	—	—	—	1	1	—	—	1	—	3
31	—	—	1	—	—	—	—	1	—	1	3
32	—	—	—	1	—	1	—	—	—	—	2
33	—	—	1	—	—	—	1	—	—	—	2
34	—	—	—	—	1	—	—	1	—	—	2
35	—	—	1	—	—	1	—	—	—	—	2
36	—	—	—	1	—	—	1	—	—	—	2
37	—	—	—	—	1	—	—	1	—	1	3
38	—	—	—	1	—	—	1	—	—	—	2
39	—	—	—	—	—	—	—	—	1	—	1
40	—	—	—	—	—	—	—	—	1	—	1
41	—	—	—	—	—	—	—	—	—	—	—
42	—	—	—	—	—	—	—	—	—	—	—
43	—	—	—	—	—	—	—	—	—	—	—
44	—	—	—	—	—	—	—	—	—	—	—
45	—	—	—	—	—	—	—	—	—	1	1
Total	12	13	14	13	12	10	8	7	6	5	100

Valuation of a Dividing Society by a Net Premium Method 193

Allocation of gross annual contributions

Age at entry	Net premium		Management	Bonus loading (i.e. net premium for dividend)
	Sickness benefit	Death benefit		
21	·441	·116	·195	·548
22	·445	·121	·195	·539
23	·450	·125	·195	·530
24	·455	·130	·195	·520
25	·461	·135	·195	·509
26	·467	·140	·195	·498
27	·474	·145	·195	·486
28	·480	·150	·195	·475
29	·488	·156	·195	·461
30	·495	·162	·195	·448
31	·503	·168	·195	·434
32	·512	·175	·195	·418
33	·520	·182	·195	·403
34	·529	·190	·195	·386
35	·538	·197	·195	·370
36	·548	·206	·195	·351
37	·558	·214	·195	·333
38	·569	·223	·195	·313
39	·579	·233	·195	·293
40	·590	·243	·195	·272
41	·601	·254	·195	·250
42	·612	·265	·195	·228
43	·624	·276	·195	·205
44	·637	·289	·195	·179
45	·649	·302	·195	·154

Note. Before constructing the revised valuation balance sheet shown on p. 195 it was necessary to adjust the net premiums because of the alteration of the benefits. The amounts by which the net premiums for sickness and death benefits were reduced were added to the bonus loading.

The data for the valuation are summarized in the following table.

Age attained	Number of members	Net premiums		Gross annual contributions
		Sickness benefit	Death benefit	
21-25	12	5·356	1·458	15·6
26-30	13	5·902	1·666	16·9
31-35	14	6·505	1·914	18·2
36-40	13	6·172	1·885	16·9
41-45	12	5·704	1·749	15·6
46-50	10	4·701	1·417	13·0
51-55	8	3·929	1·272	10·4
56-60	7	3·440	1·114	9·1
61-65	6	3·074	1·063	7·8
66-70	5	2·653	·970	6·5
Totals	100	47·436	14·508	130·0

194 *Valuation of a Dividing Society by a Net Premium Method*

The present values of the benefits and contributions are found to be:

	£
Value of sickness benefits	886.9
Value of death benefits	412.8
Value of net premiums for	
Sickness benefit	702.8
Death benefit	211.0
Value of management allocation	291.9
Value of bonus loading	740.4
Value of gross annual contributions	<u>£1946.1</u>

Note. As the number of members included in the example is small the figures have been taken to one decimal place merely for purposes of illustration.

Value of £1 per member per annum throughout life £1497.0

Valuation Balance Sheet

£		£
Present value of:	Present value of future gross contributions	1946.1
Sickness benefits 886.9	Deduct allocation to Management Fund	291.9
Death benefits 412.8		<u>1654.2</u>
Future dividends 740.4	Amount of Fund (2 weeks' contributions)	5.0
	Deficiency	380.9
		<u>£2040.1</u>
		<u>£2040.1</u>

The value of future dividends (£740.4) represents a level annual dividend payable throughout life, irrespective of age at entry, of 495 per member (9s. 11d.) (basic dividend)

The deficiency of £380.9 is equivalent in value to a level annual dividend payable throughout life, irrespective of age at entry, of 254 per member (5s. 1d.)

Note. These amounts, and similar figures given later, assume that a proportionate dividend will be allocated to deaths in the year of death.

The adjusted basic dividend will be 9s. 11d. — 5s. 1d., i.e. 4s. 10d. If the whole of the deficiency were met by reducing the dividend it is suggested that there would be too great a reduction; the members would be unlikely to accept the recommendations, and if they did there would probably be heavy selective withdrawals which would have a serious effect upon the finances of the society. It is assumed, therefore, that it will be necessary to reduce the other benefits if, as is likely, an increase of contributions is unacceptable. Such an alteration would affect the 'net premiums' and the 'bonus loading' and, of course, the values thereof.

For the purposes of illustration it is assumed that the sickness benefits are reduced by 10% and the death benefits by 25%.

Valuation of a Dividing Society by a Net Premium Method 195

The revised valuation balance sheet would be as follows:

	£		£
Present value of:		Present value of future gross contributions	1946.1
Sickness benefits	798.2	Deduct allocation to Management Fund	291.9
Death benefits	309.6		1654.2
Future dividends	863.4	Amount of fund	5.0
		Deficiency	312.0
	<u>£1971.2</u>		<u>£1971.2</u>

The basic dividend equals 11s. 6d. per member.

The adjusted basic dividend equals 11s. 6d. — 4s. 2d., i.e. 7s. 4d.

The members may have difficulty in understanding why the deficiency has not been reduced by the value of the reduction of the sickness and death benefits, but the important fact which emerges, and which must be given emphasis, is that the adjusted basic dividend has increased from 4s. 10d. to 7s. 4d. as a result of the reduction of benefits.

THE CALCULATION OF THE ACTUAL DIVIDEND

The dividend of 7s. 4d. per member represents the amount which can be paid throughout the remaining lifetime of the present membership if the valuation assumptions are realized in practice without profit or loss (ignoring the effect of lapses and new entrants). However, there will be profits and losses and there will be lapses and new entrants, and it is, accordingly, necessary to consider in turn the elements affecting the financial position of the society in order to decide what further adjustments may or must be made to this adjusted basic dividend of 7s. 4d. year by year, if, as is likely, an annual valuation is impracticable.

At this juncture one point, which might escape notice, should perhaps be mentioned. The calculation of the annual dividend takes place, usually, towards the end of the financial year in time to enable the dividend to be paid out before Christmas, and by that time the actual experience relating to the greater part of the year will be known.

Sickness

Expected annual cost of revised sickness benefits based on membership at the valuation date	44.1
Expected annual cost of revised sickness benefits based on survivors of that membership five years later	44.1
Mean expected annual cost per member over next quinquennium based on mean membership	46
(The mean figure represents the average of 44 at the beginning and 48 at the end of the five years.)	

The society can be told that if the actual cost of sickness benefits during the year is greater (is less) than £*x* per member, the difference must (may) be deducted from (added to) the adjusted basic dividend of 7s. 4d. The figure £*x* will vary between £44 and £48, say £46 for each year of the quinquennium if no allowance is made for exits (other than deaths) or new entrants.

This average figure of £46 is only correct if there are neither new entrants nor

196 *Valuation of a Dividing Society by a Net Premium Method*

lapses and if the actual deaths are exactly equal to the expected deaths. Before deciding upon a figure to be employed by the society it is necessary to consider the effect of deviations from the average expected sickness cost in relation to the adjustment of the dividend, particularly if the critical value is to be calculated now and will not be reviewed for five years.

As regards deaths and lapses, there is a double uncertainty—numbers and age distribution—whilst new entrants are uncertain as to number but are likely to occur at the younger ages. Further, it is necessary to take account of deaths and lapses only to the extent to which they are not replaced by new entrants whose sickness expectation is the same.

If the net effect is to increase (reduce) the true critical value of the expected cost of sickness benefits above (below) the value of £.46, then if the value of £.46 is used in calculating the adjustment of the dividend a larger (smaller) dividend will be paid than is strictly allowable.

The actuary must try to assess the possibility of variations occurring and their probable extent before recommending a figure for the society to use, and due allowance must be made at a first valuation for the possible effect of a reconstruction on the lapse rate (especially selective lapses) and on the recruitment of new members.

Instead of one average value, several values could be employed, each applicable to a particular age-group, but any scheme recommended must be simple to operate, particularly in the case of the smaller societies.

In these comments it has been assumed that the actuary will have to recommend a figure which will be used for some years without adjustment. There is, of course, no reason why he should not calculate revised figures annually; and, in appropriate circumstances, the society itself might calculate the critical value year by year. It is perhaps of interest to record that such a procedure in relation to death claims was followed by those districts of the Manchester Unity of Oddfellows which reassured death benefits by the equitable levy system. The whole system of reassurances was recently abandoned by the Manchester Unity, but for many years previously the districts quite successfully made their own calculations of their expected death claims.

Deaths

A similar procedure could be followed in regard to the difference between actual and expected deaths. It is doubtful whether it would, in practice, be worth pursuing because fluctuations in the rates of mortality are not usually so important as fluctuations in the sickness rates; the death strain saved or lost is unlikely to be financially important in any one year. In calculating the profit or loss due to variations in the mortality experience it would, of course, be necessary to take due account of the difference (positive or negative) between the value of the bonus loading and the value of the adjusted basic dividend as well as the reserve for sickness and death benefits on the net premium basis.

Lapses

The distribution of the lapses by age and duration is of great importance. For example, an exit at age 26 who entered at age 21 provides a profit of £.77, being the net premium reserve for sickness and death benefits, but entails a loss of £.4.78, representing the excess of the value of the future 'bonus

loading' over the value of the future adjusted basic dividend. This loss represents the portion of contributions earmarked to reduce the deficiency and to meet the balance of the adjusted basic dividend of the members whose own contributions are not sufficient to provide it in full. There will thus be a net loss of £4.01.

A lapse at age 50 of an entrant at 21 will give a profit of £5.80 (the net premium reserve for sickness and death benefits) less a loss of £3.28, or a net profit of £2.52.

A lapse at age 50 of a member who entered at age 45 will result in a profit of £1.58 in respect of the net premium reserve for sickness and death benefits and a profit of £.94 in respect of future dividends, since in this case the balance of the gross premium available for dividends is less than the amount of the adjusted basic dividend. There will thus be a total profit of £2.52.

It would be possible (but not practicable for most societies) to set up elaborate clerical machinery by which to calculate each year the net profit or loss from lapses. A simple but conservative method would be to ignore the profits which would arise from lapses and to concentrate attention on the losses. If this is done, the fact that profits have been left to emerge must be remembered when framing the transitional arrangements to which reference is made later. It will be appreciated that the adjusted basic dividend will be jeopardized by losses due to lapses only if those lapsed members in respect of whom losses occur are not neutralized by lapses resulting in a profit or are not replaced by new entrants who between them bring into the society a corresponding value of 'bonus loading' less the value of their own future adjusted basic dividend. Going to the extreme of simplification it would be possible to assess an average 'expected' annual profit from the 'bonus loading' of members below a certain age and to determine the level at which the membership below that age must be maintained in order to secure the necessary contribution towards the liquidation of the deficiency, and the contribution towards the payment of the same adjusted basic dividend to all members.

On this basis the society could be told that if the membership below age y falls below N (the number of members below age y at the date of the reconstruction) the adjusted basic dividend must be reduced by $1d.$ per member for every n or part thereof by which the membership in future years falls below N . This method could be elaborated to suit individual requirements; for example, instead of one figure N , figures N_1, N_2, N_3 , etc. could be given appropriate to each year of the quinquennium.

In view of the risk of selective withdrawal immediately following the reconstruction it would be advisable that the modification of the adjusted basic dividend at the end of the first year (and possibly even the second) should be made by the actuary. The capitalized values of the margins which would be lost or gained, and not the annual amounts thereof, would be related to the capital value of a reduction or increase in the dividend throughout the lifetime of the members remaining after the lapses have occurred.

New Entrants

In the simplified method referred to above new entrants have been used to cancel out lapses, but if at the ages where the value of the bonus loading exceeds the value of the adjusted basic dividend there should be a net increase of membership over the expected number surviving, the position of the

198 *Valuation of a Dividing Society by a Net Premium Method*

members as a whole would be improved so long as the new entrants maintain their membership. If they subsequently lapse the necessary adjustment will be made as indicated earlier.

It would, therefore, be possible to apply criteria similar to those suggested for lapses and to say, in respect of the simplified scheme mentioned, that if the membership below age x increased beyond M the adjusted basic dividend could be increased by $1d.$ per member for every complete m by which that membership exceeded M .

It is thought that in the case of most societies the respreading throughout the remaining lifetime of the whole membership of the capital value of the excess bonus loading attributable to a new entrant will not involve difficulty. It is likely, however, that the annuity value appropriate to the new entrant will be greater than the average annuity value appropriate to the membership as a whole, so that the amount of excess bonus loading available out of the new entrant's contribution in the early years will be less than the total amount actually distributed in the form of additional bonus to the rest of the members in respect of that contract. If the new entrant remains a member no harm will be done in the long run, but if the new entrant should lapse the society would have over-distributed unless the reserve in respect of sickness and death benefits left behind by the lapsing member were sufficient to make good the deficit. It seems likely that this reserve would be sufficient unless there were an unusual age distribution or an unusual scale of ordinary benefits, but if this situation arose it would be necessary to restrict the addition to the adjusted basic dividend on account of new entrants to the amount of the emerged profit.

Interest

Although immediately following reconstruction there will be little in the way of accumulated funds, it will be possible to earn some interest on the amount accumulated during the year to pay the dividend for that year.

A fund will, however, be built up gradually and eventually there may be a little excess interest to swell the dividend.

Profits or losses from the realization of investments should, it is suggested, be treated on a capital basis and should not be added to or deducted from the sum available for dividend in the year in which the profit or loss occurred.

TRANSITIONAL ARRANGEMENTS

The adjustments mentioned in the preceding paragraphs fall into two categories, one of which it has been suggested should be dealt with year by year on a revenue basis (for example sickness experience profits or losses) and the other on a capital basis (for example lapse profits or losses).

The adjusted basic dividend will be permanently altered by the capital adjustments, but the revenue adjustments will cause only marginal fluctuations in the dividend paid. If, however, the basis of valuation were changed the adjusted basic dividend would be altered thereby, but the effect would be to capitalize profits or losses which would otherwise have emerged year by year as variable revenue adjustments.

In practice the modifications made to the adjusted basic dividend will not be calculated with theoretical accuracy, and it is to be hoped that not all of

the adjustments mentioned will be recommended to any one society. In neglecting some items and simplifying others the actuary would be guided by the circumstances of the case and the need to pass gradually to a sound actuarial condition.

It is perhaps desirable to digress for a moment and to consider in general terms what action should be taken if the valuation shows a deficiency. If a valuation, made upon a basis which it was thought would accurately reflect the future experience in all respects, were to show a deficiency, it would be proper to recommend remedial measures sufficient to remove the whole of the existing deficiency and to prevent a further deficiency occurring in respect of future entrants. It would scarcely be practicable, however, to make such a valuation, first, because of the impossibility of assessing accurately the sickness, mortality and interest rates, and, secondly, because no withdrawals or new entrants would normally be allowed for.

Ignoring for the time being withdrawals and new entrants, the nearest approach to the kind of valuation referred to is that called a solvency valuation, but solvency valuations do not appear to be made commonly in practice. The bases adopted for ordinary friendly society valuations at the present time are usually far removed from a solvency basis, and this is necessary in view of the desire of the societies for financial stability and of the growth of surplus distribution schemes akin in principle, if not in form, to the bonus schemes of life offices.

If, therefore, it is true that most valuation bases contain margins and, because of the element of withdrawal, hidden margins, it would be unnecessarily drastic to remove the whole of a deficiency in one operation. Further, in certain circumstances it might be appropriate to effect a re-organization on a modest basis even though it were thought that the society could not escape some further reduction in benefits at a later date. In the case of dividing societies special considerations arise because the withdrawals which are more likely to occur will represent a loss, whilst new entrants will probably represent a profit. Nevertheless, it should not be assumed that the deficiency shown by a valuation must be removed in one operation. The fact that this has been done in the example must not be taken to imply that it is the appropriate course of procedure in practice.

The first valuation may be said to be in the nature of a diagnosis, and in the light of this valuation it is necessary to consider what measures are necessary to bring the society eventually to a sound actuarial basis. The subsequent valuations afford occasions for stock-taking to see to what extent the measures taken are proving to be efficacious, and to revise the scheme of reconstruction if necessary.

More harm than good can result from a too hurried attempt to reach a proper actuarial basis. The practical effect of making recommendations which are too drastic in the eyes of the members may well be to make the society decide to do nothing, or for the reconstruction to fail because of selective lapses, but it is surely better to secure some improvement in the stability of the society even if the scheme agreed upon does not go the whole way at once. It is suggested that, if in the past ordinary friendly societies had been reconstructed on more rigorous lines, many of those now flourishing would have been reconstructed out of existence. The actuary must not be too worried about the valuation balance sheet showing a deficiency, so long as the situation is under control and the financial position is improving. It is perhaps desirable

to emphasize that, in dealing with the smaller friendly societies at any rate, the actuary should avoid complications and make simple recommendations which the members can understand.

After a reconstruction on the lines indicated it will be necessary for the rules of the society to be amended because in future the dividend will not be fixed by reference to the balance of the income and expenditure account each year. It is not necessary, nor is it desirable, that full details of the method of calculation of the dividend should be inserted in the rules, but it is suggested that a rule in general terms would suffice. The rules could perhaps provide for a dividend calculated in accordance with the scheme recommended by the actuary from time to time.

FUTURE VALUATIONS

If the actuary's recommendations on the lines suggested in the preceding paragraphs have been adopted, a very important change will have taken place in the financial structure of the society. The society will have decided to accumulate reserves on an actuarial basis and, in order to do so and to make good the deficiency in respect of past years, the members will have agreed to restrict the distribution of profits. It is desirable, therefore, that consideration should be given to the possible effects upon the method of valuation of these vital changes.

In future the adjusted basic dividend might be regarded as being in the nature of a contractual benefit which should be valued, in which case credit would be taken for the value of the net premium for such dividend. If this were done, and assuming that in all respects the actual experience coincided with the expectation, the next valuation would still show a deficiency partly because the benefit fund contribution of members who joined at the higher ages is insufficient to meet the net premium for the sickness and death benefits and the cost of the adjusted basic dividend. This deficiency and the deficiency due to insufficient transfers to sickness and death benefit reserves in the past were to have been met from the balance of the benefit fund contributions payable by the entrants at the younger ages, for whom there is a balance available after providing for the net premiums for the sickness and death benefits and for the adjusted basic dividend.

It would, therefore, be a matter for consideration whether it would be legitimate to take credit in the valuation balance sheet for these assets which will be contributed by some of the members only, and thus to show a solvent position. By the ordinary canons of valuation it would not be legitimate, but before dismissing the idea it is desirable to examine the position, bearing in mind that there is an important distinction between the dividing society under discussion and an ordinary society or office valuing by the net premium method.

A valuation is an instrument which helps the actuary and the management to assess the financial position of a society and assists them in formulating future financial policy. Unless the management does in fact take action in the light of the valuation result, the mere preparation of a valuation will not affect the true financial position, whatever the method of valuation or the basis of valuation. If the actuary has no control over the policy of the management, it is essential that he should adopt a method of valuation leading to a result which would not be upset by capricious events such as the lapsing of certain

individuals whose contracts, on the valuation basis, constitute an asset and not a liability.

In the case of the reconstructed dividing society under consideration these conditions do not operate; the distribution of profits is under the control of the actuary because he decides how the dividend is to be calculated year by year and, if in the valuation a contract has been treated as an asset and that member lapses, the dividend will be automatically adjusted without waiting for the next valuation. That means that, taking the valuation and the method of distributing profits together, no contract is, in effect, treated as an asset. Indeed, in the report, conditions relating to the calculation of the dividend could, if thought necessary, be attached to the valuation result.

These negative values may be disguised in the valuation balance sheet by having a different label attached to them, but as they would be shown separately the disguise would be thin and the amount would be known. Is there the same objection to taking credit for negative values if the valuation balance sheet discloses what has been done, and if the distribution of profits is under the control of the actuary?

For very good reasons contracts are not usually treated as assets in a valuation, and any departure from this tradition would need very careful consideration. Therefore, despite the practical objection to which reference is made later, it might be thought advisable in subsequent valuations to use the same net premium method as was employed in the initial valuation.

Considering the numerical example given earlier, the starting point for the new phase will be the valuation made after reducing sickness and death benefits, and the valuation balance sheet by reference to which future progress will be judged will be that shown on p. 195.

The adoption of the same method in subsequent valuations does create a difficulty, for despite the reconstruction the subsequent valuation will still show a serious deficiency, only slightly less than that shown at the first valuation. It does, however, bring home to the members that they will not be 'out of the wood' until the negative values upon which they are relying have been realized. Some restraint must be exercised in commenting on the valuation results to avoid discouraging the members by dwelling too much on the deficiency. The members must rather be encouraged to look with satisfaction at the growing fund and the rising degree of solvency, and should only be allowed an occasional look over their shoulders at the deficiency to remind them of their past.

CONCLUSION

The actuary's report is a report to the members of the society, who are not actuaries. Usually the actuary will not be at the meeting when the report is discussed and will not, therefore, be able to explain any obscurities. These will be 'explained' for him by an official! The members will appreciate the actuary's help all the more if he avoids unnecessary technicalities about the valuation, and if a simple method is suggested for arriving at the fluctuating dividend so that the calculations involved are well within the compass of the officers of the society.

The preceding paragraphs make the valuation and reconstruction sound complicated; this may be due partly to the fact that the description is a mixture of theory and practice. When writing the report to the society the theory

would not be included, but the bare essentials of the scheme would be set down in a simple fashion so that, to the members, it all sounds very easy.

Yours termes, your colours, and your figures
 Keep them in store til so be that ye endite
 High style, as whan that man to kynges write.
 Speke so playn at this time, we you praye
 That we may understonde that ye saye.

(CHAUCER, *The Clerkes Tale*)

ABSTRACT OF THE DISCUSSION

Mr E. J. Lancashire, in submitting his paper, hoped that the reference to the net premium method in the title had not led members to expect too much. In that fragment of his, he had attempted to deal not with the general problems arising from the valuation of dividing societies but with two main questions—first, a method of valuation which was satisfactory; and secondly, the principle of working upon a variable dividend from year to year. He naturally hoped and believed that the technical basis of his proposals was sound, but his main object was to make the members themselves understand what the actuary was trying to do in the valuation and reconstruction. And, curious as it might sound, he believed that the more complicated valuation was easier for the members to understand.

Mr A. Farncombe, in opening the discussion, said that the subject of dividing societies did not figure largely in actuarial literature. Sir Alfred Watson, in his lectures, dismissed them in one short paragraph which was well worth quoting. He said:

The only other class with which I need trouble you is that of dividing societies. We have heard so much of them of late that it seems necessary to mention them, but all that need be said is that they represent a very ephemeral type of society. and after a brief description of the benefits he continued:

The society goes on year after year until the inevitable happens. It is said that these societies, especially if unregistered, break up very frequently with the object of weeding out those members who have become a burden.

It was difficult not to approve of Sir Alfred Watson's summary treatment, and many would think it a pity that more needed to be said today.

Valuing a dividing society was a depressing business. The scales were so heavily weighted against the actuary. The society resented having to have a valuation. The position disclosed was usually disastrous. If the society attempted to reorganize its affairs, it would probably lose its cohesion and collapse. If it did not attempt to reorganize, the actuary would have wasted his time and the carefully prepared forecasts of a steadily decreasing dividend were apt to be mocked by a flock of new entrants.

It was, of course, a pernicious system that each generation of members should be expected to pay for the benefits of the preceding generation and it was not surprising that the Chief Registrar of Friendly Societies could not condone the unsatisfactory features of those societies—it was more surprising that they escaped valuation for so long. The ending of exemption in the late 1930's created an interest in the subject. The only notable contribution to the *Journal*—J. M. Moore's paper, *J.I.A.* Vol. LXIX, p. 228—appeared at that time. The paper under discussion no doubt coincided with the revival of the Chief Registrar's interest in the subject.

Moore's paper provided an embarrassment of riches; he suggested three methods of valuation, and four more were added in the discussion on his paper. The student was left with a confused impression that dividing societies were measured and fitted with a valuation method as with a suit of clothes. Moore, and those taking part in the discussion, recognized the weak position of the actuary vis-à-vis a dividing society and went to considerable lengths to make their proposed reorganizations as painless as possible. The valuation method was adapted to suit the circumstances of the societies being valued. The author that evening, on the other hand, was obviously anxious to hasten on to the details of his method. He spent the minimum time in measuring and made no attempt to tie up any of the loose ends left by the discussion on Moore's paper. In effect, he concluded a bargain with the society: if the members would trust him implicitly he would put forward a valuation and reorganization which would satisfy the Chief Registrar of Friendly Societies, and yet provide the maximum possible dividend and make the minimum possible dislocation in the customary practice of the society.

There was a practical difficulty. If the reorganization was not carried out, the valua-

204 *Valuation of a Dividing Society by a Net Premium Method*

tion became unsound; but the actuary had to submit his figures before the management committee agreed to the details of the proposed reorganization. If the committee failed to ratify his proposal for the adjustment of dividend on withdrawals, he would be in an awkward predicament. He should in theory withdraw his valuation and submit another, but how could he justify such an action? The author's method assumed that the officers of the society had implicit faith in the actuary advising them.

The following letter illustrating the difficulties with which the actuary had to contend had been received by his firm after the second valuation of a dividing society.

Dear Sirs,

Re Valuation Report

The above was discussed fully by a special committee meeting of my Society convened for that purpose, and I have been instructed to make the following observations.

My Committee is exceedingly disappointed at the remarks in the report, particularly concerning the sickness and general fund, inasmuch as it is firmly believed that there are few friendly societies of an equivalent membership and rate of contribution in such a healthy state throughout the whole of the country. Throughout a period of over thirty years the Society has always paid the full sick benefit and a dividend at the end of each year, and as this has been maintained for such a long period in actual practice, my Executive consider your remarks on the insolvency of the sick and general fund to be very theoretical....

In point of fact the constitution of the Society states that the balance shall be divided at the expiration of each year.

It is also felt that the tables on which the valuation had been based could perhaps have been more recent and in keeping with the actual conditions experienced today in friendly society work. My Executive do feel, knowing how other friendly societies fare in the payment of sickness benefit and dividend and also considering the claims upon the society's funds in recent years, that a more generous attitude could have been taken in assessing the standing of the Society.

The letter went on to speak of some details, and finished:

My Executive hope that the foregoing will give grounds for you to reconsider your report. I shall be most pleased to receive your advice in respect of this matter and shall be happy to place your recommendations before my Executive.

I would mention that the main reasons my Executive are asking for a new report is that it seems hardly possible for a society in such a flourishing state as ours to have one of its main funds so insolvent.

To those brought up in a life office, the words 'net premium method' had an almost sacred flavour. It was a surprise to find, on reaching the Part of the Institute Examinations which dealt with friendly societies, that the gross premium method of valuation held the field without any rival. It was a pleasure to find from the title of the paper that the net premium method was invading that new territory. It was also a reminder that a dividing society was analogous to a life office distributing a level cash bonus, but the differences were astonishing. No actuary would dream of allowing his office to pay a bonus while the life fund was in deficiency. Yet throughout the discussion of Moore's paper, and in the paper under discussion, considerable ingenuity had been expended in devising excuses for paying the largest possible dividend in spite of the largest possible deficiency. A life office actuary would be considered to be out of his mind if he allowed his office to issue only whole life with profit assurances at a level annual premium of, say, £5 per cent and yet to declare a level cash bonus. Yet that happened in a dividing society and was defended on the ground that all paid the same contribution and ought to receive the same dividend. To the layman there was an appearance of equity, but the true inequity must surely be too great for the actuary to swallow without a protest.

The table on p. 193 showed that an entrant at age 21 would pay for a dividend of 11s., whereas an entrant at age 45 paid for only 3s. 1d. It was indeed surprising that the author did not include a proper scale of contributions for new entrants in the forefront of his proposals for reorganization.

The method itself was of considerable ingenuity. It was not a true net premium valuation but a gross premium valuation subdivided into two sections, one of which was valued by a net premium method. With the net premium section, which was applied to fixed benefits, there could be no complaint. It was the dividend section which was suspect. In that section, at the valuation prior to reorganization, the items on either side of the valuation balance sheet were made equal but the quantities valued were very different. On the one side the excess of the gross contributions over the net premium for the fixed benefits was valued as an asset; on the other side the present value of a level dividend to all members was valued as a liability.

When the figures were broken down member by member, the individual reserves were not equal to zero. There were positive and negative values, and the total of the negative values was exactly equal to the total of the positive values. The traditional strength of the net premium method in its application to dividing societies would be vindicated if all those negative values were to be excluded. It was because of those negative values, somewhat reduced by positive values in the net premium section, that the method of allowing for withdrawals in the calculation of the dividend became necessary. There would be considerable difficulty in explaining that to the members of the society without making it clear to the younger members that they were over-paying, thus encouraging the withdrawals it was sought to avoid. It was questionable whether a method of reorganization could be considered satisfactory which did not break the vicious circle whereby every withdrawal at a young age, by lowering the dividend, made other withdrawals more likely.

The author had taken the trouble to refer the net premiums back to the age on first entry into the society. Since the contribution was level, it was difficult to see why he had done so. It could more readily be assumed that the former society was dead and that each member re-entered at his current age into the reconstituted society. The author's figure of £380.9 for the deficiency was of historical interest only, since no attempt was made to relate the method of liquidation to the shares of the members in the deficiency. If, however, the net premiums were calculated according to age at the first valuation and those of subsequent entrants according to their ages at entry, then the deficiency would be reduced to £87.5, which arose solely in respect of those members over the age of 50 whose contributions were not sufficient to provide even their fixed benefits. With the net premiums fixed at higher levels, the part of the contributions available for future dividends was reduced; the basic dividend fell to 6s. but the adjusted basic dividend remained unaltered at 4s. 10d. That result was what might have been expected, since the change in the net premiums merely reshuffled the items between the two sections into which the valuation was divided. The combined gross premium valuation was unaffected by the apparently radical change in the method of calculation of net premiums. The lower basic dividend and smaller deficiency had definite advantages in the presentation of the results and should lessen the difficulties at the second and subsequent valuations.

So far his remarks had been almost wholly critical. He should, in fairness to the author, go on to underline the good points of the suggested method. Many of the arguments advanced by the author were cogent, and there was no doubt that a society reorganized by his method would be in a far healthier condition than in its original state. The result of the first valuation would come as a great shock to the members of an apparently flourishing dividing society—if they believed it. It was therefore right that every effort should be made to soften the blow.

It was, however, time that the basic question should be reopened. Given that the chief elements in the prosperity of a dividing society were a flow of new entrants and of withdrawals, was it in the best interests of the profession to attempt an orthodox actuarial valuation? That matter was outside the scope of the discussion, but it loomed heavily over it.

206 *Valuation of a Dividing Society by a Net Premium Method*

Mr P. R. Cox found the paper so interesting that soon after he had read it he was doing some calculations.

He had come to the conclusion that the net premium method, while providing a clear standard to the actuary for his valuation and for assessing future dividends, might be rather difficult to explain to the members of the society. That and other points were brought out by a valuation which he had made on an alternative basis; after looking at the discussion on Moore's paper he had chosen the 'emerging' method, as it was then called, as being the most realistic of the various approaches that had been suggested.

Under the emerging method the expected contribution income and benefit expenditure at various future dates were calculated on the assumption that the existing membership would not be augmented by new entrants nor depleted by lapses. On that basis the society could provide dividends which steadily decreased until after a time they became nil (being negative thereafter). The emerging method treated those dividends, for the limited period for which they were positive, as benefits in the valuation. The objection to the method was that it was laborious, but there were ways of shortening the amount of work involved without appreciable loss of accuracy.

The first step was to calculate the period after which the dividend became zero. Taking the author's example, he (the speaker) had examined the position after twenty and after twenty-five years, and he estimated that in twenty-four years' time the dividends would come to an end. The value of future dividends was the excess of the value of contributions for the twenty-four year period over the value of the benefits for the same period. It was approximately £420 as compared with the author's figure of £740. The dividends actually started at about £0.47 per member and declined fairly steadily over the whole period, the average being £0.24 per member, which compared with the author's £0.241 if the deficiency was taken into account. The author's payments were for life, his own for only twenty-four years. One reason for the difference was that reserves were assumed by the author to be set up, whereas the emerging method envisaged a continuation of the past practice, of distributing the whole cash balance annually, and therefore the dividend was exhausted more quickly.

The next step was to eliminate negative values. Dividing £420, the total value of future dividends, by the number of members, an average of £4.2 per head was found. Although the value of future dividends varied according to age, the average was probably sufficiently accurate to determine the age (41 in the example) at which the negative values ended. On that basis he had arrived at a deficiency of about £230 compared with the author's £381. Those illustrative figures showed the extent to which the net premium method was tied to the assumption that future reserves would be built up. Without that assumption, a materially different result was obtained.

As the opener had remarked, the 'net premium' method suggested by the author did not eliminate negative values. On p. 194 the level annual sum equivalent to the value of future dividends was given as £0.495, but p. 193 showed that for an entrant at twenty-one £0.548 had been taken into account; thus negative values were included. When the deficiency was eliminated the level of future dividends had to be taken at the lower amount of £0.241, and the negative values were greater. Should the negative values be excluded, the dividend would have to be reduced. But that in turn gave rise to more negative values which in turn led to a lower dividend, and so on in a vicious circle. Much the same happened in the emerging method; if all persons under forty-one lapsed the dividends would be smaller than those taken into account in the valuation. Therefore there would be more negative values to eliminate, and so on.

That showed the awkwardness of 'valuing' dividing societies. What was really needed, was something more akin to a series of population projections on alternative bases. Calculations on the assumption of (a) no entrants and no lapses; (b) no entrants and some lapses; and (c) some entrants and no lapses would not be very laborious to make and would give a much wider range of information on which to base the future finances of the society. A lot could be done without proceeding more than five years ahead. Comparison of the results on the various bases would show how the finances of the society should be organized in a reasonably satisfactory manner over the following five years.

To give a simple illustration, in the author's example the actual dividend would be about £0.47 in the first year and, if there were no new entrants, £0.38 in five years' time. If, on the other hand, the flow of new entrants continued at the rate necessary to maintain the membership, the dividend in five years' time would be the same as at the outset. If, in the second instance, instead of paying £0.47 only £0.38 was distributed, 20% would be saved each year and that would start to build up a reserve at a rate suitable for eliminating the deficiency.

Mr N. A. Horsly's experience had been confined to death and dividend societies where there was no sickness benefit.

He was interested in the author's method, because he believed it was a big advance on the old method by which the value of a dividend approximating to what had been declared was included as a liability in the valuation balance sheet. That method usually indicated an alarming position which the society and its members would not believe, and the actuary tended to be discredited thereby. With the author's method there was a definite measure of the state to which the society had come at the time of the valuation, the deficiency being the amount which had arisen through previous overspending. The author presupposed that proper reserves would be set up in respect of future contributions, and therefore the method did reveal the position as it was at the time of the valuation.

The Chief Registrar of Friendly Societies might remember that in the Midland area there were one or two fairly large death and dividend societies. The vigorous secretary of one of them, with whom the speaker had been connected, put forward an interesting line of argument in some of their discussions. An ordinary friendly society, not a dividing society, gained certain advantages from registration because, for example, the accumulated funds earned interest free of tax, whereas an unregistered society of the same type did not secure that advantage.

With a dividing society, where no funds had been accumulated to any extent in the past, there was little benefit to be derived from interest free of tax, and the very fact of registration and the call for a valuation tended to make things awkward for the society in comparison with an unregistered society which was not called upon to undergo a valuation and which therefore distributed the whole of its 'surplus' in dividends.

Where there were two societies, one registered and one unregistered, operating in the same area, there was a tendency for new entrants to join the unregistered society and there might even be a number of selective withdrawals from the registered society transferring into the unregistered society. It did seem a little unfair on a registered society, if it was trying to put its house in order, that it should be faced with such competition.

The author's method visualized an adjusted basic dividend to which would be added a share of profits or from which would be deducted a share of losses in respect of each year's working. It might possibly be a good thing to retain a small part of the surplus in a 'kitty', because if a small bonus could be given at the end of every five years, the interest of members would be maintained, and there might not be so many selective withdrawals as if surplus were divided up to the hilt every year.

Mr R. C. B. Lane drew attention to the author's statement that the basis of valuation of friendly societies, dividing and otherwise, under modern conditions tended more and more to be stronger than a solvency basis. That was worth emphasizing, because a lot of the older literature contained references to solvency valuations for friendly societies, and he had seen evidence that some students tended to take it for granted that a solvency basis should be used. He thought they should try to get away from that, especially when, as often happened, the society could stand a stronger valuation, which would give them the basis for future stability and progress.

Turning to the essential parts of the paper, he agreed that the essence of a dividing society was the fluctuating dividend. Such societies started from the simple idea: 'Let us put some money into the pool each year, let us pay sickness benefits to those who

need them, and let us divide the rest'. That was quite a simple and reasonable arrangement for a local group of people in the old days, and should not be condemned.

The trouble was that the rule was too simple. The mistake lay not in dividing what was not needed but in dividing what was needed; in dividing what was required to create a reserve against the higher rates of sickness that would be experienced at the older ages. The officials of dividing societies would usually agree very readily that sickness claims increased with age. The one thing more that the actuary could tell the society was how quickly sickness claims would increase. It was then a relatively simple step to the appreciation of the fact that unless reserves were made the dividend would suffer. The society could be told that that was what should have been done in the past, but it was no good reorganizing the society to such an extent that it broke up completely. That just burdened the current members with all the inequities of the past. The society could be told: 'You have been wrong in dividing the whole surplus each year. You must take a certain proportion of the contributions, subtract the sickness benefits that have been paid, and the difference is what is available each year for division. The rest has to be accumulated.'

A rule of that kind was self-adjusting to some extent. If there were lapses among the younger members, the loss of contributions was much greater than the reduction in sickness claims. As the older men died out the reduction in sickness claims tended to be heavier than the loss of contributions. If sickness went up, down came the dividend, and that was what was wanted, partly because it helped to control the sickness experience.

The proportion of contributions to be brought into such a scheme could not be fixed conclusively but, by looking at the circumstances of each case, a suitable proportion could be found, with or without consequential changes in the rate of benefit. What the proportion would be after the following valuation would depend on the membership—whether members had been lost or gained. By such a procedure every five years the society could surely be gradually nursed to a state of solvency without losing its essential characteristics.

The real professional difficulty was the publication of the valuation report. The difficulty was the value to be placed on negative values. In life office practice there was no doubt that they were to be excluded, but it was not always right, in a dividing society at least, to say that negative values were of no real value. They were hidden reserves, not perhaps certain to be realized but nevertheless reserves. It might even be said they were the only good assets which the society had!

Mr W. F. Marples said that infinity had been defined as 'the place where things happened that didn't!'. He felt that from an actuarial viewpoint the dividing society was on a par with the definition. He supported the opener of the discussion in suggesting that the method of the paper was not a net premium valuation, and he regretted the phrase should have been associated with the paper.

It was, however, a net premium analysis—an internal analysis to be used possibly on the same lines as a bonus reserve valuation for internal purposes in life office practice. The method gave a useful pointer, the amount of the fund which was theoretically required to be accumulated in order to support the sickness and death benefits. One of the difficulties in suggesting the retention of a fund was that that was fundamentally opposed to the current practice of the society and it would be necessary to persuade the Committee and the Members to alter their ideas; and very often the rules would have to be altered completely.

The author unnecessarily restricted himself by making his calculations out of the *Short Collection*. There were other tables and to start with a fund of £5 to accumulate something like £300 or £400 and to assume an interest rate of 4% p.a. seemed a bit generous. He himself (the speaker) had recast the whole of the calculations on the Eastern Counties Rural Districts mortality (1921 Census—Males) combined with the sickness rates of the Manchester Unity Experience, 1893–1897, Occupation Group A.H.J., for which basis functions at $2\frac{1}{2}$ % interest are to be found in *J.I.A.* Vol. LXXIV, pp. 120–5. The extraordinary thing was that the dividend did not differ by very much.

The gross dividend was almost the same but the sinking fund was rather less, and that was entirely due to the increased value placed on the future contributions which reduced the sinking fund taken off the dividends.

The author's conclusions could be arrived at without using a single net premium, and therefore it could be fairly said that his method was a gross premium one, but the author's method of analysis by means of the net premium appealed to him.

In the middle of p. 191 there appeared the word 'global'. He was accustomed to understand phrases like 'global tonnage'. He bore with it when 'global' was applied to the sum of £167 millions or so paid as compensation to coal owners. But he thought it was time to object when the word was applied to a small item in an ephemeral dividing society.

Sir Bernard White (the Chief Registrar of Friendly Societies, a visitor) said he rose with some trepidation to take part in such a highly technical discussion. He would stay in the shallow waters near the shore where a Registrar might be expected to be found! In other words, he thought it better to confine himself to the point not of how to value but of when not to value a dividing society—what might be called, in actuarial parlance, a negative decision!

It might be much easier to discuss the subject if the Act of Parliament had not required valuations but had used some other term, such as 'to require an actuarial investigation into the affairs'. Dividing societies were of many types and great variety. At the one end of the range there was the simple type of dividing society which wiped its slate clean at the end of the year and made no promise of a dividend, nor any attempt to stabilize the dividend. At the other end there was the ordinary accumulating friendly society which had a small dividing section and which, for technical reasons, had to be classified as a dividing society because of the provision in its rules for a division. No one would pretend for a moment that a valuation was required of the first type of society, the slate club which made no promises, wiped the slate clean each year and made no attempt to stabilize a dividend. And he supposed that nobody would contend that the other type, the friendly society with a small dividing section, should not be valued. But in between the two there were difficult cases and no general rule could be laid down with regard to the advisability of valuing dividing societies. He thought it right to say that each case should be decided on the facts, and that the Registrar would go hand in hand with the Government Actuary in deciding that question.

To sum up, he thought that the Registrar's policy should be not to require the valuation of a society which had no element of insurance or accumulation and made no attempt to promise any dividend or to stabilize the dividends but merely set aside a small sum to meet unforeseen emergencies. Every case should be decided on its merits, and a constant watch kept because of changes in practice. As he had said at the beginning, he rather wished it had been a question not so much of valuation as of seeking the advice of an actuary—or something of that sort. That would have made it much easier for the Registrar, and would have been more sensible, he believed.

He thanked the Institute for asking him there and for affording him the opportunity of listening to the very interesting discussion which had been provoked by the paper.

Mr F. J. Lloyd supported the author's method of valuing dividing societies. In his opinion it had several merits. First, it acknowledged that the annual dividend was a distinctive feature of a dividing society and regarded the annual dividend as a benefit which should be valued. Secondly, it overcame the problem of having to explain negative values—what they were and what effect they would have on the society's finances. It might be possible to explain the term to the secretary, but it was most unlikely that the committee would understand it properly. Thirdly, the method showed clearly that the deficiency was due to the past action of the society in accumulating insufficient funds or—to put it in another way—that the society had distributed too much by way of dividends. It was easy to point to that item in the valuation balance sheet and to say, 'This is due to the Society's past actions'. Fourthly—and this was the most important of all—it led to a method of calculating the amount of dividend

which the society could afford, permitting the liquidation of the deficiency over a period of years.

He agreed that, in general, dividing societies did not believe that by sharing out too much of the available funds as dividends they were on the road to disaster. The societies pointed with pride—as the opener had said—to their past records of high dividends for twenty years or more. They also claimed that their existence depended on a high rate of dividend because they were subject to strong competition from similar societies and particularly from small societies that distributed all their funds each year. It was necessary to convince the committees of dividing societies that they must change their methods.

He agreed that such societies depended on the recruitment of an increasing number of young new members. To maintain an increasing membership must become more difficult, owing partly to the provision of State sickness benefit under the National Insurance Act and partly to the spread of industrial sick pay schemes. The suspension of recruitment for several years during the war of 1939–45 had led to a marked reduction in the rate of annual dividends, which was a danger signal and showed the societies that trouble lay ahead. Since the war, an influx of new young members had, for some societies, tended to restore the pre-war level of dividends. However, the future for such societies was not promising unless they took action on the lines advised by the author.

For a new society, or a new section of an existing society, the author's method of calculating the dividend each year appeared to be excellent. The dividend would fluctuate each year and it would depend on the success of the society in recruiting new members and in keeping the level of sickness low. Those, he thought, were the two most important factors. Any society following that method should prosper.

For existing societies which had failed to accumulate any fund, the position was more difficult. There being no fund, the young member who resigned his membership lost nothing; he could join another society unencumbered by a deficiency. Therefore a society with a deficiency was bound to move cautiously and above all else to avoid the problem raised by selective withdrawals. On the other hand, once a society had built up some reserves, though small, the position became progressively easier to improve. Such a society should take a long-term view and aim at building itself up and liquidating the deficiency over a period of, say, ten to fifteen years. That might seem a long time, but the danger of selective withdrawals was real and must be avoided.

Mr W. T. C. Blake referred to the fact that the paper submitted by J. M. Moore about twelve years previously was confined to the consideration of fixed rates of dividend. The paper under discussion contained a further development; and the author—though his treatment assumed a fixed basic rate of dividend—had produced what seemed to be an excellent scheme for varying that dividend by means of adjustments for profits and losses each year.

Some speakers had compared the methods of valuation adopted for dividing societies with the bonus reserve method of valuation sometimes used in life assurance. The comparison seemed not to be a true one, however, because bonuses in life assurance arose from profits after adequate provision had been made for all liabilities whereas in dividing societies part, sometimes the whole, of the dividend was money which strictly speaking ought to be accumulated as a reserve for future liabilities.

Like Mr Cox, he had made some calculations on the basis of the age distribution in the paper with the same assumptions about sickness, mortality and interest, and had made a comparison of the results of various methods of valuation. Taking first the method (b) described in Moore's paper of valuing a constant dividend (*J.I.A.* Vol. LXIX, p. 235), he had made a valuation assuming a constant annual dividend of £470 = (9s. 5d.). That dividend represented the balance of the estimated total contributions per head over the total outgo per head in respect of the sickness and death benefits, and management expenses, as at the valuation date. On that basis the present value of the dividend was £704, and the resulting deficiency was £358 after allowing for negative values of £13

Valuation of a Dividing Society by a Net Premium Method 211

and the 'fund' of £5. Those results were not widely different from the author's figures in the valuation balance sheet on p. 194.

He had then investigated an entirely different method, one similar to that used by Mr Cox except that instead of considering the membership as a single group, he had considered the position in each quinary age-group separately and had assumed that dividends would be paid up to the earliest age (i.e. 61) at which, on the actuarial basis adopted, the emerging cost of benefits per head would exceed the emerging benefit contribution income per head. Thus, instead of taking into account a dividend for the next fifteen, twenty or twenty-four years (as the case might be) as in the method described by Mr Cox, the dividend was assumed to cease on each member reaching the age of 61. The assumption of dividends ceasing at a fixed age was not so realistic as the assumption of their cessation after a period of n years from a fixed date, but the method might be useful in some circumstances, and it had the great advantage that no negative values arose. There was a positive reserve at each valuation age and, unlike the method described by Mr Cox, the calculation was not affected by lapses and new entrants. The method was simple to apply, since it consisted merely of the valuation of an endowment, vesting at the 'critical age' (age 61 in the example in the paper), the amount of the endowment being the net liability for benefits at that age, taking into account the actual contribution payable (and not the hypothetical net premium). For valuation ages 61 and over, the valuation net liability was the value of benefits less the value of the benefit contributions. Having calculated the total valuation net liability in that way, it was simple to deduce the reserve for dividends by reference to the value of the benefits and the value of the benefit contributions in respect of the total membership.

The method as applied to the example in the paper gave the total net liability as £192. The deficiency was thus £187 if the 'fund' of £5 were deducted. A valuation balance sheet constructed as on p. 194 of the paper would show £546 as the resulting present value of future dividends.

The present value of future dividends brought out by that method was, as might be expected from general considerations, greater than that brought out by Mr Cox's method. It was interesting to notice that the present value of dividends obtained by either of the methods (which both assumed varying dividends of a temporary character) was considerably less than that obtained either from Moore's method (b) or from the author's method, both of which assumed a fixed rate of dividend throughout the lifetime of the members included in the valuation.

Mr J. M. Moore said that if, as seemed likely, it was impossible to make a valuation of a dividing society in such a way as to reflect the rules and practice of the society, then any valuation could be no more than a hypothetical example. Such a valuation probably formed only a minor part of the actuary's report compared with the need to explain simply and thoroughly the nature and instability of the financial structure of the society, and to advise suitable remedial measures.

The paper contained no reference to equity and gave the impression that little consideration had been given to it. He was doubtful whether members would be given the full facts. Indeed, in one place it was claimed as an advantage of the method that the rate of dividend emerging need not be stated. Also, there was some doubt whether the author's method, results and recommendations could be fully and adequately described in the actuary's report without making the report too complicated for the ordinary members to understand.

The method was based on two assumptions: first, that the society was prepared to accumulate reserves and, secondly, that the actuary had control over the policy of the management committee. Those assumptions restricted the possible application of the method to a small range of cases. Even in those cases the advantages claimed for the method appeared to be open to considerable doubt. There was no insuperable difficulty in giving a simple explanation of the meaning of negative values when alternative methods were used. The fact that a balance sheet could be prepared was shared with all other methods and with no more justification. The assumption of specified dividends,

and the choice of the dividends assumed, were no less arbitrary than under alternative methods.

He agreed with the opener that it might be more appropriate to apply the author's method with a dividend scale obtained from the valuation ages, rather than entry ages, should the society possess only a nominal reserve. However, at the older ages, negative dividends would arise.

The table showing the allocation of gross annual contributions appeared to involve spurious accuracy by distinguishing between individual ages at entry to three decimal places while other important variables, including year of entry, were ignored. In quoting examples of profit and loss from lapses the author used valuation reserves, whereas it would seem more appropriate to make an adjustment to allow for selective lapses.

For dividing societies with only a nominal reserve, the most important requirement in the actuary's report was a clear explanation, understandable by the ordinary members, of the financial weakness of their society. That explanation might be more convincing if figures were used from the society's recent experience.

In deciding upon suitable remedial measures, the stage reached by the dividing society would be an important consideration from the point of view of equity. If the first generation of members were still members the remedial measures could be designed to achieve broad equity. If, however, the first generation had gone, having received unreasonably high dividends and left the society with a potential deficiency, the question of equity was much more difficult; it seemed unfair to penalize the older members who had subsidized the preceding generation of members, and it also seemed unfair to penalize the younger members.

In at least one society, most of the members left their current year's dividend to pay part of the next year's contributions so that annual dividends might be important.

Mr K. J. Britt, in closing the discussion, quoted a brief note on dividing societies by Sir George Hardy in the *Messenger Prize Essay* in 1887:

This class of society, though numerically important, is of very little actuarial interest.

Then he had found a reference to them by a former Chief Registrar of Friendly Societies in 1898, who took the view that, although dividing societies were frowned upon, such societies were what the people wanted and if they wanted them they were entitled to have them. He had gone on to say:

Statesmen have moved on several occasions for returns of the number of paupers in workhouses who have been members of friendly societies. Such returns have always been misleading, because they have included those who have been members of dividing friendly societies. . . .

Pleasant, therefore, as the annual dividend may be, and attractive as the working of a 'tontine' may be during its earlier years, it is not to be looked upon as a permanent provision, and the wise workman will not waste his dividend but will so apply it as to form a provision for the time when the Slate Club ceases to be available.*

It might be wondered how those societies, working as they did on an unsound principle, seemed to have such vitality and to survive for such long periods. Some years earlier he had valued a society founded in 1811 and another which had been over a century in existence. As had already been mentioned, dividing societies were of several different kinds. Some of them, such as the one taken by the author, had little or no funds. Others had accumulated quite substantial funds; possibly in the first place they had found the necessity for a working balance because sickness varied a lot at different times of the year, or they might have refrained from dividing the full surplus in a very good year. Some had a rule requiring an arbitrary sum to be taken

* Extract from *Provident Societies and Industrial Welfare* by E. W. Brabrook, C.B. (former Chief Registrar of Friendly Societies), 1898.

Valuation of a Dividing Society by a Net Premium Method 213

to reserve every year. In the ordinary kind of society, however, he was afraid there was little hope of a long existence.

Why were those societies so reluctant to take advice when the valuation had been made and the valuer had reported to them? He had sometimes managed to convince a secretary that his society was tending towards a weak condition, but he had yet to meet the secretary who had succeeded in convincing his own members. In fact, secretaries shrank from the attempt. They pointed out that they were in competition with unregistered dividing societies which usually met at public houses and were often subsidized by the brewers. A dividend was paid in Christmas week and probably spent on the spot.

Many societies—especially unregistered societies—did divide the whole cash balance and frequently broke up, getting rid of the old unprofitable members; then re-formed and started another cycle. About fifteen years earlier, after a period of depression in trade, many of the registered dividing societies were failing to attract enough new members to keep up their dividends. That, as had already been pointed out, had a further bad effect on recruitment. The current position was interesting. The Registrar had given him some figures relating to dividing societies in 1938 and 1948. There were 638 registered dividing societies in 1938 which had become reduced to 437 by 1948. The new members in the year 1938 were 24,586 and in 1948 only 9663. Evidently those societies were failing to recruit enough young members to keep down the average age of their members and he was afraid the outlook for the majority of them was poor.

The author, as a result of his experiences with secretaries of dividing societies, had devised a method which he found he could put over, and could persuade them to adopt, with a fair measure of success. He himself (the speaker) had not met many cases where societies had been nursed through a long period. In fact, only that evening he had asked a very experienced consulting actuary whether he had rescued any dividing societies and caused them to become successful accumulative societies. He could not recollect a single one, so it seemed that a lot of ingenuity had been exercised by valuers which would have very little practical effect.

The majority of such societies were, he thought, doomed. The benefits they offered were comparatively trivial, and since they were working on an unsound principle and would probably leave their members high and dry, very little regret need be felt if they disappeared.

He agreed with some of the other speakers that the author's method was not a true net premium method. In fact, on p. 195 where the final valuation balance sheet was shown, the method had become a bonus reserve valuation!

Another reason given in the discussion on Moore's paper for tolerating the existence of dividing societies was that they gave their members a valuable training in citizenship. Personally he questioned whether that was so. Where members of a society persistently refused to look facts in the face or to take a long view, he doubted whether any training they could get in that way was of any value to them.

The President (Sir George H. Maddex, K.B.E.), said that, doubtless, dividing societies were an anachronism but that, doubtless also, they existed in appreciable numbers. Whilst it would be good if the actuary advising them could persuade them to approach nearer to the conception of a deposit society or, alternatively, to the ordinary type of accumulative friendly society, the fact was that most of them, being survivors from a more primitive age, preferred the old notion, the original friendly society conception of a payment of 6d. or 1s. a week without too much thought of nicely calculated losses and gains. The vigorous discussion that had just taken place made it clear that it was little use the actuary trying to wean the members and committees of those societies from that principle; indeed, it was desirable that while they remained in existence as dividing societies they should be dealt with in the simplest terms. He asked that a very hearty vote of thanks be passed to the author.

Mr Lancashire, in reply, thought that, if he was to infer from the opener's remark regarding the relationship of the actuary and his client that in the ordinary way there

214 *Valuation of a Dividing Society by a Net Premium Method*

was little or no trust between them, the remark was astonishing. He expected his clients to put their trust in him when they came to him for advice, and he would expect to trust his clients; if that mutual trust did not exist, he should advise the client to go elsewhere.

If, however, the remarks were based upon the assumption that the valuation was unsound unless the scheme of reorganization was adopted, he would say that that suggestion was not a correct interpretation of the paper. The valuation balance sheet showed the true position upon the assumption made, namely, that the society had agreed in advance to accumulate actuarial reserves. Furthermore, it was incorrect to say that the value placed upon the dividend was arrived at by valuing a uniform amount per member per annum. It was only at a later stage, when considering the reorganization of the Society and settling future dividends, that it was suggested that the capital value of the dividends should be expressed in that manner. The capital value could be expressed in a variety of ways. Although several speakers had said that his method was not a net premium valuation no one had explained why.

Doubt had been expressed whether it was justifiable to pay a dividend if the society was insolvent. The essence of the matter was that the dividend was regarded as a benefit and not as a bonus. If, therefore, the whole of the deficiency was not to be removed by the scheme of reorganization, the society was only on a par with an ordinary friendly society which continued to pay out benefits notwithstanding the fact that there was a deficiency.

The example had been criticized, but the pages containing it could be torn out without affecting any of the conclusions in the paper. He apologized unreservedly for the word 'global'.

He had had the question of equity very much in mind, but it really was not the purpose of the paper to discuss it. He regarded equity as a general question affecting a dividing society and not one that needed to be considered specially in connexion with his particular method of valuation.

It had been suggested that the method would apply to only a small range of societies because the scheme of reorganization required the actuary to have some control over the actions of the committee. It was, however, common in friendly society practice for the actuary to have a right of veto over the actions of the committee, particularly in connexion with surpluses and deficiencies and with alterations of benefit.

He disagreed with the Registrar. From a general social point of view, he felt that it was desirable for all dividing societies, including slate clubs, registered and unregistered, to be subjected to some sort of oversight. But if it were suggested that some or all of those societies should be 'investigated', it was, he thought, desirable that the actuarial profession should consider the subject more fully than had been done so that an authoritative opinion might be expressed whether such societies could, with advantage, be examined by an actuary. He personally believed that they could, but before any action could be taken officially, the profession ought to speak with a united voice on that subject.

The following written contributions have been received.

Mr J. C. S. Hymans writes:

The valuation of a dividing society by the orthodox method gives a stultifying impression of unreality to the results, and it seems that Mr Lancashire's paper gives a solution which approaches much more closely to the true facts by the manner in which his valuation balance sheet is presented.

The choice of name is, I feel, misleading. A net premium method of valuation conjures to my mind the picture of a valuation conducted on stringent, inflexible and unrealistic bases chosen to produce an answer which approximates closely to a valuation on a realistic basis allowing *inter alia* for future bonuses. The suggested method is really a gross premium valuation in which the dividends have been correlated to the excess premiums not required for the more permanent benefits. Perhaps a 'net benefit valuation' would be better.

It may be that I have misunderstood the point of the paper; I was under the impression that the reason for there being no negative values was that there was an implicit assumption that each member would (theoretically) receive a dividend related to his age at entry, though in practice all the dividends so calculated in respect of any one year were added together and divided equally among the surviving members. This ties up with a suggestion which I make below.

I think that net premiums based on the age at entry could only be justified on equitable grounds on the assumptions that the experienced sickness and mortality rates and the distribution of the membership had not varied throughout the membership of the existing members—assumptions which would not appear to be satisfied since the oldest members are still under age 70.

The use of net premiums based on age at entry will help the secretary of the society to determine very simply the dividend in any given year. I think that no great risk will be run if some method such as the following is used.

Taking the example given in the paper, suppose that it has been decided to reduce the deficiency given on p. 194 by 25 % by decreasing the dividend. The secretary could be given a schedule (which might be in quinary age-groups) of the quantum per member in that age-group at entry. These quanta would be the bonus loadings given on p. 193 less 1s. 3d., the latter sum being the level annual dividend payable to all members throughout life equivalent in present value to about one quarter of the deficiency. The secretary would then multiply the quanta based on the net premiums (some of the quanta being negative) by the number of members still existing in that group at the end of the year. Adding the positive quanta and deducting the negative quanta and dividing by the total number of members would then give the dividend for the year. The quantum for any particular member would remain constant during the quinquennium, since it is based on age at entry. Admittedly the method does not relate the dividend to the claims, but it shows clearly the importance of enrolling and retaining young members if a dividend is to be declared at all. The quinquennial valuation will furnish adequate control, for it should not be difficult to make the secretary understand that the valuation result, and hence the future dividends, depend on a favourable inter-valuation experience.

The method is, I think, a simple compromise between the current unsound practice on the one hand and sound actuarial practice on the other.

Mr Lancashire has written by way of supplementing his remarks at the meeting:

Mr Farncombe referred to the appearance of negative values, but under the proposed method of valuation negative values do not arise. Although, in the paper, a value has been placed upon the total amount which would be available in the future for the payment of dividends, no statement has been made about when this capital sum would be used. It is only at the time when the amount is actually needed for the payment of a dividend that the question of negative values arises, and if what would otherwise be termed a negative value has not been realized, then clearly such amount should not be used to pay a dividend, and indeed could not be so used under the suggested method of calculating the dividend.

In a net premium valuation it is, I think, necessary to work upon the net premiums at the age at entry. This is the customary practice and I see no reason to depart from it. Incidentally, it has the advantage of showing in the valuation balance sheet the extent to which over-distribution of dividend in the past has led to under-provision of actuarial reserves for the remaining benefits. Both Mr Cox and Mr Blake considered methods based upon the emerging cost. However attractive these methods might appear to be in other respects, they seem to break down on the question of what provision should properly be made for new entrants and lapses. The method of arriving at the future dividend described in the paper takes into account the actual experience of the Society in this respect.

It was confusing to hear the variety of amounts of deficiency which were suggested; it was also said that a small deficiency was an advantage because it was easier to explain.

It would be difficult for non-actuarial observers to understand how these differences could arise, and would lend support to the current idea that deficiencies shown by actuaries are of no account; in fact they are often spoken of contemptuously as 'only an actuarial deficiency'. The problem is to find a proper method of valuation; having done so the proper value of the deficiency will emerge.

It was unfortunate that Mr Moore gained the impression that in a report I would not give the members the full facts. I have no desire to hide facts from the members of the society; on the contrary, I advocated giving the members, in the simplest possible terms, all the relevant facts and explanations necessary to enable them to come to a proper decision. With regard to the desirability of removing the whole of the deficiency, the weight of opinion seemed to be in favour of not too drastic a reconstruction whether the reconstruction was of a friendly society, a pension fund or a life office. Having gone into the matter in some detail on p. 199 I will not repeat the arguments but would stress that a reconstruction involving the removal of the whole of the deficiency might well defeat its own ends, and in any event would ignore the recuperative element arising from the margins in the basis. It is not, of course, possible to discuss this question except in relation to the basis employed in the valuation.

An important matter which emerged from the discussion was the general attitude of actuaries to the valuation of dividing societies. Mr Farncombe suggested that I would promise the society to 'satisfy the Chief Registrar of Friendly Societies and yet provide the maximum possible dividend and make the minimum possible dislocation in the customary practice of the society'. With the further condition that the valuation should satisfy the actuary I willingly accept Mr Farncombe's proposition. Any method of valuation which falls short in any of these respects would be likely to harm the society, the friendly society movement generally, and the profession. If an actuary believes, as Mr Farncombe suggested, that it is impossible to help a dividing society, then he should refuse to act. The actuary can be of great help provided he is not antagonistic to the society, and provided he does not try to judge the society by wrong standards. A dividing society should not be compared with an ordinary friendly society or a life office which has had the benefit of actuarial guidance for a hundred years or more. Mr Lloyd's comments seemed to put the position in a proper light, and represented a realistic approach to this difficult problem. From general experience and from the letter read by Mr Farncombe it is clear that societies are reluctant to make changes in their constitutions until they have understood the position. Whilst the letter was interesting in underlining this particular point it would have been much more interesting to have heard the reply which was given to the society. The letter gave the actuary the opportunity to help the society by answering in detail the difficulties which the members had encountered.

Mr Britt painted a somewhat dismal picture regarding the failure of societies after reconstruction, but it is worth recording that by no means all reconstructed dividing societies have failed miserably after a short period of years. It is to be hoped that the experience will improve in time with the growth of sympathy and understanding between the societies and their actuaries. As Mr Lane so tantalizingly said, dividing societies set out to achieve a simple purpose. The actuary should help them to achieve their purpose in a fair and reasonable way—not force them to change their character completely or to dissolve.