

REPORT BY MR. T. G. ACKLAND, F.I.A., ON THE ESTIMATED
FINANCIAL EFFECT OF AMENDMENTS INTRODUCED IN COMMITTEE
IN PART II. OF THE BILL.

To Sir H. Llewellyn Smith, K.C.B.,
Permanent Secretary,
Board of Trade.

DEAR SIR,

(1) I now beg to submit, as desired by you, a Report as to the estimated financial effects of the amendments introduced in Committee in Part II. of the National Insurance Bill, so far as the same are ascertainable, or calculable.

In describing the Amendments I have given references, in the first place, to the clauses of the Bill as introduced, and have added, in brackets, the corresponding references to the Bill as amended in Committee.

(2) *Clause 71 ; page 60 ; lines 11 and 12* [Clause 89 ; page 98].—Provision for the allowance of the return, granted to workmen at age 60, to the representatives of those who die after that age.

The calculations upon which the estimated value of the return at age 60 have been based, and from which the estimated figures in my Report of May last have been deduced, are founded on the assumption that the benefit will be paid, provided the workman reaches age 60, and fulfils the other conditions of the Clause. The case of his subsequent death does not therefore affect the financial estimates then made.

(3) *Clause 71 ; page 60* [Clause 89 ; page 99].—New subsection (2), providing for the continuance, as an insured member, of a workman who has attained the age of 60, and has received the return of contributions under subsection (1) of the Clause, and varying the conditions under which he shall receive benefit, in respect of contributions paid before age 60.

The data upon which the estimates made in my Report of May last were based, may be considered as including workmen over 60 years of age, and up to the usual age of superannuation, say 65 years of age. The higher rate of unemployment presumably experienced by members at these advanced ages may therefore be deemed to have been allowed for, proportionately, in my previous estimates, and the finances of the Scheme would, therefore, not be affected by the inclusion of such members. The amending provision that the benefit to be received after age 60, in the case where a refund has been made at that age, is, so far as the contributions paid before that age are concerned, to be in the proportion of one week in eight of the contributions so paid, instead of one week in five, as provided in the Seventh Schedule of the Bill, is not a necessary one, from the actuarial point of view, as the refund at age 60 has in my estimates been separately provided for by a specific portion of the members' contributions. It is, however, as I understand, desired on other grounds to reduce the benefit in respect of the contributions paid before age 60, and, so far as the effect of this reduction is calculable

I find that it would affect the finances of the Scheme to a relatively small extent, and it is probable that the reduction in the benefit in such cases would probably in practice be rarely operative.

The amount required to secure the refund at age 60, on the conditions of Clause 71 [89] was estimated, in the calculations upon which my Report of May last was based, at about £10,000 per annum in respect of the total insured members, or approximately a penny per member per annum.

(4) *Clause 79 ; page 64 ; line 20* [Clause 100 ; page 105 ; line 1].—The words “two-thirds” deleted, and the words “three-fourths” inserted in lieu thereof.

I do not think that the substitution of the proposed words will have any material effect on the finances of the scheme. It may in practice be reasonably assumed that Associations or Trade Unions would not apply for an arrangement under Clause 79 [100] if this meant a financial loss to them and their members, *i.e.*, if their own benefits were so low that a refund under the arrangement, limited to two-thirds of these benefits, would amount to less than the statutory benefits which their members would have drawn apart from the arrangement. Any association, in other words, on applying to make an arrangement, would presumably raise its benefits, if necessary, to a point at which the arrangement could be made without loss. The change from two-thirds to three-quarters therefore affects the administration of the associations rather than the Unemployment Fund, on which its influence can only be indirect.

(5) *Clause 81 ; page 65 ; line 19*.—The word “eighteen” deleted, and the word “sixteen” inserted in lieu thereof.

Line 21.—The words “or apprenticeship” deleted.

Line 25.—At end insert the words, “but does not include an indentured apprentice.” [Clause 102 ; page 106.]

It seems reasonable to assume, from the somewhat scanty data available, that there would be about 159,000 workmen between 16 and 18 years of age in the insured trades, and that of these about 26,000 would be indentured apprentices. This would bring in 133,000 fresh contributors to the Scheme. The final effect of the introduction of this estimated number of insured members between the ages of 16 and 18 can be most conveniently considered later on in the present Report, when the amendments to Schedules 7 and 8, providing for reduced benefits and contributions in respect of such workmen, are under consideration.

I estimate that the indentured apprentices over 18 years of age included in the original Scheme of the Bill were about 42,500 in number, in respect of whom little or no unemployment benefit would be payable ; and that their contributions, together with those of the employer (with full allowance for refund under Clause 70 [88] as amended), and after allowance for expenses, were about £45,000 per annum, in respect of which an amount of £43,651 was available to increase the margin of profit in the Fund, as estimated in my Report of May last. Their subsequent exclusion therefore involves a loss

to the Fund of this margin of profit, available in my Report of May last, but then treated as an uncalculated margin.

(6) *New Clause* [88], providing for the refunding of part of the contributions paid by the employer, in the case of workmen continuously employed, inserted in lieu of Clause 70.

I have made a careful estimate as to the probable effect upon the finances of the scheme of the change made by providing that, instead of a payment in advance by the employer of 15s. per annum, in respect of selected workmen, a refund shall be made to the employer, the end of the year, of one-third of the contributions paid to him on his own behalf during the year, in respect of any workman who has been continuously in his service through the year, and who has paid not less than 45 contributions. Making assumptions which in the circumstances appear to be reasonable, as to the proportion of the men in respect of whom the employer would receive this benefit, I estimate that the contributions of the workman, the employer, and the State, would be as under, as compared with the figures given in paragraph 16 of my Report of May last :

	<i>s.</i>	<i>d.</i>	
Average contribution from Workman . .	9	2	per annum
" " " Employer . .	7	10	"
" " " State . .	6	1½	"
	23	11	
Expenses of administration	2	3⅔	"
Average contribution available for benefits	20	9⅔	"

The total average contribution available for benefits would thus be increased by 9⅔*d.* per insured member per annum, or by about £97,000 in respect of the total insured membership.

(7) *Schedule 7* ; *page 75* ; leave out *lines 20–23* [*Schedule 7* ; *page 121* ; *lines 3–5*] and insert "seven shillings."

The effect of this amended provision, granting an equalised benefit of 7*s.* weekly in respect of all branches of the insured trades, is estimated to increase the average benefit per insured member per annum, after making due allowance for the proportionate numbers of insured members in each trade, from 18*s.* 3*d.*, deduced in paragraph 14 of my Report of May last, to 20*s.* 2*d.*, thus requiring an additional sum of 1*s.* 11*d.* per member per annum, or about £232,000, in respect of the total number of insured members.

(8) *Schedule 7* ; *page 75* ; *line 25* [*Schedule 7* ; *page 121* ; *lines 6–11*].—Provision inserted that no unemployment benefit shall be paid whilst the workman is below the age of 17, and one-half benefit whilst he is between 17 and 18.

As stated in paragraph (5) above, the estimated effect of bringing in, under the Scheme, workmen between 16 and 18 years of age, is to introduce 133,000 fresh contributors. There seems to be good reason for assuming that the rate of unemployment, in respect of members at these young ages, would be less, and perhaps materially

less, than the normal rate at ages 18 and upwards; and, making reasonable assumptions in this respect, I estimate that the amount required to secure the allowance of 3s. 6d. weekly during unemployment between 17 and 18 years of age would be about £23,000.

(9) *Schedule 8; page 77; line 10* [Schedule 8, page 122; lines 16–20].—The words added “provided that in the case of a workman below the age of 18, a penny shall be substituted for 2½d., as the contribution from the workman and from the employer, but for the purposes of reckoning the number of contributions in respect of such a workman, the penny shall be treated as two-fifths of a contribution.”

I estimate, on the assumption of a low rate of unemployment to the workman between 16 and 18 years of age, and therefore a relatively high rate of refund to the employer, under the amended Clause 70, that the contributions of 133,000 insured members between these ages, together with the contributions of the employers and of the State, and after allowance for expenses, would amount to about £56,000. As the total amount of the reduced benefit to these members was estimated above at £23,000, there would be an estimated nett gain to the Fund of about £33,000, which may be considered as some set-off against the estimated loss of £45,000 arising from the exclusion of indentured apprentices.

The variation of the “one-in-five” rule, carried out by the above amendment in respect of members between 16 and 18 years of age, does not seem to be justified from any actuarial considerations, and I understand that this portion of the amendment is to be reconsidered on Report. It appears to me that an equitable manner of dealing with the question would be to provide that, in respect of unemployment before age 18, a workman shall be entitled to one week’s benefit, at the reduced rate of 3s. 6d., in respect of every five weeks’ contributions; but that, in respect of unemployment after age 18, he shall be entitled to one week, at the full rate of 7s., in respect of every 12½ weeks’ contribution paid prior to age 18, and of every five weeks’ contribution paid after that age.

(10) *Schedule 8; page 77; line 13* [Schedule 8; page 122; lines 21–30].—Provision for contributions at the rate of a penny, where the period of employment does not exceed one day, and at the rate of twopence, where such period exceeds one day, but is less than a week, with consequential provisions as to reckoning such contributions for the “one-in-five” rule, under the 7th Schedule.

In my estimates of May last, 44 weeks’ contributions were assumed as payable on the average in each year, and, so far as these weeks of employment would in practice be split up into portions of a week, further integral weeks’ contributions would have been received at the rate of 2½d., resulting in uncalculated margins, referred to in paragraph (19) of my Report, over and above the estimates made in that Report.

The proposed reduction of contributions in respect of portions of a week will materially diminish these uncalculated margins, which will also be somewhat reduced in respect of the amendment to Clause 72, dealing with “short time.” It is, however, impossible to

make any present estimate as to the financial effect of these amendments, but, so far as I can judge, the amounts in question cannot be at all considerable.

(11) The following amendments (and possibly one or two others) may probably have some small financial effect, either favourable or unfavourable, upon the Scheme of the Bill, but the effect would appear to be relatively quite negligible in amount, and there appear to be no data available upon which any estimate could be based as to the financial effect of such alterations :

Clause 62 ; page 53 ; line 37 [Clause 80 ; page 92 ; lines 5–6].—After the word “weeks,” the words inserted “in the preceding five years.”

Clause 67 ; page 58 ; line 3 [Clause 85 ; page 96 ; lines 22–27].—Additional subsection (e), providing for the continued payments of contributions and benefits during any period intervening between an application for the decision of any question or any claim for benefit and the final determination of the question or claim.

Clause 69 ; page 58 ; lines 35 and 36 [Clause 87 ; page 97 ; line 28 at end].—The words “or such larger sum as the Treasury may fix” deleted.

Clause 69 ; page 59 ; line 8.—After the word “week,” the words inserted “or increase those rates unequally as between employers and workmen.” [Clause 87 ; page 97 ; line 40.]

Clause 72 ; page 60 ; line 36 [Clause 90 ; page 99 ; lines 24–27].—Provision for the employer receiving the benefit of the refund of contributions, in respect of workmen working “short-time,” and under the conditions stated in the Clause, in the case where the short-time is effected by stopping the work for some day in the week, usually recognised as a working day of at least four hours.

Clause 76 ; page 63 ; line 19 [Clause 96 ; page 103 ; lines 12–14].—At the end of the Clause, the words added, “above the rates specified in the Eighth Schedule to this Act, or shall vary such rates unequally as between employers and workmen.”

New Clause (91) exempting from compulsory insurance workmen in agricultural districts, usually following an occupation other than an insured trade, and employed in an insured trade occasionally only, and providing for the payment of their contributions by agreement between the employer and the workman.

(12) The following Summary statement shows the combined estimated effect on the finances of the Fund, so far as calculable, of the several amendments discussed in the preceding paragraphs, and also the estimated variations in the number of insured members brought under the Scheme :

SUMMARY OF ESTIMATED MARGINS (so far as calculable).

	£
Estimated margins as brought out in Report of May 1911	211,837
Estimated loss from equalization of benefit at 7s. in all insured trades	£232,000
Estimated profit from varied provision as to refund to employers instead of reduced yearly contributions	97,000
	<hr/> 135,000
	<hr/> 76,837
Addition to margin (available after giving effect to the modification as shown above, but then uncalculated) in respect of the inclusion of 42,500 indentured apprentices in the 2,421,000 insured members, originally reckoned as normal insured members	43,651
	<hr/> 120,488
Estimated loss from exclusion of 42,500 indentured apprentices over 18 years of age	£45,000
Estimated profit from introduction of 133,000 workmen between 16 and 18 years of age	33,000
	<hr/> 12,000
Nett estimated margin of profit	<hr/> £108,488

INSURED MEMBERS.

Total number, as estimated in Report of May, 1911	2,421,000
Since added :	
Workmen between 16 and 18 years of age	133,000
	<hr/> 2,554,000
Since excluded	
Indentured apprentices over 18 years of age	42,500
	<hr/> 2,511,500
Total number of insured members, as varied by amendments to Bill	2,511,500
	<hr/>
Estimated margin per insured member per annum	<u>10d.</u>

(13) It will be seen that the estimated effect of the amendments as a whole is to reduce the available margin of profit from £211,837, as estimated in paragraph (17) of my Report of May last, to £108,488, or to reduce the margin from 1s. 9d. per member per annum (on 2,421,000 insured members) to about 10d. per member per annum

(on 2,511,500 insured members). The estimated available margin of £108,488 is equal to 4·3 per-cent on the nett cost of the benefit, as compared with 9·6 per-cent, deduced in my Report of May last.

(14) The above figures do not, of course, bring into account the uncalculated margins, referred to in paragraphs (19), (20) and (21) of my Report of May last. Those referred to under the headings (i), (iii) and (iv), in those paragraphs respectively, appear to be unaffected by the amendments to the Bill, but the uncalculated margins under (ii), in respect of contributions for portions of a week, must be regarded as materially reduced by the amendment to the Eighth Schedule. A general investigation into the scope and probable operation of the uncalculated margins still available indicates that they may, in practical operation, be expected to have some considerable effect, in the provision of income additional to that estimated, or in the reduction of the estimated outlay on benefits, so that, on the whole, I should anticipate some increase from these sources in the estimated calculable margins referred to in the preceding paragraphs.

(15) Whilst, therefore, I should have preferred, in view of the inadequacy of the available data, and the consequent measure of uncertainty as to the results deduced therefrom, to have seen a larger margin for possible departures from the estimated rates, I consider that there is reasonable ground for the expectation that the margins available—calculable and incalculable—will in practical operation be sufficient to preserve the financial stability and solvency of the Scheme: subject, however, in the event of their not so proving sufficient, to the powers taken, under the Clauses and Schedules of the Bill, for the revision, either generally or in respect of particular trades, of the relation between benefit and contribution, on such revision proving to be necessary for the restoration of financial solvency.

I am, dear Sir,

Your obedient Servant,

THOMAS G. ACKLAND,

Fellow of the Institute of Actuaries,
Hon. Fellow of the Faculty of Actuaries.

24 November 1911.

THE foregoing Reports, taken in conjunction with the Reports reprinted on pp. 406–475 of the current volume, afford a substantially complete account of the actuarial basis of the National Insurance Act, but for the convenience of readers of the *Journal* who may wish to study the subject more fully, we print the following list of the subsidiary actuarial reports on special questions, which

were issued as Parliamentary Papers during the progress of the Bill through the House :—

	Reference Number.
Actuarial Report on the position of Persons in the Naval and Military Service of the Crown. Report of Messrs. Hardy and Wyatt.	Cd. 5809
Copy of Memorandum Explanatory of the Principal Amendments which it is proposed to incorporate in the National Insurance Bill. Report (Sickness Claims—First three days waiting periods), by Messrs. Hardy and Wyatt. Ditto by Mr. A. W. Watson.	
(Proposed Reduced Insurance in certain classes of employment). Report by Messrs. Hardy and Wyatt. Report by Mr. A. W. Watson.	
(Married Women as Voluntary Contributors). Report by Messrs. Hardy and Wyatt. Report by Mr. A. W. Watson	Cd. 5930
Actuarial Report on proposed Government amendments to Clause 36. (Special provision with regard to persons in the Navy and Military Service with Crown). Report by Messrs. Hardy and Wyatt.	Cd. 5943
Copy of Memorandum explanatory of the amendments which it is proposed to incorporate in the National Insurance Bill in regard to Seamen in the Mercantile Marine. Report by Messrs. Hardy and Wyatt. Report by Mr. Duncan C. Fraser.	Cd. 5942
Rate of sickness prevailing in the Agricultural Districts of Scotland. Report by Messrs. Hardy and Wyatt. Report by Mr. A. W. Watson.	Cd. 5966
Report of the Actuaries in relation to the National Insurance Bill as amended in Committee. Report by Messrs. Hardy and Wyatt.	Cd. 5983

Copies of any of these Reports may be obtained from Wyman and Sons, Ltd., Fetter Lane, E.C., and 32, Abingdon Street, S.W. ; or Oliver & Boyd, Tweeddale Court, Edinburgh ; or E. Ponsonby, Ltd., 116, Grafton Street, Dublin.*

* A further Report by Mr. A. W. Watson dealing with the National Insurance Bill and the Buntingford Union Association was laid on the table of the House of Commons on 14 December, and will, it is understood, be issued shortly.