

CORRESPONDENCE.

CLAIM ACCELERATION RESERVE.

To the Editor of the Journal of the Institute of Actuaries.

SIR,—It is not uncommon for the valuation returns of Life Assurance Companies to show an adjustment for payment of claims before the end of the year of death; but it appears worthy of consideration whether the increasing promptitude with which policies are customarily discharged is not now rendering it necessary that the time at which the claim will be paid should be taken into account, as of the essence of the value of the sum assured, and of the risk premium for which credit may be taken.

Allowing one month for proof of death and title, claims will be discharged, on the average, five months before the end of the year of death, by companies which do not interpose any space of time between proof and payment. The present value of 1, payable at the end of the year of death, is A ; and the present value of 1, payable five months sooner, is $(1 + \frac{5}{12}i)A$: for if the company were dependent on borrowed money for the earlier payment, it would have to find at the end of the year, not only the sum assured, but also five months' interest on the loan. In other words, for the increased liability such companies are under, an additional reserve of five months' interest on the present value of the sum assured (including bonus) should be made. But, on the other side of the account, since $P = \frac{A}{1+a}$, if A

be multiplied by $(1 + \frac{5}{12}i)$, it follows that P will be increased in the same proportion; and, the risk premium for an assurance payable as soon as practicable after death thus being $(1 + \frac{5}{12}i)P$, there will be an increased asset equivalent to five months' interest on the present value of the future risk premiums. The resulting net increase of reserve, namely $\frac{5}{12}iV$, is, of course, similar to the customary "adjustment", but it would seem to be desirable that liability, and risk premium and asset, should all be stated at their increased amounts (instead of an adjustment being made in one sum afterwards), that the margin between office and risk premium, available for future expenses and profit, may be apparent.

If, for any reason, a society is bound to a certain risk premium (as, for instance, a percentage of the office premium), there can, naturally, be no increase of asset to reduce the liability above specified.

I am, Sir,

Your obedient servant,

3 Princes Street, Bank, London,
13 February 1883.

C. D. HIGHAM.