The final step was the computation of total amounts of benefit by application of the aggregate factors to populations and adjustment of the male totals to take account of expected "lower-than-average" participation among self-employed farmers in the manner described in Appendix 2.

(b) *Long-range estimates*

(i) *Benefits for contributors under age 56 on January 1, 1966*

Very generally, the calculation method used was first to develop benefit factors for individual ages without taking account of future increases in average earnings, in the contributory earnings upper limit or in the Pension Index and then to construct composite benefit factors (for application to quinary population groups to produce amounts of benefit) by combination of the individual age factors and adjustment to take account of assumed increases in the aforementioned elements. The method is explained in more detail in the following paragraphs.

The first step in the development was the calculation of primary earnings factors. For 1966 and 1967, these primary earnings factors were equal to the modified average earnings rates for those years; for any year n from 1968 to 1975, the factors were equal to the modified average earnings rates for year n divided by $(1.015)^{n-1967}$; for all years after 1975, the factors were equal to the factors for 1975.

The next step was the calculation of primary benefit factors for individual ages x on January 1, 1966, by the formula

$$P.B.F. = \frac{0.25 \times (\text{total primary pensionable earnings} - \text{primary pensionable earnings dropped out})}{0.9 \times \text{number of years in primary contribution period} \times \text{disability drop-out factor}}$$

The element in the P.B.F. formula termed "total primary pensionable earnings" was calculated as the sum of the primary earnings factor multiplied by the corresponding participation rate for all ages between x and 65 (that is, during the primary contribution period).

For the element in the P.B.F. formula termed "primary pensionable earnings dropped out", which takes account of the 10% drop-out provision, the minimum possible value is zero—a circumstance that would arise if no worker made contributions for more than 90% of the primary contribution period. The maximum value of this element is the sum of the primary earnings factors multiplied by the corresponding participation rates for the n years for which this sum is lowest—where n represents 10% of the primary contribution period. For males, "primary pensionable earnings dropped out" for each age x were assumed to equal approximately half of the maximum value. For females, because participation rates are much lower than for males and, thus, the true average value of "primary pensionable earnings dropped out" is likely to be much closer to the minimum than to the maximum, the slightly conservative assumption of a zero drop-out was chosen.

It may be noted that the fact that pensionable earnings after age 65 are not taken into account in the P.B.F. formula gives rise to a slight understatement of benefits. This inherent understatement is offset by slight overstatements in other areas of the calculations.

The element in the P.B.F. formula termed "primary contribution period" is a number of years equal to 65—x if x is 18 or over and 47 if x is less than 18.

The element in the P.B.F. formula termed "disability drop-out factor" was necessary to reduce the primary contribution period by the estimated average number of full calendar years during which a disability pension would be payable.

The next step was the calculation of primary composite benefit factors applicable to populations in the quinary age groups 70-74, 75-79, 80-84, 85-89