

and 90 and over by interpolation between the values of the primary benefit factors for individual ages. The primary composite benefit factor applicable to the age group 70-74 in year  $n$  was assumed applicable to the age group 75-79 in year  $n+5$ , 80-84 in year  $n+10$ , and so on. The assumption underlying these factors is that a pension will be payable to all workers who have contributed at any time and have survived. Thus, the factors are not directly applicable to the age group 65-69 since not all workers within this age group will have ceased contributing and hence be entitled to a pension. To take account of this fact, the primary composite benefit factor for the age group 65-69 in year  $n-5$  was taken to be equal to the corresponding factor for the age group 70-74 in year  $n$  multiplied by 0.5 for males and 0.75 for females.

The next step was the calculation of benefit increase factors by the formula

$$\text{B.I.F.} = (1.015)^8 \frac{1}{3} \left[ (1+i)^{m-1977} + (1+i)^{m-1976} + (1+i)^{m-1975} \right] (1+j)^{n-m}$$

where

- $i$  represents the assumed annual rate of increase in average earnings and the contributory earnings upper limit after 1975, that is, 3% or 4%, as applicable,
- $j$  represents the assumed rate of increase in the Pension Index after 1975, that is, 1½% for the "low cost" estimates and 2% for the "high cost" estimates,
- $m$  represents the year in which the generation reaches the age group 65-69 (it is implicitly assumed that the average year in which pension commences is year  $m$  - corresponding to an average pension age of approximately 67½), and
- $n$  represents the year for which the calculation is made.

In brief explanation of the above formula, the function  $(1.015)^8$  effects the increase up to 1975 in accordance with increases in the contributory earnings upper limit to that time. (It will be recalled that this limit is assumed to increase by 1½% per annum for each year after 1967 until 1975. The function  $\frac{1}{3}[(1+i)^{m-1977} + (1+i)^{m-1976} + (1+i)^{m-1975}]$  continues the increase up to the year pension commences. (The three powers of  $(1+i)$  represent the effect of using the average of the contributory earnings upper limits for the three years ending with the year in which the pension commences in the determination of the amount of benefit.) The function  $(1+j)^{n-m}$  effects the increase from the year in which pension commences to the year for which the calculation is made.

The next step was the calculation of adjusted composite benefit factors by multiplication of the primary composite benefit factors by the benefit increase factors.

The final step was the calculation of amounts of benefit by application of the adjusted composite benefit factors to the applicable populations.

(ii) *Benefits for contributors over age 60 on January 1, 1966*

From the short-range aggregate factors for individual ages, primary composite benefit factors were developed for age groups 75-79 and 80-84 in 1980, 80-84 and 85-89 in 1985, and so on, reasonable account being taken of the percentage distribution of the population by individual attained ages within each quinary age group.

Adjusted composite benefit factors were obtained by multiplication of the primary composite benefit factors by benefit increase factors, and amounts of benefit were determined by application of the adjusted composite benefit factors to the applicable populations.

(iii) *Benefits for contributors aged 56 to 60 on January 1, 1966*

This is a group of contributors intermediate to the groups treated in (i) and (ii) above in that most contributors within this group either can elect to