

Meeting No. 16: Variations in Age Composition, with  
Special Attention to Effects of  
Declining Fertility and Mortality

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(This draft report is distributed to participants in the Conference for their comments; it is not intended for publication in its present form).

1. Age Composition of the population in general. Analysis of  
its dependence on natality, mortality and migrations. Influence of  
war and other exceptional factors.

Comprehensive comparisons on an international level of the sex and age structure and of variations in it over the last fifty years were submitted by the Italian Central Statistical Institute and by Mr. Somogyi. They bring out the predominating upward trend in the percentage of old people and the decline in that of infants and adolescents. Despite this universal trend, there are still very wide differences in the age composition of populations at different stages of demographic development. Side by side with populations with a very high proportion of persons who have reached maturity or old age and a very low proportion of infants and adolescents, we find others with the reverse characteristics.

Two methods have been used to study the effects of natality and mortality on changes and variations in age composition, the first being to try to pick out such effects inductively by observing existing populations and the second to attempt to measure them deductively by constructing theoretical populations subjected to specific mortality and

natality conditions. The former method was used in the studies already referred to, while the latter was applied in those carried out by Mr. Lenti and the Laboratory of the Brazilian National Statistical Council. The view that the predominant influence was that of natality does not appear to be borne out by the facts; the increase in the percentage of the maturity and old age groups is largely due to the decline in mortality.

The effects of war and migration on age composition were illustrated by Mr. Winkler. The exceptional nature of such factors makes it impossible to draw general conclusions, but very interesting parallels may be found in the variations observed after the two world wars.

Mention should be made of a proposal by Mr. Billeter for constructing an age composition index which, with a few minor modifications affecting partly the nomenclature, might be usefully applied.

2. Age composition in the different sections of the same population (various regions, urban and rural areas, ethnical groups, etc.)

The analyses made by Mr. Depoid (France), Mr. Occhiuto (Italy), Mr. Sadie (Union of South Africa), Mr. Le Neveu (Canada) and Mr. Alves (Brazil) show that in every population there are differences, at times very considerable, between the age composition of the various groups.

In old inhabited countries we find very marked differences between the various regions; in all countries there are wide differences between urban and rural areas. These latter differences are largely due to internal migration; migration abroad has a noteworthy effect, particularly in a few areas where emigration or immigration is exceptionally intense.

One important finding is the great effect of ethnical factors on age composition in countries with a racial or a colour bar, and their very restricted effect in those where no, or practically no, colour bar exists.

3. Variations in the group presumed to be of working age and age structure of the population. Replacement rates of the active age groups.

A large volume of information on this subject was provided by a comparative international study by the Population Division of the United Nations in which a distinction is made between the effects on labour supply of the age structure and those of the degree of economic activity at different ages, the countries concerned being grouped according to their stage of economic development.

The influence of mortality on the average duration of working life was studied by the Laboratory of the Brazilian National Statistical Council and by Mr. Saura del Campo. This tends to vary in almost direct proportion to the mean. As mortality declines, the proportion of the aged inactive group tends to rise and that of the juvenile inactive group to fall.

Another paper by the Population Division of the United Nations seeks to lay down a method for measuring the factors of "arrivals" and "departures" which to some extent determine the variations in a country's economically active population. And a note by Mr. Lasorsa proposes certain modifications in projection methods for forecasting variations in the economically active population.

4. Composition of the population past middle age by sex, marital status, family relationships, economic activities, dependency, etc. and its variation with advancing age.

This topic gave rise to a preliminary discussion on what is meant by "ageing" (Mr. Féraud). Demographers, it is however felt, should base themselves on numerical age limits and disregard questions of nomenclature. The increase in the proportion of people of 60, 65 and over is a known fact; whether it is called "ageing" or not is of no interest to the demographer. The discussions on the chronological and the biological age at other meetings of the Conference brought out the great difficulty involved in formulating general standards on this point. Nevertheless, it seems certain that the extension of the average life-span is accompanied by a higher upper age limit for working life.

The composition of the mature and old age groups according to certain individual characteristics of their components was studied by Mr. Woodbury and Mr. de Vita.

As to composition by sex, females generally predominate in countries with a Western civilization owing to the higher mortality among males.

Composition by marital status is characterized by an upward trend in the proportion of married persons, which derives in the main from the decline in mortality, and in some cases by the lower proportion of single persons, which, incidentally, is generally very low in the age groups concerned.

Composition by activity varies greatly from one country to another. In old age group employment is on a relatively larger scale where the group is proportionately more numerous with, however, some exceptions. In poor countries with large numbers of children and a small old age group,

the latter is widely occupied, particularly on the land. Mature and old age groups are mainly active in agriculture, cattle-raising and small industry. The ratio of self-employed workers to wage-earners increases with advancing age.

The probable upward trend in the proportion of mature and old age groups was brought out and measured by Mr. Berent, who also submitted an outline of probable developments in a number of countries.

In concluding this record of the papers submitted to the meeting, we may note with satisfaction that they illustrate and throw light on most of the items on the agenda, although they present a number of gaps which subsequent research may be able to fill in.