Provisional Abstract

Conference Theme for which the presentation is proposed:

Population Ageing, Convenor: Emily Grundy (UK)

Title of the presentation: EUROPEAN AGEING POPULATIONS (25 EU MEMBER STATES, 1950-2000), COMPARATIVE STRUCTURAL ANALYSIS

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Research issue: The main research issue is the comparative analysis of the structural changes of the European populations after the World War II. The questions to be answered concern

   a) The depiction of the ageing rate of the 25 EU member states (i.e. the evolution of the proportion of the over 65 year old population) during the second half of the 20th century.

   b) The measurement of the proportion of the aged augmentation (that is expected to be recorded) which was due to the prolongation of human life (and *not* because of the decrement of births or migration phenomena).

   c) The correlation between the previous measured proportion and the life expectancy at birth at the end year 2000.

Methodology and data to be used:

For the first section (a) simple demographic indexes will be used, such as the percentages by five (or more)-year age groups over the total population and methods of depiction such as diagrams and thematic maps.

For the second section (b) a much more sophisticated method will be necessary: For each one of the 25 EU member states, a combination of population projections' method and the method of 'simulation' will be applied. Regarding as an initial year for the projection the year of 1950 and as an ending one, the year 2000, the demographic parameters of migration and fertility will remain still, so as to measure the impact of the *mortality* parameter upon the population. A number of five age-group fictional populations will be used in relation to the real ones in a logical algorithm which will allow us to measure the proportion of the increment of the aged

populations that is due to the changes in mortality conditions in European countries and Europe as a whole.

The third part (c) will be a researching one with many trials from Pearson Correlation index to more sophisticated statistical methods of measuring the relation between two variables (the life expectancy at birth and the proportion of the increase of the aged population that is due to mortality changes).

*The necessary **data** will be downloaded by the United Nations' Database.*

Outcomes or indication of envisaged outcomes

The results of each part of the analysis are quite expected:

a) The first part probably is going to show the deviations among the European countries about the level of ageing of their population. The north part of the continent is expected to be the most aged one, while a diversification is expected between Eastern (the ones that were recently connected to EU) and Western European countries.

b) The second part is expected to reveal the spatial patterns of the ageing populations of Europe, clear from the other demographic parameters (fertility changes and migration). That is, the percentage of ageing increases which were due to mortality changes, i.e. the prolongation of human life. The spatial pattern is expected to look similar to the general pattern of the aged population (depicted at the first step of the analysis) but it might be more 'vivid', 'sharp', as the mortality phenomenon will be separated from the others. This expectation derives from the *hypothesis* that the countries that have gained more expected years to live are those which are the relatively more aged ones.

c) The third part is going to reveal a strongly positive relation between the proportion of the aged population which is due to reduction of mortality and the expected life at birth.