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Depopulation And Its Consequences In The Regions Of Europe

In our paper we present an analysis of depopulation in the regions of Europe. The study is based on the use of national and international statistical data, as well as literature from international sources. We analyse the concept, trends, causes and consequences of depopulation in a comparative and regional overview. Moreover, the study includes the regional analysis of two spatial categories, as we look at both rural and urban regions and compare their specific demographic trends. The regional level we analysed is the official NUTS-3-level. Our study contains 32 European countries with more than 1300 regions in total.

Starting with a review of demographic dynamics and interrelations in general, we will show that depopulation and ageing are closely connected. There will be a short description of the underlying factors and demographic dynamics causing these trends. Priorities are set on migration flows, as this component acts the most complex on regional demographic dynamics. We look at the question what the interactions between migration flows and population dynamics are. What types of migration flows (internal and international) do we know? How do they affect population dynamics in which ways and directions? And last but not least, how is depopulation defined?

Next, we will give a brief overview on the regions and regional level we analysed (NUTS-3). We define the area types of rural and urban regions.

Then we will analyse past and future trends of depopulation in the regions of Europe. In three steps we will (1) identify depopulating regions, (2) characterise them by demographic and socio-economic attributes and (3) categorise them to find groups of regions with similar constellations. Using the components of change (i.e. birth/death surplus, net out-/in-migration) of recent years, we will compute the _Webb Classification_ of the regions as an indicator for population dynamics and its components. Which were the growing and shrinking regions in the 1990s? Which

regions had migration gain/loss and/or birth/death surplus? What peculiar groups (by age and sex) dominate the migration activities of the regions?

This classification produces a first (demographic) categorisation of depopulating areas. We add some more indicators describing important components of regional quality of life. We will test if there are significant cohesions between the demographic change and the socio-economic situation, e.g. the labour market and economic situation, or the type of settlement.

Following up to depopulation, ageing as an ubiquitary process runs much faster in shrinking regions. We will show this by calculating and comparing different measures of the age structure (age dependency ratio, proportion of young and elderly etc.).

Next step is to group depopulating regions by *cluster analysis* using demographic and socio-economic variables of theoretical and empirical evidence. Settlement structure will be used as (1) explaining variable and as (2) filter of the cluster analysis. As a result we identify regions with similar demographic and socio-economic problems correlating and (perhaps) causing each other. Which are the age compositions of the regions' population? Is there a correlation between regional equipment and demographic change? Which regions are similar in a combined point of view on demographic and socio-economic attributes?

For the future outlook we look at selected regional population projections. Mainly, we present a population projection of Germany on NUTS 3 level. Germany gives a good example of a country with high density and very low fertility, high international mobility and large regional disparities between East and West. Demographic change in Germany may be taken as a leading indicator for some problems to come in larger parts of Europe. We show the change from growth to shrinking and the shift of its causes from migration loss to death surplus. We categorise the selected regions by their future demographic trends and recent regional attributes of high stability in time. Which regions are similar in a combined point of view on upcoming demographic trends and present socio-economic attributes? Therefore, the results are clusters of depopulating regions with similar basic conditions.

There are immediate consequences of depopulation in the demographic sector and subsequent effects in population oriented sectors like labour market, infrastructure for education or health. The last topic therefore focuses on the subsequent effects of depopulation and bases on a literature analysis of regional depopulation in different parts of Europe. We present best practices of organising such regions to maintain a certain level of supply in services and infrastructure. The synopsis will end in tables crossing selected problems with policy measures and their impact on quality of life.