

The Dynamics of Urban Population Developments: PROJECTION MODEL OF URBAN-RURAL GROWTH DIFFERENCES

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ABSTRACT

The study aimed at projecting urban growth from 2010 to 2050 using United Nations, World Urbanization Prospects data. The result is compared to UN prediction on urban growth for the same period. As an alternative to the second order polynomial tested in previous research, a third order polynomial was used to model urban-rural growth difference from 1950 to 2005 country by country, then projections were drawn to 2050. The model was tested over the 1990-2005 period using the 1950-1990 data, giving very good results (mean percentage error of only 1.15%). Using the third order polynomial model, the world urban population is projected at 52.8% by 2050 and 54.2% without China while the UN predicts 67.9%. For the same year (2050), the third order polynomial model foresees that 48.8% of the population in the less developed countries will be living in urban areas while the UN predicts 64.7%. The projection of urban growth in least developed countries is estimated at 35.2% and 55.5% using respectively the third order polynomial model and the UN predictions. The findings suggest that UN predictions are excessively high mostly for less developed countries. The second order polynomial model fitted on the same data gives the same results.