MULTIPLE REGRESSION METHODS AND TIME SERIES MODELS FOR A PREDICTION OF TOTAL POPULATION IN ALBANIA

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Abstract

In recent years the total number of population in Albania has changed significantly. Based on past records of census this number is declining. Primary factors affecting this change are certainly demographic factors such as: births, deaths, migrations etc., but secondary factors are also very important for determining the general population in a country. Our country in recent years has been affected by significant changes in social, economic, political field and not only. In this paper we have studied the relation of total population with few demographic, economic and social factors. Data are taken from INSTAT Albania, Albanian Bank. We have studied many regression models to understand the relation between all this factors. Firstly, we study the regression model in order to predict the means of population based on some independent variables. Then we have studied independently the time series and build for each of them a time series model to forecast the values in upcoming years. The forecasted values are then used in the regression model to predict the mean of population in Albania. We have performed many goodness test on the final model and compared the forecasted values of total population number with the predicted values obtained by the time series model of total population.

*Keywords***:** *regression model, time series, forecast, population, goodness test, social factors*

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