Small area estimation for rural development statistics in Hungary

Mr. György LENGYEL*
Hungarian Central Statistical Office,
Budapest, Hungary – gyorgy.lengyel@ksh.hu

Rural development statistics is one of the most important statistics in Europe. Gross Value Added (GVA) per capita is one of the key indicators of rural development statistics. Territorial level has an extremely high importance in rural development statistics. Most of the territorial units has 1 or more urban centres and their rural neighbourhood. The bigger the territorial unit is, the more urban centres it has. In a bigger territorial unit the inner inequalities are hidden by the indicators. That's why it would be very important to use the indicators at the most detailed level. However, the possibility to calculate many indicators is limited to regional level due to technical, methodological and financial reasons. This paper presents a possible method to estimate GVA per capita at small area level in Hungary. The basis for this estimation is the set of indicators available at settlement level, while this multiple regression model is built at county level (NUTS3). The first step is the selection of potential predictors: Analysing the correlation between the independent variables and the GVA and that of amongst them. The second step is building the model with stepwise method. The third step is comparing the predicted values with the original GVA at county level and making some changes according to the results (fine tuning). The fourth step is evaluating the models by analysing their coefficient of determination, and the mean of absolute deviations and standard deviation of deviations. The final step is the calculation of small area data using the best model. The results will be compared to other important rural development indicators, such as Change of total population and it will be visualized on maps.

Keywords: rural development statistics; GVA per capita; small area estimation.