First Assignment in Special Topics of Business Economics 2017-2018

The txt files named C2014.txt, C2013.txt and C2012.txt[1] contains inputs and output variables for a sample of 127 countries for the corresponding years. The output is measured by Gross Domestic Product per capita (million dollars) while the four inputs are Capital (million dollars-x1), Labor (total- x2), Energy (kg of oil equivalent- x3) and Renewable Energy (x4) as a percent of total energy. Using the theoretical foundation and the methodological approaches already developed in our lectures please estimate the following:

1. The technical efficiency under CRS and VRS (using program R,STATA or DEAP) for each country the periods 2012,2013 and 2014.

2. The technical efficiency under CRS and VRS (using program R, STATA or DEAP) for each country the periods 2012,2013 and 2014 using as inputs Capital (million dollars), Labor (total) and Energy (kg of oil equivalent). In this case please examine the hypothesis of the effect of RE input on technical and scale efficiency results.

3. The corresponding scale efficiency measure (using program R, STATA or DEAP).

4. The malmquist productivity index (using program R or DEAP) and its components (scale, technical and efficiency change) for the period 2012-2014.

Please use the above estimations to create a report (in Latex) which will describe the total performance in terms of productivity and efficiency of the participated countries in our sample (no more than 2500 words). The report should present your estimations and your explanations about regions performance in an analytically way using possible argumentation.

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[1] https://eclass.upatras.gr/modules/document/index.php?course=ECON1333&openDir=/5640cd63i6uf