A reflection on “Does Extensive Fossil Fuel Wealth Affect Renewable Energy Consumption in Developed Organization of Economic Development Countries?”

Submitted for fulfilment of Proficiency # 4

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1. This was an econometric paper that looked at the influence of fossil fuel wealth on renewable energy consumption. It incorporated data analysis through tables and graphs in excel using data from transparency international, the OECD, and the World Bank. Patterns among existing data were analyzed in the literature review on resource curse and the status of the renewable energy industry. The paper used a nonlinear regression using a quadratic term among other regressions done in the project to determine whether natural resource wealth affected renewable energy consumption. The conclusion of the paper was that natural resource wealth did affect renewable energy consumption in a statistically and economically significant way.
2. This satisfies #4 because it explains how to understand the data in the paper in the data sources and description part of the paper by providing a definition section and source section to show the origin of the data and what the data is. Further illustration of data trends was used in the hypothesis testing section with graphs in excel to illustrate nonlinear trends in the variables that had quadratic components used in 3 of the 4 models tested in the paper. The interpretation of the data results was also shown in the results section by interpreting the t values for statistical significance, the root means squared error for reliability of the model chosen, and the adjusted r squared to look at how much of the variance in the data can be explained by the model. The regression analysis also explained the economic significance of the data trends by reconciling the parameter estimate for natural resource wealth with the shape and range of the data for renewable energy consumption. The parameter estimate was economically significant since the estimate was large in the context of the countries that had high renewable energy consumption as a percent of final power consumption. Overall, I learned how to do analysis of multiple different economic models that could be used to explain renewable energy consumption. I also learned to use the white test for multiple regressions and further learned how to use regional dummy variables. I chose this item for the proficiency because it was the project that sought to combine all the material we learned into a research project that would incorporate the skills we learned with regression hypothesis testing.
3. This econometric paper’s grade is to be determined until final grades are posted. However, the paper is overall 150 points
4. The paper had issues of multicollinearity with the insertion of a quadratic term, which means that controls will have to be introduced in future papers to correct for this issue. Additionally, the paper needs to have more microeconomic data collected to look at the relationships between the variables over greater time series. The data could also have been expanded to include developing countries as well and include more countries in the North America and Asia Pacific dummy variables. Finally, the use of more specific data sets on energy research and development could be used to look at a more reliable indicator of investment in clean energy technologies.