**JHU ECON 602:**

**MACROECONOMIC THEORY AND POLICY**

**(Fall 2022)**

**In-class Group Assignment (November 1, 2022)**

To answer the questions in this problem set, please use this data set from this link: [**https://www.rug.nl/ggdc/historicaldevelopment/maddison/releases/maddison-project-database-2020**](https://www.rug.nl/ggdc/historicaldevelopment/maddison/releases/maddison-project-database-2020)**.** The instructions below are based on the EXCEL version of the data set, which you can download from the link (the file is called mpd2020.xlsx). You will also need the list of OECD countries and the dates on which they joined, available at this link: <https://www.oecd.org/about/document/ratification-oecd-convention.htm>

1. Provide evidence on β-convergence among incomes among the countries that joined the OECD between 1961 and 1964. Specifically:
   1. Show a graph of the relationship between initial income (you can use 1965 as the year for the initial income) and subsequent growth rate in annual incomes (i.e. between 2018 and 1965). Compute the correlation coefficient. What does the evidence show? Are their outliers in the relationship? If so, what is the correlation coefficient without these outliers?

Run a regression with subsequent growth rate in annual incomes as the dependent variable and initial income as the independent variable. (Run the regression both with and without a constant; does that make a difference?) What does the evidence show?

1. Re-do the analysis in question 1 above adding the countries that joined the OECD in the 1970s. (You can use 1974 as the date for initial income). How does the evidence on β-convergence change?
2. Re-do the analysis in question 2 above, this time also adding the countries that joined the OECD in the 1990s. (You can use 1997 as the date for initial income). How does the evidence on β-convergence change?