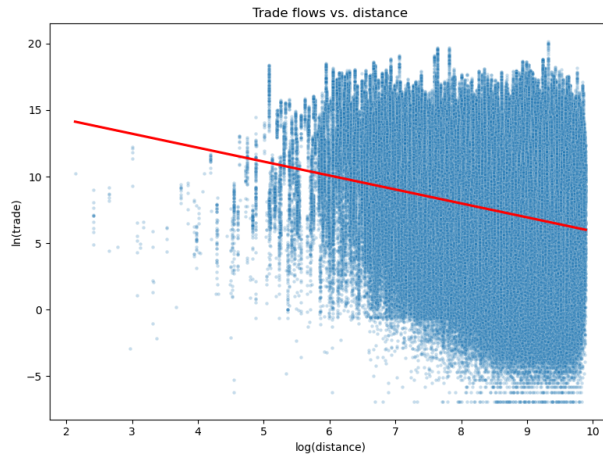# ECON 2181 – International Trade Theory
Data Lab Project: Gravity Model

1. Reproduce the following regression results, that I have run for you in the Jupyter Notebook:

$$\ln X_{od,t} = \alpha + \beta \times \ln dist_{od} + e_{od,t} \tag{1}$$

as well as the figure

Interpret economically the coefficient on the regression. What does it tell us about trade flows and geographical barriers? How is the coefficient related to the figure above?

2. The following variables represent the following relationships:

   - `df["comlang_off"]`: do o, d share common language? true/false
   - `df["comrelig"]`: do o, d share common religion? true/false
   - `df["col_dep_ever"]`: do o, d share common colonial metropolis? true/false
   - `df["contig"]`: do o, d share a border? true/false

   Run a regression of the form

$$
\begin{aligned}
\ln X_{od,t} &= \alpha + + \beta_1 \times \ln dist_{od} + \beta_2 \times language_{od} + \\
&+ \beta_3 \times religion_{od} + \beta_4 \times colonial_{od} + \beta_5 \times border_{od} + \tilde{e}_{od,t}
\end{aligned}
$$

   report the results and interpret each of the coefficients. Do they make sense? What have you learned from this exercise?