MIT 14.385: Nonlinear Econometric Analysis, Fall 2022
Homework 1 for part 2.

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In this problem, you are asked to replicate some difference-in-difference estimates in R. Your code should run from start to end in one execution, producing all the output. Output and discussion of findings should be integrated in a report generated in R-Markdown (or Quarto). Figures and tables should be clearly labeled and interpretable. The findings should be discussed in the context of the theoretical results that we derived in class.

In this problem, you will replicate some key findings from Derenoncourt and Montialoux (2021), implementing difference in difference estimates in R. The authors provide code in Stata. You should only consult this code to resolve ambiguities, and try to implement the estimates from scratch in R.

1. Read Derenoncourt and Montialoux (2021).
2. Download the source data for this paper from `https://sites.google.com/view/ellora-derenoncourt/us-inequality-data`.
3. Replicate the following figures and tables from the paper:
   Figure II, Figure V, Table I, and Table V.
4. Discuss these estimates in the context of our lectures on causality, identification, and placebo tests.

Some R packages that might be useful: *kableExtra* (with the latex booktabs option), *broom* (for cleaning up linear regression estimates), and *ggplot* (for data visualization).

References

Derenoncourt, E. and Montialoux, C. (2021). Minimum wages and racial inequality. *The Quarterly Journal of Economics*, 136(1):169–228.