

IV: The Long-Term Effects of Africa's Slave Trades

Group Members:

Anel Rodriguez Quinto, Madison Stevens, Charlie Stutts, Gerard Tetegan, Davis Xu

Machine Learning Method: Causal Forests

Causal Forest is a method that would allow to enhance the results of the paper by enabling an analysis of the heterogeneous effects of Africa's slave trades on economic developing. This method adeptly handles endogeneity and uncovers nuanced effects but requires robust instrument strength and validation. Given that, the instrument selected is a region indicator.

Incorporating the causal forest method with a regional indicator can significantly improve the analysis of this paper because it would allow an understanding of the different impacts of the slave trades across different African regions, highlighting how historical slave trade exposure has differentially influenced economic outcomes in distinct geographical regions.

Region Indicator:

Historical geographical region (North, South, West, East & Central Africa).

Data is already available in original dataset.

Region Indicator Justification:

Geographic region significantly influenced slave exports from Africa due to a mix of factors including coastal access, population density, state development, and internal dynamics. This variation justifies using regional indicators to understand the diverse impacts of the slave trade across Africa. Present-day economic outcomes in these regions are primarily shaped by their historical involvement in the slave trade, impacting factors like population depletion, social disruption, economic transformation, and lasting cultural effects. The inclusion of regional indicators in interaction terms is methodologically sound as it allows for a rigorous examination of how historical geographical regions interact with slave exports to impact economic trajectories.

Implementation:

To incorporate causal forests into both stages of an instrumental variable (IV) model for studying Africa's slave trade's long-term effects with regional interactions, the following steps are employed.

Firstly, geographical distances are used as instruments, forming a dataset with these variables, regional indicators, and interaction terms. A causal forest predicts slave trade exposure, handling endogeneity.

In the second stage, the predicted exposure is included in the dataset, and a second causal forest estimates its impact on economic performance, capturing non-linear relationships. Interaction terms highlight regional heterogeneity. Analysis assesses effects' heterogeneity, statistical significance, and confidence intervals. Overall, it offers a deeper understanding of the slave trade's enduring impacts on African regions.