African Population and Migration: Statistical Estimates, 1650 – 1900

October 9, 2018 Patrick Manning, University of Pittsburgh

This presentation addresses the problem of estimating details of African population and migration from 1650 to 1900. From 1900 onward, we have dependable estimates. Before then, however, we have only fragmentary data on population and migration. Much of that data consists of good estimates of the number of captives who left Africa in the slave trades. The goal is to use this data on the slave trade, and the data from 1900, to estimate population at earlier times.

The broader context for this study is the need to accurately estimate population changes across the world in order to understand modern world history. For the period 1650-1900, we have census-based estimates for Europe, North America, and China. But for most of Asia and Latin America, as in Africa, pre-1900 data is fragmentary and indirect. Good estimates for Africa will be valuable in themselves, and may suggest techniques that can be applied elsewhere.

This presentation describes the African slave trades, the data on the number of captives taken from Africa over time (both the numerical patterns and the sources of those numbers), and the goal of using those data to model changing African populations. My own efforts to develop simulations of population resulted, by 1990, in a dependable model of changing population and migration over 10-year periods for Africa as a whole. But the effort to extend this analysis has proved challenging. It must address longer periods, multiple regions, levels of enslavement in Africa, and tracking of free and slave populations. Estimates have been internally inconsistent, and it is not clear whether there is a unique optimal estimate, or how uncertainty in the data should be propagated into the estimates.

Overcoming these challenges will mean developing coherent, simulation-based estimates of changing human populations from fragmentary available data.

Introductory presentation (30 minutes)

- Background.
- Data and constraints in the overall model.
- The existing 10-year simulation of population and migration; scaling it to fit data.
- Key task: solving a one-region model for population and migration.

Questions and brainstorming (30 minutes)

Summary and next steps (15 minutes)

Potential questions:

Should the simulation work backward in time (1900 to 1650), forward in time (1650 to 1900), or both?

Should the analysis be *modular*, treating each sub-region and time period separately and aggregating the results, or should it be *systemic*, seeking an overall solution to the interactions of population and migration change across time and space?