

# Slave Trades, African Demography, and Economic History

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African Economic History Course, 23 February 2022

**Website:** <http://patrickmanningworldhistorian.com> . With articles on African economic history, demography and other topics.

**Books including:**

- *Slavery, Colonialism, and Economic Growth in Dahomey, 1640 – 1960* (1982)
- *Slavery and African Life* (Cambridge UP, 1990)

**In process:**

- *Homeland: African Population and Migration Through Time*

# 1. African Economic History Cannot Advance Without Better Demography, pre-1950.

- **Africa since 1950.** Populations and vital rates are known in detail, thanks especially to United Nations analysis.
- **Africa, 1890 – 1950.** Estimates are based on partial colonial data, but coherent vital rates and population data are not yet established.
- **Pre-1890 Africa.** No clear basis exists for estimating vital rates or population size or growth rate. More research and new methods are required.

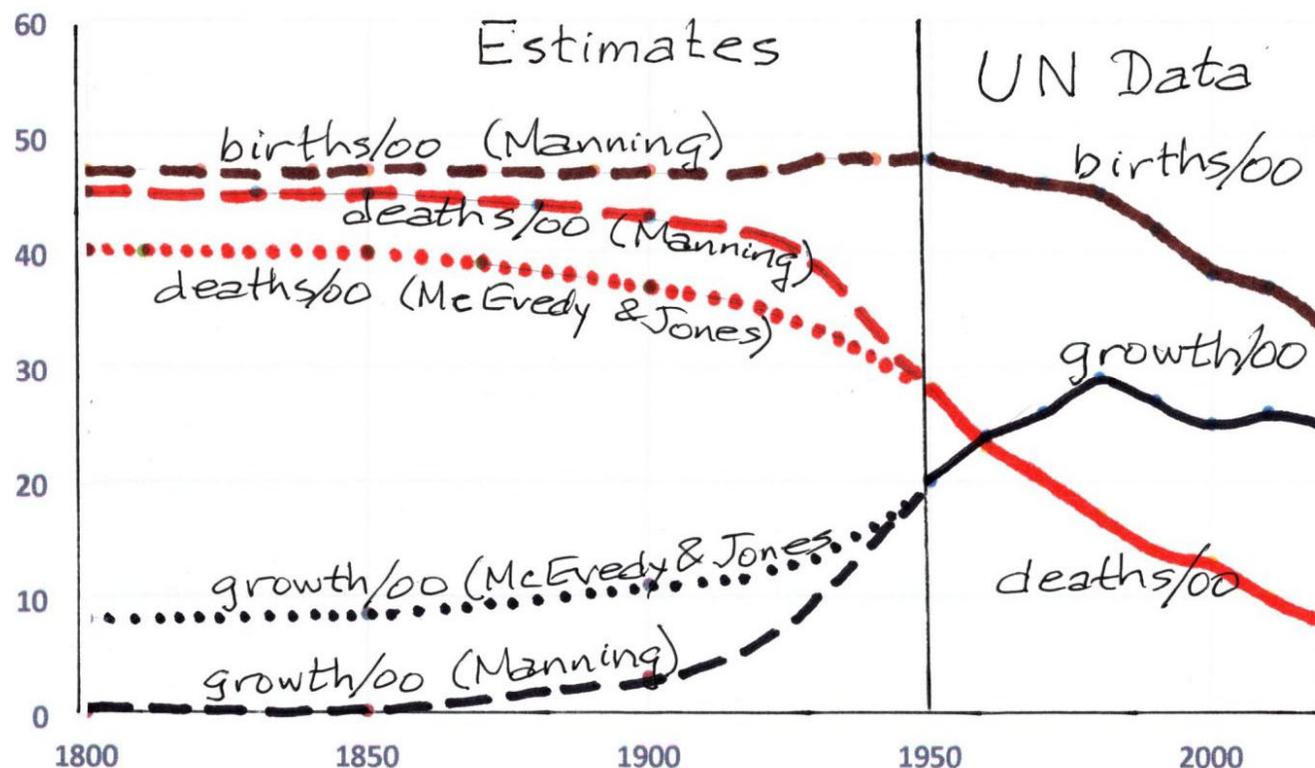
## 2. Rates of Birth, Death, Growth, and Migration, 1800 – 2020

To show the need for demography in African economic history

Estimates of pre-1950 vital rates and growth diverge widely -- as much as 1% per year or 10 per thousand per year.

Compounding a 1% divergence over 70 years leads to a 100% divergence.

Assuming high growth rates despite slave trade and malaria, McEvedy & Jones (1978) put African population at under 50 million for 1500.

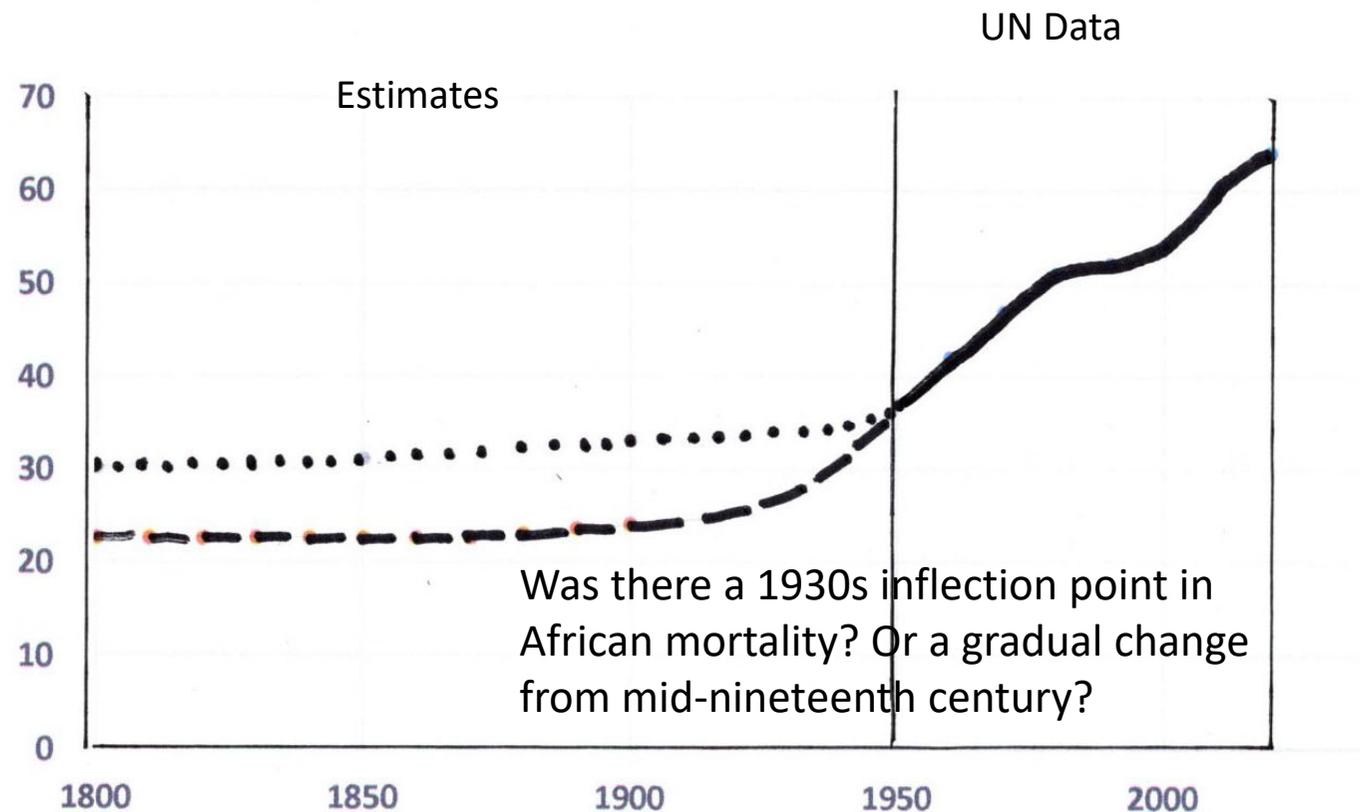


# African Expectation of Life at Birth in Years, before and after 1950

Huge transformations in Africa's family and population structure – today the children survive.

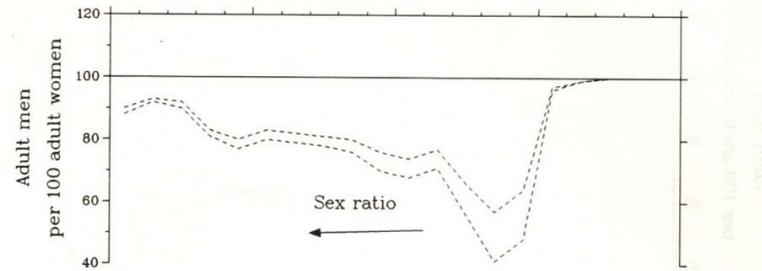
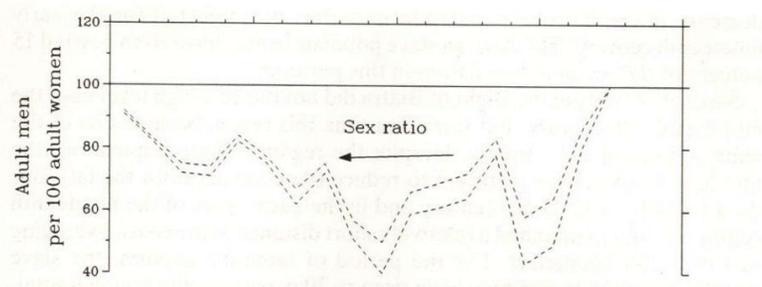
1950 – 15% urban.  
Today – near 50%,  
in a population over  
5 times greater.

From 2050, Africa will  
have over 50% of world  
population growth

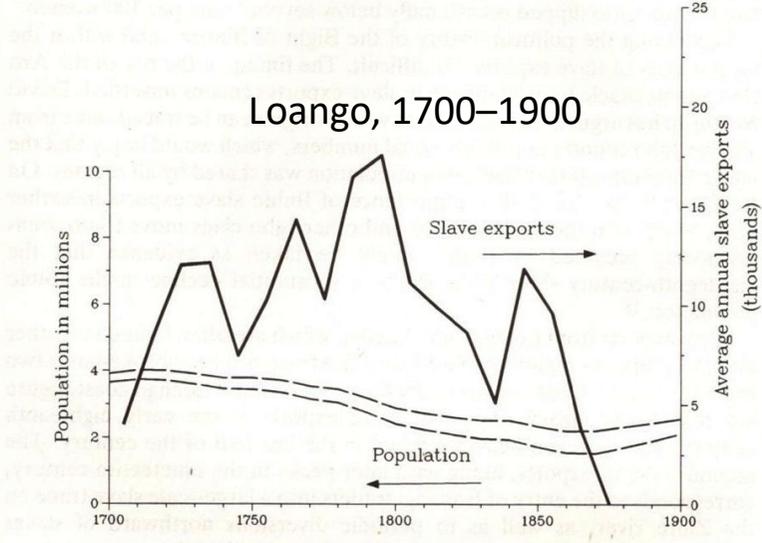


### 3. A Neglected Issue: Gender Ratios in the Slave-trade Era

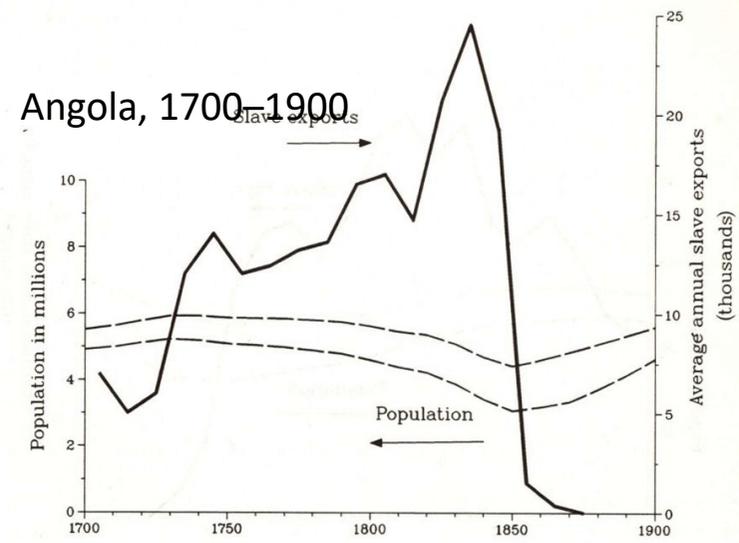
Shortage of Adult Males



Captive Exports



Angola, 1700–1900



Population Decline

- 1750 – 1850, adult sex ratio 80 M/100 F, or worse. Updates of these 1990 estimates are more severe.
- Vansina (1990), Miller (1996) each claimed no population decline for Central Africa.
- Bights of Benin and Biafra, Gold Coast, Mozambique had parallel gender imbalance and pop decline.

## 4. Efforts to Simulate African Population Change

### Initial insight (1980):

1. **Begin with 1900 populations** (naïvely using colonial population figures for 1900).
2. Estimate **captive exports** as variables over time, link them to continental populations.
3. Assume **parameters** (by age and sex): **population rates** of birth and death; **captive rates** for capture, captive birth, death, and migration in Africa and overseas.
4. Simulate and calculate African population size (and diaspora), free and slave status, by decade from 1650 to 1900, based on a **1982 model** using variables and parameters above. Before 1800, continental captives were a by-product of export captives; African totals near to export totals. **Vital rates were assumed – the idea was that users adjusted them and simulate.**

**Results:** Widespread population decline 1750-1850, sharp gender disparities. **For overseas exports after 1800:** estimates exist for (1) declining captive export from West Africa and (2) expanding captive export for Central, East, and Saharan Africa. **Continental enslavement** expanded widely, 1780 to 1880 – but no coherent estimates exist.

These results were published 1990 in *Slavery and African Life*. Oversimplified analysis but robust results. Little discussion, no new involvement.

# Simulating African Population (continued)

## Research 1990 – 2015:

1. **Revised 1990 model** (created under a Guggenheim Fellowship at UPenn) shows more severe results of captive export.
2. **Need to link one decade's analysis to the next** – required Bayesian analysis within simulation program.
3. Analyze **continental populations**, need to simulate for every region of the continent, coastal and interior; project continental populations back from 1950 to 1900 for 70 regions to be simulated separately.
4. Either start from 1650 and project forward; or work back from 1890: **Multiple runs to get system solution.**

**Adding variables** to the analysis **requires adding parameters** of known or assumed value, to obtain a solution.

From 2010, **problem of post-1800 continental enslavement** at high but unknown rates– I needed to set high and low estimates of enslavement by decade as parameters.

From 2014, **problem of free/slave proportion parameters** for early colonial years. Errors in this version of simulation brought work to a halt as I retired in 2016.

It's a big array of population and migration over time. **Solution is feasible**, given enough credible assumptions. The results of simulation are hypotheses to be explored empirically. We need more data, new methods, more comparisons.

**Tentative population estimates, published 2014.** I still think the African continent had 140 million +/- 10 from 1650 to 1900, slow growth after 1860, and rapid growth from 1930. For now, simulation is on pause.

I also think African demographic and labor/land estimates need comparisons with other regions and subregions, rather than categorically list Africa as short on labor. I think the notion of low African population density has an ideological dimension.

## 5. Routes of Atlantic Slave Trade: Critique Existing Datasets

Slave trade is part of the story but is not so tightly tied to vital rates. Work proceeded from 2014.

- **Slave Voyages** (Eltis, [www.slavevoyages.org](http://www.slavevoyages.org)) – Estimates total captive flow, computing 155 specific types of situations, each with multiple cases. No estimate of error margin. Widely quoted, rarely analyzed.
- **Missing data:** 33,000 voyages, of which 74% list routes  
Cargoes: 21% list embarkations; 42% list arrivals; 15% list both.

My group used Bayesian statistics. For an unknown parameter with an assumed distribution and some observations, a Bayesian estimator minimizes the loss of information on each observation. That is, for the best estimate of missing data and overall parameter, group the data.

- Bayesian 1 – estimate separately for departure and arrival, by region, by decade. 80 categories of estimates, error margins calculated: 5% higher volume estimate.
- Bayesian 2 – estimate for 40 routes (departure, mortality, arrival) for 200 years, assuming cargoes remain the same by route over time. Maximal estimate groups, error margins calculated: 10% higher volume estimate.

**Overall, the results give different perspectives on data, rather than a single, authorized summary.**

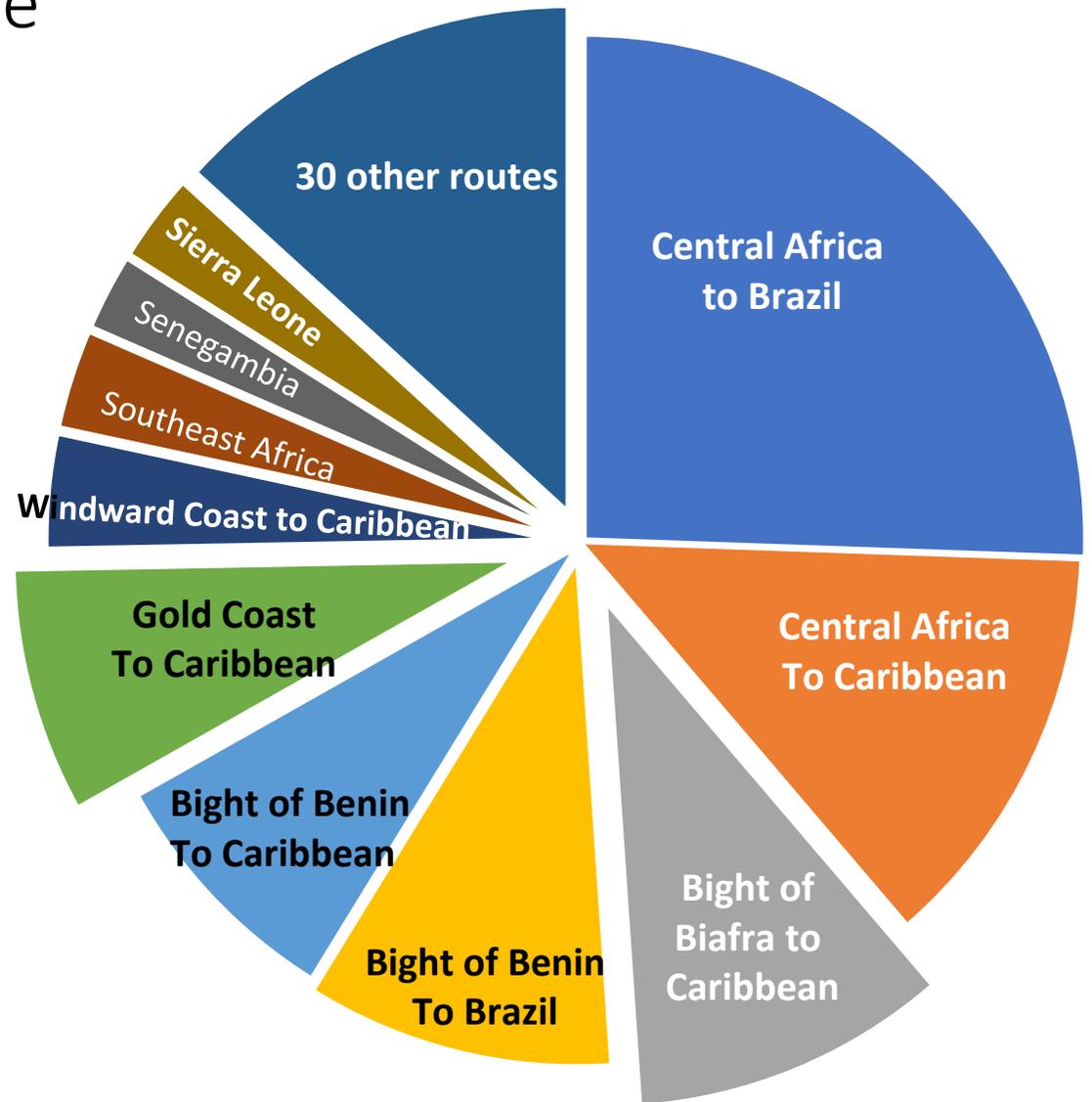
# Routes of Atlantic Slave Trade

What began as a statistical assumption became an interpretive hypothesis. Remarkable observation: **for each route, captives per voyage varied little, 1650-1850.**

We took that as an assumption, enabling us to combine voyages for 200 years for each route: 8 departure zones, 5 arrival zones, 40 routes.

We recognized that the stability of each route's cargo size came not just from shippers but from harbors, disease, nutrition, society, economy on each coast and weather in between.

Change in slave trade came mainly from numbers and allocation of voyages among routes. Atlantic mortality declined with time **not** because of greater efficiency, but because voyages switched to low-mortality routes.

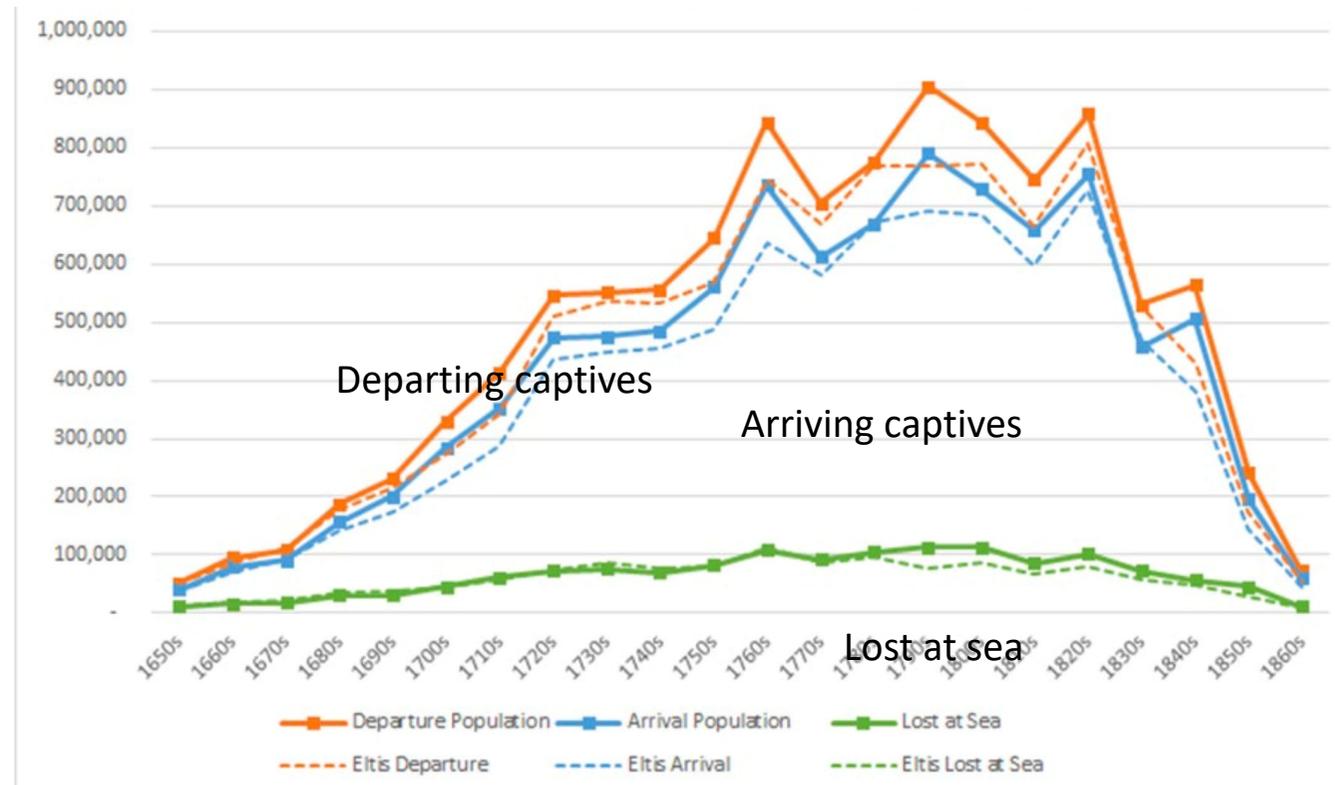


# Slave Routes (Bayesian) Estimate of Atlantic Slave Trade Volume

**Bayesian 2 estimates** – solid lines

**Eltis estimates** – dotted lines

Overall, Bayesian 2 estimates are 10% above Eltis, show different distribution.

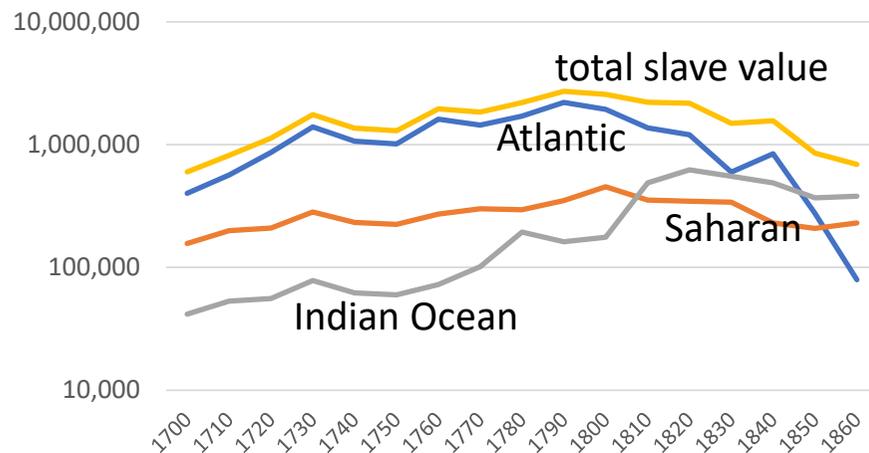


Online archive of my research: [African Population and Migration Dataverse](https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/4WQ1IP), at Harvard Dataverse. For an introduction, see <https://doi.org/10.7910/DVN/4WQ1IP>.

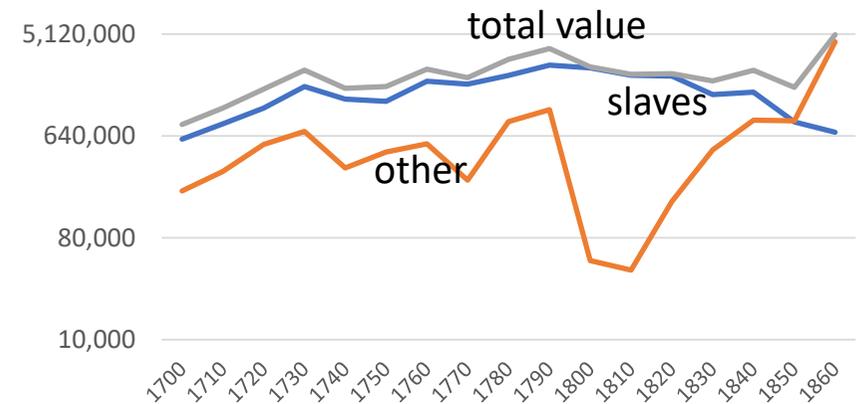
I seek two skilled R-language programmers to work for one year, to complete the simulation of African historical population. Contact [pmanning@pitt.edu](mailto:pmanning@pitt.edu).

## 6. Value of African Slave Exports

Value of Sub-Saharan African Exports  
In 1913 Pounds Sterling, by region (1700 – 1860)



Sub-Saharan Africa Annual Export Value  
In 1913 Pounds Sterling (1700 – 1860)



- Updated values will change with data on slaves, commodity sales, prices.
- Gold exports exceeded value of slave exports to 1650; is gold fully included here?
- 19<sup>th</sup>-century decline in slave values is partly because of declining slave prices.
- Which prices to use for slaves and other commodities – on coast, in interior, on board?
- From Manning, *Cambridge Economic History of the Modern World*, vol. 1, pp. 246 – 264.

## 7. 19<sup>th</sup>-Century Enslavement in Africa

”**Second slavery**,” a term for flourishing slavery in Brazil, Cuba, and U.S., 1810–1860s.

- At the same time, the peak of enslavement in Africa and Southeast Asia.
- Was this capitalism? Yes and no. Was it a **wider second slavery**? Surely.
- Expansion in continental enslavement. Estimate 10-20 million in slavery in Africa, c. 1840-1870. The largest enslaved population anywhere, ever. A massive change over 2-3 centuries.
- Large-scale African enslavement, including: Merina, Sakalava, Swahili, Bunyoro, Nilotic Sudan, Central Savanna, Western Savanna, coastal ‘West Africa.
  - A. Slavery and capitalism – West African oil palm, Senegambian peanuts, Zanzibar cloves,
  - B. Slavery and elite service: Merina, Bunyoro, Sudan, Central Savanna, Western Savanna
- Manning, Patrick. 2021. “The ‘Second Slavery’ in Africa: Migration and Political Economy in the Nineteenth Century.” In Dale Tomich and Paul Lovejoy, eds. *The Atlantic and Africa: The Second Slavery and Beyond*. (State University of New York Press), 203–215. Available in the [African Population and Migration Dataverse](#).
- The “reversal of fortune” analysis, comparing 18<sup>th</sup> to 21<sup>st</sup> centuries, could be updated to include a path through the peak moment of African enslavement, also accounting for how different it was from 18<sup>th</sup>-century African slavery.

## 8. Did Ex-slaves Become Peasants? 1880 – 1930.

- From 10 to 20 million enslaved persons in Africa as late as 1880.
- An unknown portion escaped slavery or renegotiated terms of service, 1880–1930.
- How many were able to get title to or steady usage of land? Millions?
- One case on the Kenya coast: Fred Cooper, *From Slaves to Squatters* (1997)
- Compare to post-slavery instances of peasantization in the Americas:  
Haiti, Jamaica, Brazil, USA, Venezuela, Colombia: varying experiences..
- Africa: consider the correlation of slave escape to export growth. In Bight of Benin (oil palm), Biafra (oil palm), Gold Coast (cocoa), Côte d'Ivoire (cocoa), Senegambia (peanuts), N. Nigeria (peanuts), Sudan (cotton), Uganda (cotton). Others: Mozambique, Angola, Congo, Tanzania, Mali?
- Compare with Burma, Thailand etc., same time. Rice exports rose with the end of slavery.

## 9. Conclusions: Demography in African Economic History

### A. Interpretation: when were the shifts in vital rates, migration, and growth?

- To study this question: Researchers need to explore and learn the African demographic system and its historical transformations.
- In detail: Researchers need to study local data critically and compare to wider rates.
- Reminder: overestimating past population growth and underestimating population both yield overestimates of past African GDP/capita.

### B. Recommendations on creation and use of datasets

- For pre-1950 statistics on African populations and per-capita variables, **tolerances and error margins** must accompany estimates. (Same is wise for other variables.)
- African economic history needs **an institutional structure to update** and publish revised populations, per-capita statistics, and error margins – to revise earlier estimates.
- Reminder: all per-capita figures are as weak as their population data.

*Thank you!*

