

Data Sources for Population Studies: Knowing about births, deaths and migration

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Outline

- Why population data?
- Registry data and census data
- National population data systems
 - Registry and census data (UK and Nigeria)
 - Population registers (Sweden and the Netherlands)
- New population data systems?

Why population data?

- In the beginning so states knew who to tax and how many people could fight in armies and navies
- To keep track of dangerous minorities – eg religious dissenters
- Now, so public services can be planned, demand forecasted, age structures understood
- The state likes to count/and needs to count its population, (and this can be seen as intrusive), but people also need to be counted
- There is a right to be visible and not ignored so people are not excluded and their needs met
- Population data underpins many policy and research activities

Registry data in the UK (births and deaths)

- These data are generated by registrations
- Generally, registries have grown in coverage and accuracy through time
- Roots are often local and ecclesiastical
- In England, Thomas Cromwell, instructed parishes to register births and deaths in 1538
- Central state registration only from 1837 after 1836 Registration Act
- States were very often 'in the dark' about population numbers, ages, and the conditions of the population
- This led to the first UK Census in 1801 – how many people and how well off? Context of Napoleonic wars versus France

Registry data elsewhere

- Some countries were further ahead of the UK
- Iceland – population information from census appears in early 18th Century
- Sweden – registration of births, deaths, and changes of parish by the established Lutheran church from the 18th Century; absolutist monarchy that fought a lot of wars and was an 18th Century superpower; first census was in 1749; Statistics Sweden founded 1858
- On the other hand, in weaker states in other world areas (we'll look at Nigeria later as an example), civil registration is often incomplete, and censuses are highly contested
- However, by their nature, births and deaths are easy to count despite some states' patchy performance

Registry data on births and deaths

- People are only born once, and they only die once so these events are easy to count (unless you're James Bond:

<https://www.youtube.com/watch?v=hs8uYxTJ530>)



- But migration can be measured with registry data but this is far more difficult
- Many national population data systems combine registry and census data to measure
- Other approaches – population registers

Registry data on migration

- Data on migration is inherently more complex because it can (and does) happen more than once
- It can be defined as an event
- Or it can be defined as a transition between two places over a defined time period
- Different national statistical agencies use one or the other and sometimes both
- These complexities make it difficult to make robust international comparisons or sometimes to compare through time robustly
- GP records in the UK and NHS data can be used to measure migration between censuses as events and/or transitions

Registry data on migration

- Census-based systems tend to record transitions between two places (eg regions) over a given time period (in the UK 10 years or the year before the census)
- Someone who had changed address 4 times between 2011 and 2021 might just show up in Place A in 2011 and Place B in 2021 – one transition – and other moves hidden
- If they just moved within a region (eg did not make a place-to-place transition) it might look like they had not moved at all
- The periods over which transitions are made vary (one year, five years, ten years between countries)
- The size and number of regions (what is inter-regional in UK might be within-state in the USA)

National population data systems: The UK

- Combines census and vital events data
- Civil registration (since 1837) and census (since 1801)
- Census generally uncontroversial – every 10 years except 1941
- Separate but coordinated censuses across UK countries
- Has collected more data at each census
- Benchmark for population statistics
- At present, gaps and data for years between the census on births, deaths and migration come from administrative sources
 - 100% registration of births and deaths
 - Internal migration data from NHSCR – but note lags...
 - Other admin sources

National population data systems: The UK

- <https://www.censusjobs.co.uk/media/0qzfauyp/history-of-the-census-transcript.pdf>
- <https://www.thehistorypress.co.uk/articles/counting-the-united-kingdom-the-census-from-1086-to-now/>
- Questions about the future of the census – costs and efficiency so whether there is one in 2031 or how it will be organised is a question
- Also, timeliness and how it matches society's needs
- More admin data? More surveys? More big data like phones?
- Pandemic increased need for timely population data

National data systems: Nigeria

- Nigeria has a much less-well developed population data system than the UK
- The census is infrequent; controversial; because of ethnic and religious numbers = politics and power
- The results are contested; they may be unreliable
- <https://theconversation.com/nigerias-census-has-always-been-tricky-why-this-must-change-150391#:~:text=The%201991%20census%20published%20a,estimate%20was%20140%20million%20people.>
- Censuses must be open, transparent and accountable to aid good governance and democracy
- People have a right to be counted as they are citizens – otherwise they are invisible to government

National data systems: Nigeria

- There are greater problems with the registration vital events (births and deaths)
- Fewer than 10% of births are registered in some parts of the country
- There are differences in registration by state, birth attendant type, income, and education
- <https://socialprotection.org/discover/blog/birth-registration-among-children-under-five-nigeria-coverage-determinants-and-social>
- The 100% registration of births is a development goal; it is vital for health (eg vaccination), the rights of children (eg to education and to avoiding child labour)

National data systems: Nigeria

- No surprise that death registration is also incomplete
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7783065/>
- Only about one-in-twelve deaths are registered
- Once again, there is a requirement for this information to meet development goals
 - Public health
 - Disease prevention
 - Treatment
 - Vaccination
 - Good governance
- A want greatly to be deplored

National population data systems: Sweden (and the Netherlands)

- The current Swedish and the Dutch systems are population registers
- There is Personal Identification Number (PIN)
- Swedish system is run by the Tax Agency and continues a long tradition of population statistics
- Enrolment in the register is vital to access services and to vote (eg right and an obligation) and is closely entwined with citizenship
- Address changes are supposed to be notified within one week of a move
- Supposed to register leaving or entering Sweden
- All births and deaths are registered
- Different registers all linking on PIN

National population data systems: Sweden (and the Netherlands)

- These registers include education, housing, benefits, health
- The data is updated annually (eg not 10 years like the Census) and provides a continually evolving picture of the country
- Extracts (with various permissions) are made available to academics (eg PLACE in Uppsala)

New population data systems?

- Covid highlighted the need for timely accurate census data
- Need to know seasonal and daily populations
- People live more varied and complex lives – more mobile, transient, home working, 2nd homes
- Censuses cost a lot
- So...2021 Census might be the last (or it might not....)
- But either way, greater use will be made of administrative data (health cards, school census, benefits) and other sources such as consumer data (loyalty cards) and mobile phone data to understand more about the population in real time