

Longitudinal Data Analysis for Social Science Researchers

Cohort Studies

www.longitudinal.stir.ac.uk



Longitudinal Data –

Time Series – Macro Level Data

Data that tends to consist of one or a few variables commonly measured on just one or a few cases (e.g. a country or the EU states) on at least ten occasions.

- Unemployment rates, RPI, Share Prices

Longitudinal Studies – Micro Level

Longitudinal studies in the social sciences tend to consist of

- many cases (usually thousands)
- large number of variables
- fewer occasions (e.g. household contacted yearly)

A Panel

A particular set of respondents are questioned (or measured) repeatedly.

The great sociologist Paul H. Lazarsfeld coined this term.

A Cohort Study

Cohort studies are concerned with charting the development of groups from a particular time point.

A special form of panel study in my view.

Other examples of types of cohort studies

- Offenders cohorts

- The Finnish Twin Cohort Study

(A sample of like-sexed twin pairs born before 1958 and alive in 1975)

Two main examples of types of cohort studies

- Age Cohort - defined by an age group.
[Youth Cohort Study of England & Wales]
[qualified nurses survey]
[retirement study]
- Birth Cohorts - people born at a certain time.
[1946, 1958 & 1970 birth cohorts; Millennium]

STUDY DESIGNS

Prospective Design

TIME



e.g. The birth cohort studies.

Retrospective Design



Individuals are chosen because of some outcome and data are collected retrospectively.

e.g. Work life histories collected from the recently retired.

Mixed Retrospective and Prospective Design

10 year olds might be chosen as part of a retrospective study and then followed prospectively until they reach the end of compulsory education.

The Birth Cohort Studies

- Britain has extremely rich cohort study resources.
- Three comparable studies.
- Fully representative samples of the British population.
- Based on one week's births approximately 17,000 babies.
- Followed up from birth into adulthood.

The Birth Cohort Studies

- 1946 The MRC National Survey of Health and Development (NSHD) www.nshd.mrc.ac.uk
- 1958 The National Child Development Study (NCDS) www.cls.ioe.ac.uk
- 1970 The 1970 British Cohort Study (BCS70) www.cls.ioe.ac.uk

Millennium Cohort Study

www.cls.ioe.ac.uk

A birth cohort study with a more complex design than the older British birth cohort studies.

Millennium Cohort Study

- The sample design of the MCS differs from that of its predecessors (NCDS & BCS70) in that it took a whole year's births, and covers the whole of the United Kingdom for the first time.

Millennium Cohort Study

- The sample population for the study was drawn from all live births in the UK over 12 months from 1 September 2000 in England & Wales and 1 December 2000 in Scotland & Northern Ireland.
- The sample was selected from a random sample of electoral wards, disproportionately stratified to ensure adequate representation of all four UK countries, deprived areas and areas with high concentrations of Black and Asian families.

Youth Cohort Study of England & Wales (YCS)

- Major Longitudinal Study
- Began in the Mid 1980s
- Designed to monitor behaviour of young people as they reach the minimum school leaving age and either stay on in education or enter the labour market.

YCS Collects Information on

- Experiences of Education (qualifications)
- Employment & Training
- Aspirations
- Family
- Personal Circumstances

Structure of YCS

Study contacts a sample from an academic year group (cohort) in the spring following completion of compulsory education

The sample is designed to be representative of all Year 11 pupils in England & Wales

Sample are tracked for 3 (sometimes 4) waves (called Sweeps) of data collection

YCS Strengths

- Nationally representative
- Large sample size
- Detailed measures (e.g. qualifications)
- Possible to compare cohorts

1990s Cohorts of the YCS

YCS Cohort	YEAR										
	91	92	93	94	95	96	97	98	99	00	01
5	1	2	3								
6		1	2	3,4a							
7				1		2					
8						1		2		3a	
9									1	2	3,4a

Sweeps of data collection usually take place in the spring (e.g. Easter). An autumn sweep is denoted “a”. In Cohort 6 and Cohort 9 there were two sweeps of data collections for the same cohort both in spring and autumn of the same calendar year.

Conclusions

- The cohort is usually based on some specific characteristic.
- Cohort studies are good for analysing individual social change (or stability).
- A cohort is a special form of panel study.
- Therefore panel data analysis methods are also appropriate for analysing cohort studies.