

ESDS Government Newsletter

Analysing Change Over Time

In October 2006, ESDS Government hosted a one-day introductory workshop on analysing change over time. The event covered common technical issues confronted with analysing change over time, providing research examples across a wide range of methods and data.

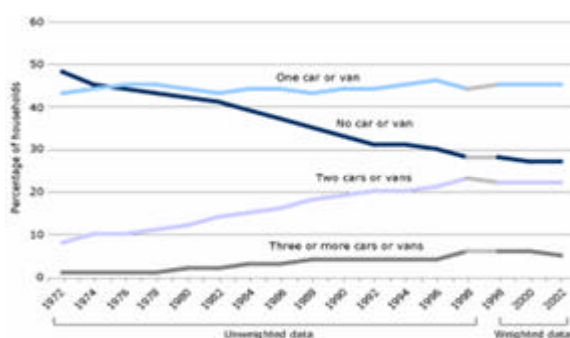
A substantial proportion of ESDS government datasets offer repeated cross-sectional data where a new sample of respondents is obtained for successive surveys in a series (figure 1). Vanessa Higgins (ESDS Government) contrasted this type of data with panel (or 'true longitudinal') data, where a survey is repeated in consecutive waves for the same sample of respondents. Whereas repeated cross-sectional data can be used to consider aggregate change for (sub-) populations over time, panel data is used to consider individual level change.

Figure 1

| Survey | Repeated cross-sectional | Longitudinal element |
|---------|--------------------------|----------------------|
| LFS | v | 1992 onwards |
| GHS | v | 2005 onwards |
| FRS | v | |
| EFS | v | |
| TUS | 2000 (2005 in Omnibus) | |
| BSAS | v | 1984-1986 |
| Omnibus | v (modules) | |
| APS | v | |
| NTS | v | |
| BCS | v | |
| HSE | v | |
| SEH | v | |

An example of how one might use cross-sectional data to look at change over time is illustrated in Figure 2 where successive years of the General Household Survey (GHS) are used to examine changes in overall car ownership in the general population. Alternatively, if you wished to consider how car ownership differs for individual families over time (say in relation to changes in household income) panel data would be more appropriate. Although the ability to consider individual level change gives an added strength to panel surveys, such data can be expensive to collect and is often hampered by missing data problems caused by sample attrition.

Figure 2: Households with access to a car or van: General Household Survey 1972 to 2002



When looking at patterns of change over time, it is often necessary to consider whether the coding of variables have changed within the survey series. In some cases it will be necessary to re-code variables to make them consistent. Reza Afkhami (CCSR) outlined resources on the ESDS web site for aiding the construction of consistent variables over time (see www.esds.ac.uk/government/dv/). These are currently offered for selected variables for the Labour Force Survey (LFS) and the GHS.

As well as repeated cross-sectional surveys, technical issues confronted when using data from different surveys to look at change over time were also considered. Different surveys are likely to have dissimilar sampling strategies and therefore different sampling error structures. Sandra Short (ONS) discussed practicalities involved in using the 2000/01 Time Use Survey with the 2005 Omnibus Survey to consider changes in individual time use over time. Paula Devine (ARK), presented work undertaken to combine 17 datasets to look at social attitude change in Northern Ireland (1989-2004). In the latter study, combining datasets also aided the boosting of samples sizes for small sub-populations. Returning to issues around the use of repeated cross-sectional datasets, Angela Dale (CCSR) similarly showed how pooling cross-sectional data can increase samples sizes for smaller sub-populations in ethnicity research.

Pseudo Cohort Analysis offers another prospect for repeated cross-sectional data. Whereas birth cohort studies track a group of people born on a specific date over time, pseudo cohort data constructs cohorts on the basis of age groups from repeated cross-sectional data. Specific age groups in a given survey year can be considered to be represented by samples of older age groups in subsequent years. For example, respondents aged 20-24 years in a repeated cross-sectional survey conducted in 1980 are represented by those aged 30-34 years in a 1990 survey. This information can be used to track the average experiences of different cohorts over time. (continued on page 2)

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ESDS Government

Analysing Change Over Time (Continued from front page)

Melissa Coulthard (Office for National Statistics) presented work conducted by ONS to create a pseudo-cohort dataset from the GHS, using the research example of how trends in smoking behaviour have changed between cohorts.

Currently the two-quarter and five-quarter Labour Force Survey datasets present some of the only 'true longitudinal' panel data hosted by ESDS government. These datasets contain 'flow' variables that track transitions in labour market status between different quarters. William Barnes (ONS) summarised the longitudinal aspects of the LFS, reviewing issues of reporting bias that may influence the accuracy of reported transitions. In terms of future developments, from 2005 onwards the GHS contains a longitudinal element (GHS-L). This will offer up to four years of panel data, further broadening current opportunities for panel analysis.

The slides from the workshop are available from the ESDS Government web site at www.ccsr.ac.uk/esds/events/past.shtml. A user guide produced as an outcome from the day will be available in the coming months.

Using the British Crime Survey to look at property crime victimisation

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The British Crime Survey (BCS) provides valuable information on the victimisation experiences of individuals and households in England and Wales along with socioeconomic and demographic data. As the BCS (unlike data collected by the police) collects socioeconomic and demographic data on both victims and non-victims the data from this survey can be used to predict the chances of different types of households becoming a victim of a property crime (burglary, theft and criminal damage) and so it can be determined what types of households are more at risk of falling victim to these offences.

Research has shown that the chance of a household becoming a victim of a property crime (burglary, theft, criminal damage) may depend on both the characteristics of the household and property (e.g. household composition, income, type of housing, presence of security measures) and the type of area in which the household lives (e.g. in terms of population size, socioeconomic and demographic structure of the local population).

Previous analyses have indicated that both the household and the area in which a household is located are both important in understanding the distribution of property crime. In the context of the recent growth and development of multilevel modelling methods, the aim of this project is to build on previous research, which has traditionally used fixed effects models, by using multilevel modelling methods to investigate the nature and extent of household and area level variations in property crime.

Multilevel modelling allows researchers to take into account the multilevel structure of the population covered by the BCS and the fact that people cluster together in terms of their characteristics in the population and that variation in victimisation risk can be measured at different levels contained within the data (e.g. household, local area and region).

By modelling the effect of household characteristics whilst controlling for the context in which households are situated (type of area) I will assess the relative contribution of area and household type to household victimisation chances. The knowledge of the extent to which property crime victimisation is clustered within particular neighbourhoods and socio-demographic groups will be important for policy makers and provide useful information in order to allocate crime prevention resources. This research will demonstrate how a complex interaction of both the characteristics of households and the areas in which they are located, interrelate and contribute to differing victimisation risks of households in England and Wales.

I am using data from several sweeps of the British Crime Survey (BCS) 1998, 2000 and 2001/02. As the information collected in each of the three sweeps of these surveys has remained very consistent it is ideal for use in seeing how patterns in victimisation have changed over time. Using data from different time points I hope to determine whether the same areas are at the highest and lowest risks of property crime over time. This will help determine whether it is important to consider area type in the prediction and prevention of property crime victimisation. Also, by using a series of multilevel models I will examine if the socioeconomic and demographic household predictors change over time.

Focus on a researcher

Would you like to be featured in our next newsletter to report the research you are carrying out using one or more of the ESDS Government surveys? If so, please send an email to vanessa.higgins@manchester.ac.uk.

Omnibus Survey modules

The Omnibus survey includes a large collection of eclectic modules covering a wide variety of topic areas. While these modules are varied and informative, there has previously been no easy way to find out when they were included and when/if they were repeated. ESDS Government has recently created a topic based list of all the modules which shows when each was used. Modules have been grouped into the following 8 categories:

- * Attitudes and Public Opinion
- * Crime and the Legal System
- * Employment, Education and Training
- * Family life, Housing and Neighbourhoods
- * Health and Disability
- * Leisure, Spending and Transport
- * Personal Finance and Debt
- * Smoking and Alcohol

For more information go to www.esds.ac.uk/government/omnibus/modules.

Integrated Household Survey

In conjunction with ONS, ESDS Government has organised a consultation meeting at the Royal Statistical Society, London on 29 March 2007 for the proposed Integrated Household Survey (IHS) which will replace the GHS, LFS, Expenditure and Food Survey and Omnibus Surveys in 2008. The consultation meeting will include an update from ONS on IHS content and progress and will involve discussion on the issue of maintaining continuity over time. For more information and ONS updates go to www.statistics.gov.uk/CCI/nugget.asp?ID=936&Pos=&ColRank=1&Rank=208.

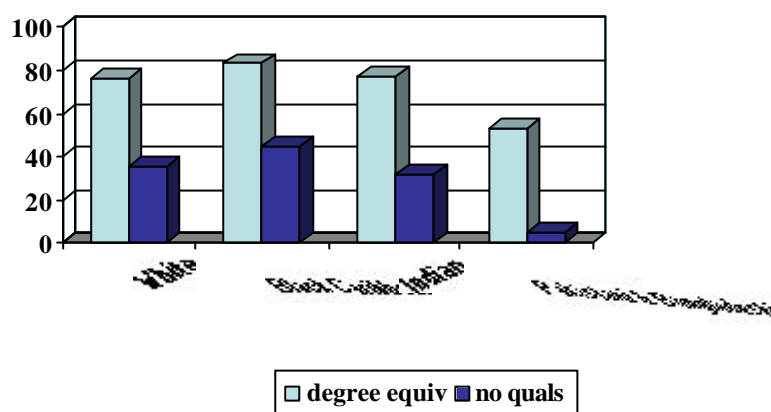
Using government datasets to look at ethnicity

In the UK a range of surveys collect information on ethnicity and such information is routinely collected for a range of administration purposes. At both local and national levels this information is vital in building a picture of the circumstances of ethnic minority populations over time in order to ensure effective development of policy.

ESDS Government has provided an introductory guide for ethnicity which reviews the main datasets on ethnicity and gives examples of the type of evidence that can be gleaned from them. The guide also considers some of the problematic issues of sample size, categorization and change over time. As ethnicity changes, ensuring comparable measurement over time is of primary importance if the circumstances of existing and new ethnicities are to be mapped accurately. The guide contains sections about ethnicity definitions, ethnicity classifications over time, ethnic diversity in Census and surveys, accessing microdata from the large-scale social surveys and many other related useful links. You can download the guide at www.esds.ac.uk/government/resources/themeguides.asp.

The government surveys have been widely used to examine ethnicity. For example, Dale et al have used the Labour Force Survey to look at ethnic differences in women's economic activity in Britain. The following chart illustrates the percentage of women who are economically active and partnered with children under the age of 5 for different ethnic groups. You can find out more about this research at www.ccsr.ac.uk/esds/events/2006-11-07/slides/dale.ppt.

Percentage of women economically active and partnered with children under 5, Labour Force Survey, 1992-2003.



Source: Dale, A., Lindley, J. and Dex, S. (2006) A Life-Course Perspective on Ethnic Differences in Women's Economic Activity in Britain *European Sociological Review*, Volume 22, 4 or online at www.esr.oxfordjournals.org

You can find out about other published research which has used the government surveys to examine ethnicity (or any other topic of interest) by searching the publications database on the ESDS web site at www.esds.ac.uk/government/citations/. Also, when users download data they are offered the opportunity to share their project information through our usage database. You can search the usage database for your topic of interest at www.esds.ac.uk/government/usage/.

Other ESDS Government resources related to ethnicity include a dedicated theme page and a teaching dataset available at www.esds.ac.uk/government/themes/ethnicity/index.asp and www.esds.ac.uk/findingdata/snDescription.asp?sn=5491.

Question Bank/Survey Link Scheme news

In October 2006 the 2nd edition of the Qb Newsletter was published online by the Qb/SLS team. The Newsletter features information on newly published surveys, topics and future development work together with newly published dates for the Survey Link Scheme workshops in 2007. Further information can be found on: <http://qb.soc.surrey.ac.uk/resources/newsletters/Oct06qbnewsletter.html>.



The Qb web site is continually being updated with newly available surveys. Since February 2006 eight new surveys have been added, the most recent being:

1. Offending, Crime and Justice Survey - 2003
2. Continuous Household Survey (NI) - 2001/2, 2002/3, 2003/4, 2004/5
3. Northern Ireland Life & Times Survey - 2005
4. International Passenger Survey - 2004, 2005
5. People, Families and Communities Survey - 2003, 2005

To find out more visit <http://qb.soc.surrey.ac.uk/docs/news.htm>.

We are currently processing the 2003, 2004 and 2005 British Crime Survey questionnaires which should be on the site in late November 2006. As part of our ongoing work on the Topics pages we have recently introduced a new topic area Social Capital, this takes the number of topics to 22.

As 2006 draws to an end, the Survey Link Scheme has announced 11 workshop dates for 2007. These dates can be found on: <http://qb.soc.surrey.ac.uk/workshops/workshops.htm>.

To download the updated EFS datasets go to www.data-archive.ac.uk/findingData/efsTitles.asp.

The SLS web pages have been redesigned and now offer an online form for workshop bookings and further information about the scheme. To book for one of these FREE 2007 workshops please visit <http://qb.soc.surrey.ac.uk/apply/apply.htm>.

Best wishes

Julie Lamb, Question Bank Manager

Forthcoming events from ESDS Government

Labour Force Survey User Meeting, 18 January 2007, London
General Household Survey User Meeting, 29 March 2007 (AM), London
Integrated Household Survey Consultation Meeting, 29 March 2007 (PM), London
Family Resources Survey User Meeting, 23 April 2007, London
ESDS Introductory Workshop, Spring 2007, Cardiff (date to be confirmed)
Health Surveys User Meeting, Summer 2007, London (date to be confirmed)

Look out for further information about each of these events at www.ccsr.ac.uk/esds/events/

Other dates for your diary:

Statistics User Forum Workshop, 18 January 2007, London
British Sociological Association Conference, 12-14 April 2007, London
ESRC Festival of Social Science: www.esrc.ac.uk/ESRCInfoCentre/about/CI/events/FSS/

Events held in the past six months

British Crime Survey User Meeting, 5 December, London
ESDS Government Research Conference: Ethnic differences in labour market outcomes, social capital and health, 7 November, London
Introduction to government microdata: focus on ethnicity, 1 November, Bristol
Introductory workshop on analysis over time, 30 October, Manchester
Health Survey User Meeting, 5 July, London
An introduction to UK microdata - focus on ethnicity, 26 June, Surrey
Slides from these events are available from our 'past events' pages at www.ccsr.ac.uk/esds/events/past.shtml

ESDS Government resources

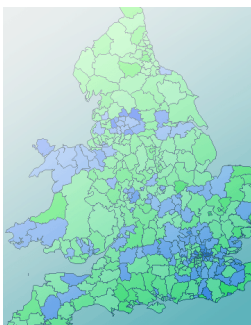
New resources from ESDS Government

Guide to Data Sources for Northern Ireland
Ethnicity: Introductory User Guide
Theme pages on ethnicity
Derived variables over time: date of birth for GHS; geography for early LFS datasets; education for the GHS
Teaching Dataset for Ethnicity: QLFS, June-August 2005

Updated/extended resources from ESDS Government

Guide to using SPSS for Windows
Guide to STATA
Guide to Weighting the Social Surveys
Guide to Data Sources for Scotland
Health: Introductory User Guide
Social capital: Introductory User Guide

All of these resources are available at www.esds.ac.uk/government/resources/



Useful links

List of terms and acronyms

<http://www.ccsr.ac.uk/esds/acronyms/>

Join our mailing lists

<http://www.ccsr.ac.uk/esds/join/>

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