

Using Stata at the Office for National Statistics: an overview

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About the Office for National Statistics (ONS)

- Government department that provides statistical and registration services.
- Responsible for producing a wide range of key economic and social statistics
- Builds and maintains data sources both for itself and for its business and research customers.
- It makes statistics available so that everyone can easily assess the state of the nation, the performance of government and their own position.

More about ONS

- Incorporates the General Register Office for England and Wales (GRO). The GRO is responsible for ensuring the registration of all births, marriages and deaths in England and Wales, and for maintaining a central archive dating back to 1837.
- Formed in 1996 with the merger of the Central Statistical Office (CSO) and Office of Population Censuses and Surveys (OPCS)
- National Statistician and Registrar General for England and Wales is Len Cook.

National Statistics

- Mostly ONS operates under the National Statistics framework
 - free from political interference
 - subject to the National Statistics Code of Practice
 - undergo regular quality assurance reviews
 - overseen by the Statistics Commission
- Other Government Departments also produce some specialist statistics under this framework
- More information at www.statistics.gov.uk

Systems in ONS

- Systems based on Common Software (SAS and Ingress on Unix servers)
- Each survey having its own analysis interface (usually to SAS)
- Published tables for National Accounts and other publications compiled using specialist Time Series Analysis software (WinCSDB). This handles, for example, seasonal adjustment using X11ARIMA program from Statistics Canada. Eviews is also used.

Key products

- StatBase® holds details of all products, data sets, etc and provides access to data online
- Time Series Data holds series from major publications
- Neighbourhood Statistics produce small area statistics - results from Census 2001 will appear here
- Outputs arranged by theme e.g. Economy; Commerce, Energy & Industry; Labour Market; etc.

Main products by theme

- Economy: National Accounts, Prices and measures of Inflation, Short Term Indicators
- Commerce, Energy & Industry: Industrial and Service Sector Statistics (from Annual Business Inquiry, Inter Departmental Business Register, etc).
- Labour Market: Regional and national Earnings and Employment Data, Unemployment Statistics

Stata in ONS: Which divisions use it

- Social Survey Division (with Methodology Group)
- Economics Division

Why Stata is used

- Econometric functions
- Survey functions
- Ease of use
- Quick to learn
- Collaboration with academic researchers using Stata

Using Stata: Social Survey Division

- Use Stata to calculate sampling errors for survey measures

Example:

- Get a measure of the proportion of people who smoke from the General Household Survey (GHS)
- Want to relate this to the population so calculate sampling error for the measure
- Need to take survey design into account (i.e. how the survey was clustered, stratified and weighted).
- Use `-svy-` commands in Stata to do this (`-svymean-` `-svytotal-` `-svyprop-`)

Using Stata: Economics Division

- Using Family Expenditure Survey microdata in Stata to analyse the weights and price indices of consumers price indices
- Micro analysing this in Stata because it can be used for bootstrapping
- Used extensively in work on hedonics. Dealing with quality changes in price indices.
 - A computer cost £1,000 last year and £1,000 this year. How to allow for this in producer prices?

Using Stata: Economics Division

Business Data Linking Branch

- Link various business surveys together to ‘add value’
 - Annual Business Inquiry, Annual Census of Production, Community Innovation Survey, Annual Inquiry into Foreign Direct Investment, Business Enterprise R&D Survey, E-commerce survey, and others...
 - Together form the Annual Respondents Database (ARD)
 - Difficult weighting issues with linked surveys

Business Data Linking: continued

- Work with numerous contracted academics, data availability due to be extended soon
- Undertake econometric analysis in addition to producing summary tabulations of newly linked data
- Emphasis on productivity analysis
- Research aimed at provided evidence for policy formation and improving ONS products

Conclusion

- Stata is being used an increasing amount in ONS
- It is used as a specialist tool rather than standard software for all ONS statisticians
- Use of Stata is likely to increase in the coming years as complex requests to economists, methodologists and statisticians from within ONS and Other Government Departments become more frequent