



# 3MOONS

METHODOLOGY DIRECTORATE  
LEADING THE DEVELOPMENT OF STATISTICAL METHODS

## 3MOONS – one year on

Methodology Directorate's (MD's) newsletter is now one year old. In that time we have covered: prizes won by MD staff, new people arriving from overseas, changes at director level, introductions to four of MD's Centres of Expertise; and, of course, a glimpse of the wide-ranging and important project work that staff are involved in each day.

With the challenge of ONS independence looming, and the implications of the Wroe Review of Innovation, Development and Methodology in ONS just beginning to sink in (see the next issue for what this means to MD), we can look forward to plenty of changes. 3MOONS will keep you abreast of MD's involvement in these, and (of course) the methodological support we continue to provide to the Office for National Statistics and Government Statistical Service (GSS). Watch this space!

### Autumn 2006

This is the fifth issue of MD's quarterly overview of methodological issues in ONS. The last issue covered aspects such as the retirement of a director, time series analysis support for business surveys, secondments from statistical organisations in other countries, and statistical training. Read on for the latest news.

## NEWS

### Advisory committee meetings

MD will host the eleventh meeting of the National Statistics Methodology Advisory Committee on 17 November. The agenda will cover:

- spatial aggregation (the Modifiable Area Unit Problem)
- Business Register Employment Survey
- Integrated Household Survey
- weighting for the International Passenger Survey
- Wroe Review of Innovation, Development and Methodology

See: [www.statistics.gov.uk/methods\\_quality/nsmac](http://www.statistics.gov.uk/methods_quality/nsmac) for past meetings and more details.

MD and Census jointly hosted the fourth meeting of the UK Census Design and Methodology Advisory Committee on 18 October in Titchfield. Topics were:

- paper questionnaire design
- postal provider competence
- coverage assessment/adjustment (under-coverage, over-coverage, adjustment method, use of visitor information)
- disclosure control policy

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ONS hosted a three-day meeting of 29 representatives from 12 countries to discuss business data collection issues.

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### MD GSS forum meeting

On 5 October, MD hosted the National Statistics Quality and Methodology Programme Board in London. Topics discussed were:

- European Statistics Code of Practice
- ONS independence
- Scottish Executive strategy for methodology
- compliance cost standardisation
- update on the Quality Improvement Programme

For more details please contact [david.matthewson@ons.gov.uk](mailto:david.matthewson@ons.gov.uk)

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# Postcard from Ottawa

Mike Hidioglou writes about his return to Statistics Canada

My last day at ONS was Friday 31 March 2006. The last few weeks were hectic, trying to do several things at once: tying up odd ends at the office, packing, saying goodbye, and selling accumulated stuff from two and a half years in Newport. I will remember my last day at the ONS for a long time. I was caught off-guard with the party and gifts. I will always treasure that day.

I formally started back at Statistics Canada at the beginning of April, but I took one month off to ensure a good break, during which

I returned to Cardiff to teach Sampling and Estimation in Business Surveys at the European Quality Conference.

My first day back at Statistics Canada was 1 May. I was happy to rejoin the department where I had spent nearly thirty years. Many of my friends eased my comeback by taking me out to lunch and inviting me to share their work!

I first joined Statistics Canada in 1974, working with Gerry Gray (the Senior Mathematical Advisor) to automate the computation of exact joint selection probabilities for unequal probability sampling without replacement for the Hartley and Rao (1962) scheme. This work resulted in my first published paper. Thirty-two years later, on my return to Statistics Canada, I was presented with a variant on this problem. It is funny how life goes into cycles. Survey sampling is still a gold mine with lots of problems to solve both in terms of survey design, and analysis of data obtained via surveys.

Towards the end of June, I became Director of a brand new methodology division – Survey Research and Innovation. This is

quite a challenging post, with a dual role: conducting statistical research on specific topics, and providing technical leadership and guidance to other methodology divisions in developing innovative statistical methods.

My most important news is that I am happy to be back home with my family. There was a lot of change while I was away. Two of my pets passed away, the roof had to be replaced, and one of my cars did not start.

My experience at the ONS was invaluable. I learned a lot both in terms of methodology and management. I never worked so hard in my life, but I had no choice because there was so much to cover. I remain in contact with staff members and hope this will continue. I miss my walks to Tesco; I got a lot of good ideas during those fifteen minutes. I don't, however, miss driving on the left and roundabouts. Wikipedia says that 'Roundabouts are statistically safer than both traffic circles and traditional intersections'. I don't know who wrote that, but I never felt safe. I feel quite comfortable with right-hand driving again (to each his own).



Parliament Building, City of Ottawa

(photo courtesy City of Ottawa)

## The Wealth and Assets Survey

In the last few years, various policy areas within government have highlighted the need for better estimates of wealth and assets holdings of UK households. One area where a lack of statistical information is apparent is how well individuals prepare for their pensions. This was highlighted again by the Department for Work and Pensions' (DWP) Pensions Green Paper which identified a requirement for good quality data about people's savings over time, their assets and the savings of partners.

In 2000 the Office for National Statistics was asked by the Prime Minister's Performance and Innovation Unit to 'bring together interested government departments to assess whether there was a case for a regular survey of wealth and assets'. After assessing the information collected by existing surveys, ONS produced a business case for a dedicated survey, and established that a number of government departments were interested in collecting data about wealth.

Subsequently ONS, together with a consortium of government departments, began work on a new longitudinal survey

of private households: the Wealth and Assets Survey (WAS). Begun in July 2006, this survey collects information on financial and non-financial household assets, with detailed information on wealth components such as savings, pensions, investments, mortgages and debt. The main survey's design builds on initial questionnaire testing in a feasibility study in June 2005, which was followed by further testing in the pilot survey in January 2006.

The sample design was influenced by analysis requirements of funding departments, the funding available for the survey and fieldwork capacity issues. Sample design options and their implications were prepared by Survey Methods Division in partnership with colleagues from Sources and Analysis Directorates. Key statistical issues included:

- the different rates of change of certain key characteristics such as saving and borrowing
- the highly skewed distribution of the financial survey variables
- the need for sufficiently large subgroups for analysis

The agreed sample design comprises the following:

- a large, two-stage sample of addresses drawn from the Postcode Address File (PAF) with regional and census-based stratification at the first stage. These first-wave interviews are face-to-face and the fieldwork will spread over two years
- addresses likely to contain wealthier households have been sampled at a higher rate
- all responding households will be re-interviewed two years after the first wave interview, again with a face-to-face interview
- a sub-sample of households in heavy debt will be re-interviewed by telephone one year after the first interview (and continue to be part of the main longitudinal sample)

For more information about the design of the Wealth and Assets Survey, contact Charles Lound, [charles.lound@ons.gov.uk](mailto:charles.lound@ons.gov.uk)



# First International Business Data Collection Workshop

On 19 April 2006 in London, ONS hosted a three-day meeting of 29 representatives from 12 countries to discuss business data collection issues. Less formal than a conference, the workshop encouraged open discussion and exchange of ideas about the issues faced by all participants.

Cynthia Clark introduced the workshop, and keynote addresses were given by Jacqui Jones (ONS) and Professor Don Dillman (Washington State University). Nearly all other participants gave presentations during the workshop – focusing on business data collection ‘hot topics’ in their organisations (16 NSIs and four universities).

Key messages coming out from the talks were shared concerns in a number of areas:

- developing user-friendly questionnaires
- developing web surveys and the interaction between electronic and paper questionnaires
- costs of developing the infrastructure for electronic data collection
- automating instrument design using metadata
- trade-offs between standardisation and tailoring survey questions
- company-centric data collection methods
- achieving better communication and improved interfaces between survey organisations and businesses
- the role of gatekeepers in business surveys
- improving our understanding of businesses, and the structure and content of their records and data systems
- non-response reduction techniques
- response burden, its measurement and implications for response and data quality
- use of previously reported data during data collection
- use of data from administrative sources in lieu of primary data collection

The workshop was a considerable success, and helped forge international networks between the business survey methodologists present. Plans are already afoot for a second workshop in 18 months time.

Many thanks to Diane Willimack (US Census Bureau) and the rest of the organising committee (Ger Sniijkers, Statistics Netherlands; Gustav Haraldsen, Statistics Norway, and Jacqui Jones) for allowing the use of Diane’s report:

[www.amstat.org/sections/sgovt/news0806.doc](http://www.amstat.org/sections/sgovt/news0806.doc) as source material for this article.

## The European Socio-economic Classification Development Project

A consortium of universities, research institutes and National Statistical Institutes (NSIs), from the UK, France, Germany, Sweden, the Netherlands, Italy and Ireland, has just concluded a two-year project to develop a prototype European Socio-economic Classification (ESeC). It was funded under the European Union’s (EU’s) Sixth Framework Programme (FP6) Priority 7 (Citizens and Governance in a Knowledge Based Society). ONS was the project co-ordinator.

The project was designed to improve the state of the art in the classification of socio-economic positions. The key aim was to develop an ESeC for use in comparative European analyses relating to important policy issues, of which use will be made by Eurostat, the NSIs of EU states, and academic, market and other social researchers.

The classification will:

- allow researchers to address gaps in understanding the prevalence and distribution of quality-of-life issues such as educational and health inequalities, and broader social and economic inequalities
- shed light on the extent and nature of differences between countries; relating these to the provision of education, training, social and health services
- promote research into indicators of inequalities, thereby increasing our understanding of European society and providing the base for policy formulation and decision making

### Progress and development

The project’s work programme was to:

- create, evaluate and revise an initial ESeC based on the EU standard for occupational classification
- produce a statistical compendium, showing national variations in socio-economic indicators by ESeC categories
- conduct and review a number of cross-national validation studies using suitable comparative data
- produce a web-based instruction manual for the ESeC
- make contact with interested parties such as Eurostat, National Statistical Institutes and other academics and researchers

Eurostat has recognised the importance of having a harmonised ESeC, and is positive about the work. The project has resulted in a prototype ESeC, of which further validation will be necessary before it can be adopted by Eurostat and EU NSIs. Eurostat is now considering the continued development of the prototype after the FP6 project.

A book on ESeC is also planned.



Further information on this project can be obtained from the official ESeC website: [www.iser.essex.ac.uk/esecc](http://www.iser.essex.ac.uk/esecc)  
Or contact Peter Betts, project co-ordinator at [peter.betts@ons.gov.uk](mailto:peter.betts@ons.gov.uk)

# Inside MD

## Statistical Disclosure Control (SDC)

SDC, which consists of two teams of methodologists based in London and Titchfield, is headed by Paul Vickers, who has recently returned from a two-year secondment at the Australian Bureau of Statistics. The primary aim of SDC is to ensure that ONS outputs provide users with as much value as possible while protecting the confidentiality of individual business, personal or household information.

This is a high-profile project, as ONS is one of the largest data collectors and data publishers in the UK. Publishing aggregate or individual data carries the risk that a business or an individual could be identified and confidential information about them could be released.

SDC aims to provide a coherent and effective approach to managing disclosure risk by delivering the following key objectives:

- develop disclosure control tools, develop innovative solutions and methods to meet business area needs; and carry out or commission any necessary supporting research for use within ONS and the Government Statistical Service (GSS)

- promote, disseminate and provide support for disclosure control in ONS's business and, more generally, the GSS
- develop, promote and support the implementation of professional standards; promote and disseminate these standards throughout ONS and the GSS
- keep up to date with international work on disclosure control methods and issues and disseminate our work internationally
- build up a pool of expertise and an effective source of advice in disclosure control
- provide value for money
- provide a stimulating and challenging working environment that engenders creativity and allows staff to develop professionally by ensuring:
  - variety of work
  - technically and politically challenging issues
  - adequate training
- standards for tabular output from business surveys, social surveys and samples from whole population data sets such as the Census
- guidance on the release of abortion and other health statistics, working closely with the health sector
- research including developing a programme to assess the impact on quality of different disclosure control techniques; assessment of disclosure risk in microdata, and management of an external project to explore techniques to provide optimal suppression in large tables (with a significant contribution from colleagues in Information Management [IM])
- software improvements culminating in the release of a new version of the statistical disclosure software, Tau Argus, with significantly improved capability and robustness and updated documentation and training. This involved a large amount of work in collaboration with IM, Neighbourhood Statistics, an external researcher, and the software developer

In the last twelve months, SDC has made significant progress in the development of disclosure control standards, guidance, research and software:

continued NEWS

### Recent conference presentations

<b>International Conference of the Royal Statistical Society</b> Belfast, Northern Ireland, 10–14 September	
'Developing model-based estimates of unemployment for local authority districts'	Marie Cruddas
'Fundamentals of official statistics - statistical principles'	Frank Nolan
'Implementing a new standard industrial classification at the UK Office for National Statistics'	Gareth James
'Estimating the variance of growth in the UK index of production'	John Wood
'Investigation into benefit of combining automatic and selective editing' (poster)	Rob Bucknall and Andy Fallows
'A new method for trimming outliers when imputing for non-response in ONS Business Surveys' (poster)	Andy Fallows and Begoña Martín <small>(winner of the prize for best poster in the Official and Regional Statistics category)</small>
<b>UNECE work session on statistical data editing</b> Bonn, Germany, 25–27 September	
'Tool for assessing impact of changing editing rules on cost and quality'	Alaa Al-Hamad
'Diagnostics for the evaluation of imputed data'	Heather Wagstaff

## Your questions answered

In this issue, we answer questions on the 3MOONS reader survey.

The results were encouraging – the length, frequency and content of 3MOONS were nearly always thought to be 'about right', and the main feature articles and news items were consistently 'the best things' about 3MOONS. But the design came out (marginally) as one of the 'worst things'.

Do readers have specific aspects of the design they dislike, or would like changed? Would you prefer to receive 3MOONS in printed form, rather than electronically? Whatever your opinion, your feedback is very welcome, and will help improve the newsletter.

Email: [3moons@ons.gov.uk](mailto:3moons@ons.gov.uk)

Finally, the average score for how readers rate 3MOONS was 0.56 (to 2 decimal places). The score was based on assigning 2 for 'very good', 1 for 'good', ... down to -2 for 'very poor' (thankfully no-one selected this!). The competition to guess the score was won by Paula Maratos, from the Small Business Service, an agency of the UK Department of Trade and Industry. Thanks again for all your entries, from home and abroad.

Please send your questions to [3moons@ons.gov.uk](mailto:3moons@ons.gov.uk). We will choose one or more to answer in the next issue.