



Teaching quantitative methods

Malcolm Williams, Cardiff University

Research methods teaching in the UK may have many small challenges, but the really big one is how can we successfully produce enough quantitatively skilled social scientists?

With the exception of psychology and economics, UK social science was and indeed remains mostly 'qualitative'. In subjects such as sociology quantitative methods were all but absent in research reported in the main UK journals, undergraduate students were not enthusiastic about learning quantitative methods and quantitative methods teachers felt isolated from substantive subject areas. In the mid to late 2000s the ESRC began to recognise there was a problem and a number of initiatives were launched to diagnose the nature of the problem, an international scoping review and some small scale studies of good practice were funded. In 2009 Professor John MacInnes was appointed as a Strategic Advisor for the Undergraduate Teaching of Quantitative Methods. Since then we have moved from diagnosis to action.

Consequently the Teaching Research Methods session at the 5th ESRC Research Methods Festival had a somewhat celebratory air, that the need to produce quantitatively literate social scientists was now a mainstream issue for government, universities and the ESRC. Since the first Festival in 2004 there has been a shift from seeing the problem as simply a deficit of number, to a wider appreciation of the pedagogic issues of how students might do research and how we teach them. The Festival presentations reflected this new approach. Four of the five presentations focussed on how quantitative methods can be more organically integrated into the curriculum, whilst the fifth focussed on the ways quantitative teaching skills can be developed in staff. Mark Brown showed how at Manchester University quantitative content would be delivered by the methods team in substantive modules as diverse as Race and Ethnicity and the Sociology of Spiritual Life.

Similarly Luke Sloan demonstrated how an experimental approach, at Cardiff and Plymouth universities, will test the efficacy of 'embedding' quantitative content in second stage undergraduate modules, in comparison to more traditional stand alone methods modules. Emily Clough, from Newcastle University, illustrated a similar embedding approach in politics seminars and course work, whilst Carole Sutton from Plymouth University showed large groups of first year sociology undergraduates use field trips to gather their own data and analyse these in the context of existing data about the location. Julie Scott Jones from Manchester Metropolitan University focussed on the ways quantitative teaching skills can be developed in staff.

These new integrated approaches do not aim to replace dedicated quantitative methods modules, but to show how data and methods can be used in substantive discipline areas. A module would not aim to embed a whole methods course, but rather content and skills appropriate to that subject. A typical lecture may, for example, present contemporary, historic or cross national data on women's participation in the labour market. The students then might undertake some simple data manipulation or analyses using (say) a subset of the Labour Force Survey. It is hypothesised, and indeed there is evidence from other countries to show, that learning is broader and deeper when it is within a subject context that interests the student.

There are now ESRC initiatives in around 20 universities, who are the pioneers for new approaches to teaching quantitative methods. The scale of these projects and even larger ones in future will allow us to ascertain what works and what does not, but this year's Festival session demonstrated that at last a revolution has begun in the teaching of quantitative methods in the UK.

If you would like to learn more about these initiatives, or join the network of quantitative methods teachers please go to <http://bit.ly/qBGdpb>

IN THIS ISSUE

- 1 Teaching quantitative methods
- 2 Is there a single 'right' way to study political text?
- 3 Open data: problems and promise
- 4 After the Census
- 5 Volunteered information, geospatial data and agent-based models of criminal behaviour
- 6 Are you sure that's the answer? Uncertainty in evaluation questions
- 7 New 'What is?' series launched
- 8 NCRM Annual Lecture by Sir John Beddington: The challenges of the 21st century - the ineluctable need for multidisciplinary

Is there a single ‘right’ way to study political text?

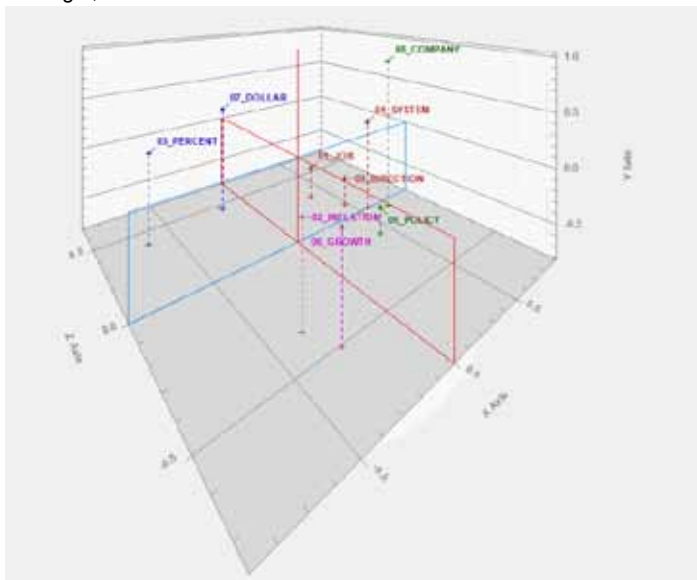
Cheryl Schonhardt-Bailey, London School of Economics and Political Science

For anyone interested in the empirical analysis of political texts (speeches, committee deliberations, debates, political party manifestos), the simple answer to this question is a resounding “no”. But novices to the growing field of textual analysis might wonder “why not?”

Why can’t political scientists agree on a common toolkit for these texts—something akin to numerical data (regression analysis for interval data; logit or probit models for binary dependent variables; and so on)? There are at least three problems that plague such a toolkit. First, the statistical and theoretical foundations for political textual analysis do not adhere to a single framework, and are thus open to dispute. Second, software packages often fall into one of two categories—proprietary or open-source. The processing methods for the former are invariably opaque while they are usually transparent for the latter.

Social science researchers understandably argue that all algorithms, assumptions and processes of text analysis software should be fully transparent—which implies that they are freely available. There is clearly a tension here between market forces and the development of scientific knowledge (hardly unique to textual analysis), which leads to a third problem: the growing plethora of incompatible textual analysis software which produce fundamentally different types of results.

Using TLab software, a three dimensional correspondence analysis graph of the US House Financial Services Committee, on monetary policy oversight, 1976-2008.



With such obstacles to achieving robust, defensible results from textual analysis, what is the way forward?

One answer to achieving a reasonable threshold of robustness is to ask, do my data look different when I examine them from different perspectives or use different methodological toolkits? If so, one may well have less confidence in the initial approach. If not - if the same fundamental results emerge again and again - the researcher can be fairly certain that she is on solid footing. Looking at data from different perspectives is an increasingly attractive way forward for a number of social scientists¹. The challenge in this approach can be a rather steep learning curve to acquire the expertise in new software and/or methodologies. Nonetheless, the results can provide one with some degree of internal validation for the research findings.

A second answer might be to seek to validate the findings externally, using entirely different approaches to understanding political texts. For instance, one might employ interviews with the politicians or policymakers who produced the speeches, debates, etc. under investigation, asking them to assess the validity of the findings from the textual analysis. Or one might employ manual coders to read and interpret the raw textual data, thereby providing a check on the initial textual analysis.

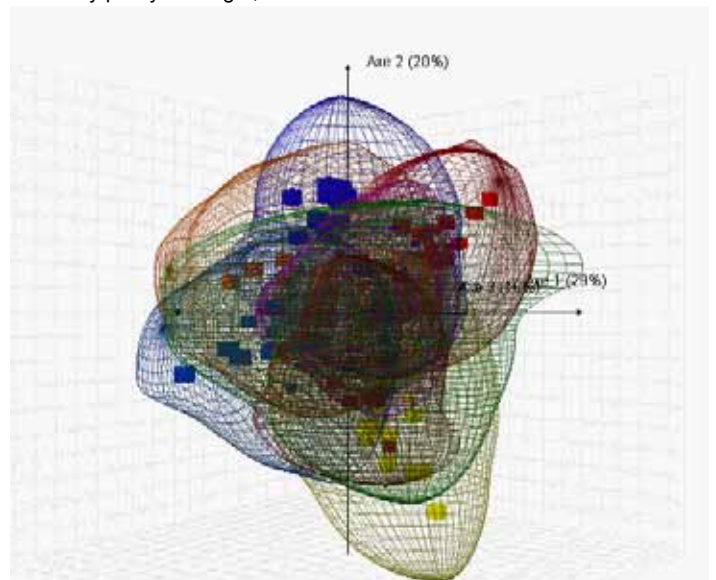
Obtaining valid results is, nonetheless, only one of the hurdles confronting the empirical analysis of political texts. More substantively we should ask ourselves, what do we want to know from political texts? If we want to understand the meaning of arguments and debates, we will likely seek to measure how different political actors frame their arguments in order to gain leverage (in issues like abortion or terrorism). Alternatively, we might want to understand the underlying dimensionality of textual data—is it easily captured in a single ideological dimension (usually Left-Right), or are there multiple dimensions required? If the latter, how do we measure and understand political speeches and debates in N dimensions? (The graphs present two examples of committee deliberations in three dimensions²) But, the “Holy Grail” of textual analysis is gauging persuasion.

Who, ultimately, is persuaded by the words of political actors, and with what effect? How and why do words matter? Clearly, there is work to be done in this area.

References

- 1 See, for instance, the papers from the session “Extracting Political Information From Legislative Speeches” of the 5th ESRC Research Methods Festival.
- 2 The videos for these graphs may be viewed on the data page of my website <http://personal.lse.ac.uk/schonhar/>

Using Alceste software, a three dimensional correspondence analysis graph of hearings of the US House Financial Services Committee, on monetary policy oversight, 1976-2008.



Open data: problems and promise

David J. Hand, Imperial College London

The open data initiative is a move towards making data publicly available, so encouraging their reanalysis and exploration by others.

The data range from administrative data describing financial transactions of government departments, through data describing how bumblebees respond to different flower mixtures, to statistics on accident and emergency attendances in hospitals. In short, data of all types are being released. At the time of writing, over 8000 such data sets are available through data.gov.uk.

There are many potential gains from the open data initiative. Open data enables accountability: it is difficult to conceal something if the facts are there for all to see. Open data empowers communities: the truth about crime rates, educational achievement, and social services is laid bare. Open data even drives economic growth: more and more small companies are springing up which extract hitherto unsuspected information from data which are now freely available. Open data may even lead to more accurate conclusions and better decisions, as a wider variety of interested parties have the opportunity to examine the facts. Open data also alleviates the force of Goodhart's Law, which says that if attention is focused on a particular outcome then that outcome becomes useless as a measure of performance - as people game to optimise it. It is easy to think of examples of this, from schools inflating pass rates by preventing less able pupils from taking GCSEs, to hospitals manipulating waiting times. With open data, people can explore the impact of policies on a far wider range of indicators.

One widely known example of the open data initiative is the UK crime mapping exercise. Publicly released data about crimes are taken and displayed on maps available on the web. From the perspective of the police, such maps show where their resources should be concentrated and generally permit improved tactics. From the public perspective, these maps enable people to identify risky areas to avoid, and to demand more police action if necessary. Such maps, following from the release of a certain kind of public data, provide a clear public benefit. Other releases promise similar benefits.



Photo: David J. Hand at the 5th ESRC Research Methods Festival at St Catherine's College Oxford

However, little in life is an unqualified good, and the open data initiative has raised some concerns. Perhaps the risk that is foremost in most people's mind is the potential threat to privacy. Reducing this risk is a tough problem, as has been recognised by the government. Francis Maude said in 2011, 'It is my intention that no personal data will be shared with any third party as part of this initiative.' However, it is questionable whether this can be achieved: the technical challenges are considerable. For example, the *jigsaw effect* is the use of multiple sources of data, each well-protected in its own right, which can be combined to yield information about individuals. It is surprising how little information is needed to be able to identify individuals uniquely: for example, if you know the sex, date and year of birth, and the city of someone in the US, then 53% of the US population can be uniquely identified.

Sometimes it is asserted that people who have nothing to hide have nothing to fear. That is arguable, but in any case it assumes that the data are correct. The painful fact is that no large data set which refers to human beings is perfect. This may not matter when one is talking *en masse*, because, as E.J.Kahn put it 'minor mistakes in all directions ... when they are averaged up ... [mostly] cancel each other out', but it certainly matters to an individual whose credit record is damaged because an address error meant that bills were unpaid, having been misdirected.

Moreover, even at the aggregate level relating to policy decisions, small mistakes can occur in a consistent direction, leading to biased and incorrect conclusions. The crime maps example illustrates the sort of problems that can arise. At a simple level, in December 2011, Surrey Street in Portsmouth was reported as having 136 crimes, when in fact it had just two. At a more subtle level, a survey by Direct Line Insurance found that 11% of respondents claim to have seen but not reported an incident 'because they were scared it would drive away potential [house] purchasers'. In general, the open data initiative ignores such feedback effects - that the very act of publishing the data will influence the quality of future data. The law of unintended consequences strikes in many unexpected ways. Incidentally, I believe that that poll was an internet survey - notoriously unreliable because of the potential for the respondents to self-select. Again data quality issues raise their head.

This last example also leads to another consideration. Data are all very well, but the ability to extract meaningful information from data requires considerable skill. Without this, there is a real danger that incorrect conclusions may be drawn. We must recognise that no technology - nuclear, chemical, data, or otherwise - is without concomitant risks. Providing we tread carefully, with an awareness and understanding of what we are treading in, the open data initiative holds immense promise for a better society.

After the Census

David Martin, ESRC Census Programme and NCRM Hub, University of Southampton

On 16 July the Office for National Statistics (ONS) published the first results of the 2011 census in England and Wales – estimating the population to be 56,075,900. The Northern Ireland Statistics and Research Agency published the Northern Ireland census estimate of 1,810,900 on the same day. Scotland's first data will be published later in the year.

In preparation for these data releases, the "After the Census" session at the Research Methods Festival aimed to highlight some of the key developments surrounding the 2011 census data and the associated ESRC services, with a range of speakers from ONS and ESRC Census Programme. This is a particularly exciting time for any researcher interested in UK population or in census methodology for at least three reasons:

1. the new results mark the start of a new period of intensive analysis of the UK population characteristics;
2. the access mechanisms to census data are changing in important ways; and
3. it is possible that we have just seen the last conventional census in the UK!

The results published on 16 July represent the start of a huge programme of data releases which will provide more detailed information about the UK's population than have ever been available to the research community. The 2011 census featured various innovations - including an internet completion channel and a sophisticated targeted approach to enumeration and follow-up that has delivered a 94% response rate nationally, with no local authority falling below 80%. A dual system estimation approach based on a large coverage survey enables estimates to be provided for the entire population, taking into account these differences in response by area. Additional questions about residence, including second homes, citizenship and intention to remain in the UK will provide some rich new data streams for understanding changing population characteristics as well as fairly complete coverage of all the topics that were included in 2001.

One of the most interesting features of the first release has been the associated Quality Assurance pack, which includes comparator data from sources such as the NHS register and mid-year estimates. The published census estimate is about 0.5m higher than the most recent mid-year estimates and will serve as the basis for updating official population statistics and reworking numerous funding allocation formulae. Census data have previously been released under various forms of licencing arrangements and not all the results have been available through comparable mechanisms.

ESRC Census Programme supporting academic users

For the last decade, the ESRC Census Programme¹ has provided a comprehensive range of online data access and support services for academic users. All the standard 2011 census outputs will be published under a new Open Government Licence which permits users to freely access, use and redistribute government data at no cost. This will massively simplify the sharing of data between academic, business and public sectors and should promote a variety of new forms of research collaboration. The new data - to be released with increasing levels of detail in phases over the next 18 months - will also be available through different web services. As part of a broader reshaping of ESRC's data services infrastructure, the principal services provided by ESRC's Census Programme will combine with those of the Economic and Social Data Service (ESDS) and the Secure Data Service in a new ESRC UK Data Service² offering a new integrated user experience and enhanced data collections. The three UK census-linked longitudinal studies will continue to be supported through individual research support units and a new UK Census LS development hub.

What are the alternatives for census?

The 2011 census appears to have been very successful and to have started delivering high quality data. Nevertheless, the process of census-taking is increasingly challenged, in the UK and internationally.

Major comparator nations have stepped back from the operation of a full conventional census, moving either to modified census designs (France, Canada), augmented by large survey programmes (USA) or moving to systems based largely on linkage of administrative records (Netherlands, Austria). The increasing cost and complexity of achieving full population coverage and the continual demand from users for more up-to-date data have led the UK Statistics Authority to direct that 2011 census should be "the last census in the UK where the population is counted through the collection of census forms". ONS have thus embarked on a major research programme under the banner 'Beyond 2011'³ to investigate methodologies which might deliver census-type data by other means, with equivalent research and evaluation being undertaken in each part of the UK. Recommendations are due to be presented in September 2014. Clearly, reconciliation of differences in population definitions and data capture mechanisms presented by the variety of administrative sources such as the NHS register, school census data, pensions and benefits databases are key to resolving whether such counts can be combined into an integrated system which could replace a 2021 census. The ESRC research community has a significant role to play in this debate - for example with regard to the development of data linkage, survey design and small area estimation methods that may form part of an eventual solution: perhaps an important strand for the 6th ESRC Research Methods Festival in 2014?

References

1 <http://census.ac.uk/>

2 On 24 July 2012 ESRC announced the new national digital repository for social and economic data. It is a £17M investment over five years, structured to support researchers in academia, business, third sector and all levels of government. For further information please go to <http://bit.ly/MF76pZ>

3 <http://bit.ly/nFOS4B>

Further information about the 2011 Census

For full details of the three separate UK Censuses, including details of future data releases, see

- <http://bit.ly/y11EaE> (England and Wales)
- <http://bit.ly/M9FBow> (Northern Ireland)
- <http://bit.ly/M9Fz3> (Scotland)

Volunteered information, geospatial data and agent-based models of criminal behaviour

Nick Malleson and Mark Birkin, TALISMAN node of NCRM, University of Leeds

Crime is an extremely complex phenomenon. In order to understand why an individual acquisitive crime occurs it is necessary to examine the behaviour of the person or people involved in the crime e.g. 'offenders', 'victims' and 'others', as well as the immediate physical characteristics, including the design of buildings and the layout of the road network, and the social context of the surrounding neighbourhood.

Computer models of crime should be able to account for the behaviour of individual people and their interactions with each other and the environment in order to properly capture the dynamics of the 'crime system'. Only when all of these factors have been considered and understood is it possible to be able to explain properly why crimes occur in the times and places that they do.

Traditional models of crime make use of mathematical techniques such as statistical regression. In a model of this type, the crime rate in a neighbourhood is usually estimated from the values of other relevant variables such as the deprivation or the demographics of the area. These types of models are "computationally convenient", but they cannot capture the dynamics of systems which are complex and non-linear. In other words, by not accounting *directly* for the key drivers of crime and instead using aggregate data as a proxy for the real world, they miss low-level interactions and behaviours that lead to individual crime occurrences and ultimately produce city-wide crime patterns.

Alternative modelling methodologies that can account better for the dynamics of social phenomena are starting to be applied to crime analysis. Agent-based modelling is such a methodology. An agent-based model (ABM) is a form of computer simulation which is comprised of individual 'agents'. Each agent is autonomous and is able to make decisions about its future course of action, and therefore they can be used to represent a virtual person.

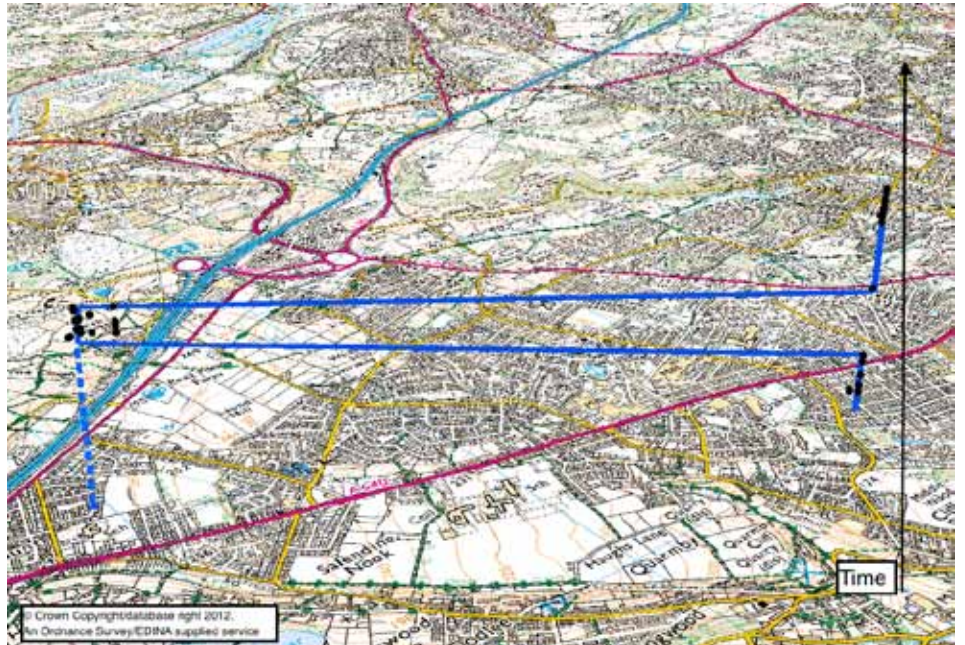


Figure 1. Examples of spatially-located messages over a 29 hour period for a single user of a social networking service.

As an ABM executes, the agents have the ability to examine their personal circumstances and make an informed decision about their future course of action. The agents can be placed in a virtual environment that represents the system under study, e.g. a virtual city with roads and buildings in which they can move around and interact with other agents. Through these mechanisms, it is possible to incorporate realistic human behaviour and create models that mimic real-world scenarios.

The utility of applying agent-based models to the study of crime is starting to be recognised, with recent applications to crimes such as burglary and street robbery, as well as more abstract applications that explore the dynamics of criminology theory rather than making real-world predictions. However, one of the major difficulties facing agent-based crime modellers is that of data availability. As individual people are represented directly in a model, it is necessary to describe their daily behaviour in detail. For example, the modeller needs to be able to estimate where a person's *anchor points* are (the locations that they travel to regularly), what they do during the day (working?, shopping?, committing burglary?) or whether or not they have access to a car.

Traditional data to this level of detail are scarce. However, the use of social media is becoming increasingly popular and services such as Facebook, Twitter, FourSquare, Flickr etc. contain a wealth of information about people's daily behaviour. For example, Figure 1 illustrates the locations in time and space of the messages posted by a single user to a social networking service. A clear temporal-spatial pattern is visible, showing the person going from one place to another and back again over the course of approximately 29 hours.

There is an unfathomable amount of such data being generated every day which, if the example in Figure 1 is anything to go by, could be extremely valuable in understanding people's daily behaviour. Obviously there are ethical implications associated with making use of such data and considerable work will be required to smooth out biases (clearly a large section of society do not use these services) but the *potential* offered is clear. Improvements made to existing agent-based models of crime, coupled with methods to understand better the behaviour evident in new "crowd-sourced" data, will help us to better understand and predict crime patterns as well as other complex social phenomena.

Are you sure that's the answer? Uncertainty in evaluation questions

Mike Brewer, PEPA node of NCRM, Institute for Fiscal Studies and University of Essex

When trying to understand the impact of a government intervention, or the causal impact of some factor on some outcome of interest, researchers spend a lot of effort establishing a plausible counter-factual: what would have happened in the absence of intervention.

But this is only half the battle. Even if researchers can produce a credible estimate of a policy impact, they must also determine the precision of their estimate or quantify the uncertainty around the central estimate. For example, let's imagine a researcher has estimated that a particular training programme reduces time in unemployment by 5 weeks. 5 weeks, of course, is not necessarily the true answer: it's an estimate. If you were a policy-maker, you should also want to know whether the researcher was confident that the true answer lay between, say, 4 and 6 weeks, or whether the true answer lay between, say, 1 and 9 weeks, or whether the true impact of the training programme might even be negative (in other words, to increase time spent in unemployment).

In a standard linear regression, this uncertainty about policy impacts is usually captured in the associated standard error. But a challenge for researchers and those interpreting policy evaluations is that many evaluation studies involve statistical designs that are different from the standard statistical or econometric textbook situation featuring large samples of independent observations. For example, a common approach is the difference-in-differences design. In a simple case, we might compare how a policy implemented only in Scotland has affected outcomes by measuring how these outcomes changed in Scotland before and after the policy started, and comparing that to how outcomes changed in England over the same period. Researchers who estimate a difference-in-differences model using data-sets containing information on many thousands of individuals in England and Scotland might conclude that they have estimated the policy impacts very precisely, with the large sample sizes leading to an apparently small standard error around the policy impact.

A more sophisticated analysis would recognise that there is very limited variation in who is exposed to the policy. Furthermore, it is quite likely that other (perhaps unmeasured) factors might affect the outcomes of people in Scotland at a particular time, but not those in England. Together, this means that it can be hard to tell whether any relative improvement in outcomes in Scotland is really due to the policy, or is instead due to a by-chance fluctuation in the average outcomes in Scotland. In statistical terms, researchers using the difference-in-differences design must recognise that there may be group-specific unobserved shocks, leading to a simple multi-level model design, or a model with clustered errors. And in such models, the correctly-estimated standard error on the policy impact will typically be a lot larger – reflecting the increased uncertainty – than one produced by a naive application of the usual formula for estimating standard errors that assumes a simple random sample.

Avoiding the serial correlation problem

You might think that more data would help. For example, if I could show you that outcomes in Scotland and England tended to move in parallel over a long period of time when there were no policy differences and then diverged when the policy started in Scotland, then you might have more confidence that the policy really did have an impact. But using a long span of data introduces another problem: serial correlation. As with clustered errors, researchers who overlook serial correlation will typically estimate standard errors that are too small, meaning that they will be understating the degree of uncertainty.

Standard errors are often an afterthought, but they really matter especially when assessing whether a policy had an impact. Researchers who estimate standard errors incorrectly will come to the wrong conclusions when doing hypothesis testing. In a well-cited study, Bertrand, Duflo and Mullainathan considered a situation where researchers used difference-in-differences techniques to look for policy impacts in real economic micro-data in which there were no genuine policy impacts to be found.

They showed that researchers who ignored the serial correlation problem would wrongly reject the null hypothesis of no policy effect – and falsely conclude that a non-existent policy had had an effect – over 40% of the time, rather than the usual 5% level we expect from conventional statistical tests.

Assessing potential solutions

So what can an applied researcher do? Part of the work being undertaken in Programme Evaluation for Policy Analysis (PEPA), a Node of the NCRM, will assess potential solutions to these problems that have been proposed in the literature, some of which are not yet in widespread use. We aim to give practical suggestions and, where appropriate, example code for use in statistical packages.

A parallel approach to doing policy evaluation recognises that most policy impacts – including those based on difference-in-differences approach – are valid only under a given set of assumptions. An alternative approach is to make fewer, or even no, assumptions. Such an approach should be convincing, but it may not be very useful, as one can typically only estimate the lower and upper bounds of the impact of a policy, and these bounds may well be far apart, indicating a large degree of uncertainty. Research in PEPA will investigate the relationship between the number (or strength) of the assumptions made by the researcher, and the precision of the eventual estimate.

For further information about PEPA please see <http://www.pepa.ac.uk>

New 'What is?' series launched

Graham Crow, NCRM Hub, University of Southampton

The 5th ESRC Research Methods Festival was the venue for the launch of the 'What is?' series of research methods books. The 'What is?' format of introducing audiences to key features of different research methods has become a popular element in the programme of ESRC Research Methods Festivals, with presenters who are experts in their field speaking about their chosen method to an audience who are not assumed to have prior knowledge.

Several of the 'What is?' presentations from previous Festivals are among the most popular resources on the NCRM website, and awareness of this prompted the idea of a book series. The books, each of which is about 35,000 words long, introduce the method or field of research by setting out key concepts and providing a short history of its development before showing the benefits of using it in research projects. The format also includes discussion of frequently asked questions and an overall assessment of the strengths and possible weaknesses of the method, and a look ahead to anticipated developments in the field.

The first two books to be published in the series are on Social Network Analysis (by John Scott), and Online Research (by Tristram Hooley, Jane Wellens and John Marriott). Several more titles are at various stages of preparation, with Martyn Hammersley on Qualitative Research and Rose Wiles on Qualitative Research Ethics the next in line to be published, by the end of 2012. The launch provided the opportunity for the publisher, Caroline Wintersgill from Bloomsbury, and the series editor, Graham Crow, who is deputy director of NCRM, to express their ambition that a dozen titles on a range of topics will have been published by the time of the next Festival (in July 2014) and that the series will continue to grow to cover more and more areas of research methods. Methodological innovation is the order of the day, and keeping up-to-date with a range of research methods is important as developments push the boundaries of what it is possible to do. This is true not only for researchers starting out on their careers but also for more established researchers in research teams where a combination of methods is being used, as is increasingly the case.



Photo: Graham Crow (left) from NCRM Hub and Caroline Wintersgill (middle) from Bloomsbury Academic launching the 'What is?' series. Graham Crow is the editor of the series.

'What is?' presentations online

The 18 'What is?' presentations at this year's Festival were once again well-attended and provided a forum for lively discussions. Topics included

- analytic induction
- cohort studies
- community studies
- crowdsourcing
- discourse analysis
- event history analysis
- geosimulation
- Mendelian randomisation
- multilevel modelling
- multimodality
- narrative interviewing
- propensity score matching
- regression discontinuity

These presentations complement the growing online collection of narrated 'What is?' presentations, which include e.g.

- applied psychometrics
- CAQDAS
- community studies
- discourse analysis
- e-Research
- event history analysis
- imitation games
- meta-analysis
- missing data in qualitative research
- multilevel modelling
- on-line research methods
- participatory video
- qualitative longitudinal research
- sensory ethnography
- social network analysis

It will be some time before the book series catches up with this breadth of topics, but the ambition to build on the promising start marked by the series launch at the Festival is real. Suggestions of topics to be included in the 2014 Festival programme should be sent to Graham Crow, who would also be pleased to hear from anyone who would like to discuss a possible contribution to the book series.

Further information

To find out more about the new 'What is?' book series by Bloomsbury Academic, please see <http://bit.ly/swUgtN>

Various 'What is?' narrated presentations from the 4th ESRC Research Methods Festival in 2010 are available on NCRM website in <http://bit.ly/fC2cZe>

New presentations from the 2012 Festival will be available on NCRM website by the end of August 2012 <http://www.ncrm.ac.uk/>

Graham Crow can be contacted by email at g.p.crow@soton.ac.uk or by telephone at +44(0)23 8059 2672.

NCRM Annual Lecture by Sir John Beddington: The challenges of the 21st century - the ineluctable need for multidisciplinary



Sir John Beddington is the Government Chief Scientific Adviser. He has led on providing scientific advice to Government during the 2009 swine flu outbreak and the 2010 volcanic ash incident. He has also been responsible for increasing the scientific capacity across Whitehall by encouraging all major departments of state to recruit a Chief Scientific Adviser.

Professor Sir John Beddington, the Government Chief Scientific Adviser from the Government Office for Science, gave the NCRM Annual Lecture on Monday 2 July 2012 at the 5th ESRC Research Methods Festival.

Sir John talked about the key challenges that face us in the 21st century and the difference that the social sciences can make to address them. He focussed on international issues, such as food, water and energy security, population growth, urbanisation, climate change and disease.

The world population is increasing by six million per month, and therefore food, water and energy security are big challenges which, according to Sir John, may need to be addressed with international governance agreements.

Sir John drew attention to growing urban populations, and how in 2010 the urban population across the world exceeded rural population for the first time. Urban populations are more vulnerable to shocks, such as natural hazards and shortages of food and utilities. Uneven distribution of aging populations and migration add a layer to the complexity of managing food, water and energy security. These are issues that require multidisciplinary working and analysis by researchers in academia and at all levels in the Civil Service.

Sir John's talk was filmed and it will be available on NCRM website by the end of August 2012.

ABOUT NCRM

The ESRC National Centre for Research Methods (NCRM) is a network of research groups, each conducting research and training in an area of social science research methods. NCRM is coordinated by the Hub at the University of Southampton.

NCRM brings together researchers from across the UK with a wide range of research methods expertise, at the frontiers of developments in research methodology.

NCRM disseminates innovations and developments in research methods through training courses and events and through other direct engagement with researchers, but also by cooperating with other organisations and initiatives with an interest in social science research methods.

NCRM was established in 2004 as part of the Economic and Social Research Council's (ESRC) strategy to improve the standards of research methods across the UK social science community. NCRM acts as a strategic focal point for developments in research, training and capacity building related to research methods, both at the national level and cutting across social science disciplines.

For more information about the NCRM and its activities please see our website <http://www.ncrm.ac.uk>

MethodsNews is published three times a year by the National Centre for Research Methods.
Editorial team: Kaisa Puustinen and Graham Crow.

National Centre for Research Methods
Social Sciences
University of Southampton
Southampton SO17 1BJ
United Kingdom

Email info@ncrm.ac.uk
Tel +44 23 8059 4539
Web <http://www.ncrm.ac.uk>
Twitter [@NCRMUK](https://twitter.com/NCRMUK)

NCRM
National Centre for
Research Methods

E · S · R · C
ECONOMIC
& SOCIAL
RESEARCH
COUNCIL