

CeMMAP progress report 2012–2016: grant ES/I034021/1

The Centre for Microdata Methods and Practice (CeMMAP) was founded in 2000 with a grant from the Leverhulme Trust. It became an Economic and Social Research Council (ESRC) Research Centre in 2007 with a mid-term review (MTR) in 2012 and a 10-year grant that ends on 30 June 2017. This document reports the progress in the post-MTR period, 2012–2016. The project is on budget and has run with only small changes in personnel.

The mission of the CeMMAP is to *advance knowledge in economic and social science by developing and applying tools to extract information about human behaviour from observational data*. These data record the circumstances, actions, experiences and outcomes of people, households, enterprises, and other decision-making entities.

This work is for nothing if user practice is not influenced and improved. So, CeMMAP places user interaction and knowledge transfer high on its agenda and operates an *extensive programme of training courses, master classes, conferences and workshops*. This work cannot be conducted in an intellectual vacuum so CeMMAP has created a national and international network of scholars and has established strong working connections with leading centres of research outside the UK.

CeMMAP is now a major international resource in social science, widely regarded as the international leader in micro-econometrics and its applications. It is highly successful in the conduct and dissemination of research, and it is a leading provider of education in methods for the analysis of observational data. The range of its activities and its vitality can be appreciated by visiting the CeMMAP web site: www.cemmap.ac.uk.

Research outputs. CeMMAP is the world's premier centre for the study of and dissemination of knowledge about methods for understanding human behaviour using observational microdata. Since 2012, CeMMAP researchers have published over 100 papers in leading international journals, including *Econometrica*, *American Economic Review*, *Journal of Political Economy*, *Quarterly Journal of Economics*, *Journal of the Royal Statistical Society (B)*, *Review of Economic Studies* and *Journal of Econometrics*. Major advances include:

- the creation of instrumental variable methods for models of ordered and unordered discrete choice (Chesher and Smolinski, 2012; Chesher, Rosen and Smolinski, 2013);
- a new equilibrium model of wage dynamics identifying distinct sources of wage growth (Meghir, Narita and Robin, 2015);
- a new method for inference on set-identified parameters (Rosen, Chernozhukov and Lee, 2013);
- evidence on the impact of investment in early childhood development (Carneiro, Loken and Salvanes, 2015; Carneiro and Ginja, 2016);
- new results on identification in nonparametric models (Lee et al., 2014) and on big data methods under structural change (Lee, So and Shin, 2016);
- forecasting models and methods for analysis of financial data (Linton, Connor and Hagmann, 2012; Li, Linton and Lu, 2015);
- empirical analysis of games with multiple equilibria (de Paula and Tang, 2012; de Paula, 2013);
- methods for estimation of preference distributions (Merlo and de Paula, 2016);
- forecasting methods in non-stationary environments (Giacomini and Rossi, 2015).

Research co-funding. CeMMAP researchers have been extremely successful in attracting further research funding. Since 2012, CeMMAP researchers have won eight European Research Council grants, three British Academy Research Fellowships and six grants from other funders.

Dissemination. CeMMAP presents its research work at many national and international seminars and conferences, over 600 since 2012. CeMMAP publishes the world's leading working paper series in microdata methods and practice, with over 320 papers published since 2012, 183 of which were written by CeMMAP researchers; the majority of the others were written by CeMMAP's fellows. Over 80 of these have later appeared in the top ten international journals.

Training. CeMMAP provides between 12 and 14 two- to four-day training courses each year, giving hands-on instruction in microdata methods and their application. Fifty per cent of the time on each course is spent on practical work in a computing laboratory. Since 2012, around 900 people have attended these courses, mainly PhD students, junior faculty and professional researchers from both public and private sectors and from all over the UK; 97% of participants have rated courses as 'good' or 'excellent' and 88% say they expect to use what they have learnt 'often' or 'very often'. Along with masterclasses described below CeMMAP's training courses are the UK's leading source of continuing professional education in microdata methods and practice in economic and social science.

Masterclasses. CeMMAP offers around five masterclasses each year, over 25 since 2012. Each lasts between six and eight hours over two days. These are specialist classes given by world-leading scholars who have made significant contributions to knowledge. Almost 200 people came to hear Nobel laureate James Heckman speak on 23 June 2016. Another 150 people came to classes in May and June 2016 on developments in machine learning. People attending masterclasses are mainly specialist doctoral students, postdocs and early career faculty. Senior faculty and professional researchers also attend.

Conferences workshops and seminars. CeMMAP is involved in organising conferences and workshops, over 50 since 2012. Many are co-organised and CeMMAP plays a catalytic role in co-sponsorship of conferences worldwide. In 2016, CeMMAP co-organised conferences alongside Econometric Society regional meetings in Kyoto and Medellin. CeMMAP runs a weekly seminar series at the Institute for Fiscal Studies (IFS), open to all, with more than 130 seminars since 2012 delivered by a mix of UK-based and international speakers.

Networks. CeMMAP maintains a network of UK and International Fellows, which includes many of the notable contributors to the development of microdata methods and practice, including four economics Nobel laureates. CeMMAP is growing a network of UK-based Associates who are junior academics with research interests that mesh with those of CeMMAP researchers and Fellows. Associates and Fellows attend CeMMAP seminars and other events and have desk space at the IFS and University College London (UCL). We have received over 170 visits from Fellows since 2012.

International partnerships. CeMMAP is developing partnerships with research centres abroad. Furthest advanced is a cooperation with the Georgetown Centre for Econometric Practice (GCEP) in Washington DC. GCEP offers training courses and masterclasses, some of which are reruns of CeMMAP events while others are GCEP products that CeMMAP might run in the UK in the future. A similar arrangement with the University of Sydney is under development. We are building relationships with research centres in East Asia (China, Hong Kong, South Korea, Japan and Taiwan), thanks in part to a grant from the British Academy International Partnership and Mobility Programme. In the US, CeMMAP has a partnership with the Cowles

Foundation at Yale University and the Center for Econometrics at Northwestern University.

The Future. With its ESRC Research Centre grant terminating in June 2017, CeMMAP has developed a new research programme for which funding is sought under the ESRC Large Research Grants scheme. After the cancellation of open calls for ESRC Research Centres in 2015 and 2016, we are struggling to maintain CeMMAP's programme of training and knowledge transfer and our national and international networking ventures. This is a major concern.

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