

Institution: University of Manchester

Unit of Assessment: 18 (Economics and Econometrics)

a. Overview

Manchester provides a world-class research environment in Economics through the appointment of dynamic researchers, the provision of research funds and infrastructure, generous sabbatical leave, low teaching loads, and the promotion of a vibrant research community. We have invested heavily at both senior level, with five targeted professorial appointments (**Banks, Griffith, Nicolò, Villamil** and **Yannelis**), and junior level, with 13 ECRs appointed. Notable achievements during the REF period include:

- Consolidation and enhancement of major research themes and impact in applied economics, development macroeconomics, environmental and resource economics, and mathematical finance.
- Over 400 outputs including 342 journal articles, 1 book and 12 handbook/ encyclopaedia chapters.
- Funding of £2.2m – representing a 245% increase in nominal terms over RAE2008 - for, inter alia, research on structural breaks and monetary policy, ageing, and nutrition, and several interdisciplinary projects on environmental issues and food safety.
- High profile involvement in a number of leading research institutes including the Institute of Fiscal Studies (IFS) and Manchester's Sustainable Consumption Institute (SCI).
- Enhanced PhD training through the introduction of a 2+2 "American style" programme and participation in the North West Doctoral Training Centre (NWDTC) with 35 PhD students graduated during the REF period and 37 in the programme as of the end of 2012-13.

Economics is a Discipline Area (DA) within the School of Social Sciences (SoSS) and is home to 55 permanent academic staff, comprising 16 Chairs, 1 Reader, 15 Senior Lecturers and 17 Lecturers, plus 6 on permanent teaching positions. Research continues to be organized in five research area groups (RAGs): microeconomics and mathematical economics; macroeconomics, growth and development; econometrics and applied economics; environmental and resource economics; development economics and policy. As with RAE2008, research from the first four RAGs is submitted under UoA18, and that from the fifth group submitted under UoA24b.

b. Research strategy

Our aim is to promote world-class research in all areas of economics. Following our RAE2008 outcome, the strategy for the current REF period, and beyond, is to broaden our scope to build creative, multi-disciplinary, partnerships which will enable us to address the major issues facing society. We sought to achieve this aim through the targeted appointments at both senior and junior level allied with significant investment in the research facilities for academic staff that put considerable emphasis on fostering a supportive environment in which careers can flourish.

Banks and **Griffith** moved to Manchester from chairs at UCL in 2010. **Griffith** is Fellow of the British Academy, and, like **Banks**, is a Deputy Research Director of the Institute of Fiscal Studies (IFS). Both have established internationally renowned research programmes with a distinctive interdisciplinary and policy focus covering topics such as ageing, food/nutrition, industrial organization and taxation. They provide leadership in applied microeconomics and microeconometrics, and we are building a strong research group in this area with **Andrews** and **Clark** and the recent ECR appointments of **Backus, Cortes**, and **Mazza**.

The microeconomics and mathematical economics (MME) group has been strengthened by the professorial appointments of **Yannelis** (.25FTE) in 2009 and **Nicolò** in 2013. **Nicolò** brings research expertise in mechanism design and modern political economy. Our profile in these areas has also been enhanced by the appointment of **Cho** (ECR) and the growing stature of **Saporiti** (ECR in RAE2008) through the emergence of his successful research agenda on the effects of political motivations and power sharing on electoral competition, in recognition of which he was promoted to senior lecturer in 2013. **Nicolò's** research also has applications in Industrial Organization, complementing those of **Krol** (ECR), **Madden** and **Griffith**. **Yannelis** contributes to the MME group through lecture courses for and supervision of PhD students, and providing additional research leadership both generally and more specifically in Mathematical Economics where we have significant research capacity in **Edhan** (ECR), **Evstigneev**, **Koutsougeras**, **Webb** (ECR) and **Zank**. **Yannelis** also organized "The Manchester Workshop in Economic Theory" in 2010, 2012 and 2013, all of which were attended by leading economic theorists from around the

world.

The appointment of **Villamil** (.25FTE) provides valuable additional leadership in the macroeconomics area, through her contributions to the PhD programme and her mentoring of junior colleagues. The profile of the macroeconomics group has been further enhanced by the growing standings of **Berardi** and **Neanidis** (both ECRs in RAE2008) who have established successful research agendas in, respectively, the role of expectations in macroeconomics and the factors affecting economics growth and development; both have been promoted to senior lecturer. The DA is home to the Centre for Growth and Business Cycle Research (CGBCR), the name of which continues to define the intellectual agenda of the macroeconomics group. Co-directed by **Agénor**, **Blackburn** and **Osborn**, CGBCR promotes interactions between our macroeconomists and econometricians, such as **Osborn** and **Hall** who, in a joint ESRC funded project, developed new methods for structural break detection and dating, and applied them to reveal changes over time in key monetary policy relationships. Our capacity in macroeconometrics, and econometric theory more generally, has been increased by the recent appointment of **Grant** (ECR).

In RAE2008, we stated that we would focus our effort in the subsequent period on promoting research in: *environmental economics; poverty, welfare and health; and finance*. We have invested in all three areas and achieved considerable returns as detailed below.

Environmental economics: Established during the RAE2008 period, the Environmental and Resource Economics (ERE) RAG has grown quickly and has a strong upward trajectory. The group now consists of 8 members of the DA, of whom two are professors and two research associates. Environmental economists play critical roles in the interdisciplinary Sustainable Consumption Institute (SCI) which was established at Manchester after a competitive bid process in 2007 through a £25m grant from Tesco. **Wossink** was both RAG leader and also Theme Lead of Sustainable Consumer Behaviours and Lifestyles within SCI (2011-13). In addition, both **Dasgupta** (Professorial Research Fellow, SCI, .5FTE) and **Ulph** (Acting Director, SCI, 2010-2012, .2FTE) are members of the RAG. These joint memberships cultivate connections between the ERE RAG and SCI, and through SCI with other environmental scientists (both inside and outside the university) working on sustainability issues, such as the design of an Environmentally Sensitive Shopper index of household food consumption using supermarket data and how choice architecture can be used to encourage more sustainable shopping. The group has been further strengthened by the recent hire of two ECRs, **Banerjee** and **Manderson**. **Banerjee** brings expertise in environmental regulation and behavioural economics, and **Manderson** brings additional expertise in energy economics, with his work forming the basis for a White Paper on California's energy future published by the American Enterprise Institute.

Members of the group have been successful in obtaining grants for interdisciplinary, inter-institutional research projects on: sustainable energy use in food chains; ecosystem services and the value of biodiversity; the environmental & social ecology of *Campylobacter*; see Section **d**. Members of the RAG are also involved in providing expert advice to industry as detailed in **REF3a**.

A further part of our strategy to promote work in this area is through the provision of dedicated postgraduate training. A new MSc Economics pathway in Environmental Economics was launched in 2010, and Manchester leads the Environmental Economics Area of Research Training (ART) in the ESRC funded NWDTTC; the DA also co-funds and supervises PhD students with SCI, with two students graduated (2008-13), two currently in the programme of whom one is co-funded with SCI. Through SCI, staff also participate in the supervision of doctoral students in other disciplines, with two such co-supervisions currently, in the School of Environment and Development and the School of Engineering.

Poverty, welfare and health: Economics supported research on poverty primarily through strategic staffing policy. Due to his expertise in poverty and development, **Agénor** was invited to be lead advisor to a Technical Assistance program for Burundi organized by the World Bank, and he was granted leave by the university for 2008-2010 to pursue this work. During this time, he also initiated a research agenda (with Pereira da Silva, Deputy Governor of the Central Bank of Brazil, 2010-) investigating macroprudential regulation that has produced numerous publications in academic journals. **Dutta** was appointed in 2008 as Brooks World Poverty Institute (BWPI) lecturer in development economics, specializing in issues relating to poverty and inequality. In addition, Wang (UoA24b), who was appointed to a lectureship in 2007, continues to be very active in building connections with BWPI through his research on China addressing the urban and rural

divide and the welfare of rural residents. These connections have been further strengthened by the recent appointment of **Cheng** (ECR) whose work also focuses on China.

Research in *welfare and health* has been supported through strategic appointments and the encouragement and support of growing links with the Institute of Population Health (IPS) in the Faculty of Medical and Human Sciences and the Cathie Marsh Centre for Census and Survey Research (CCSR) in SoSS. The appointment of **Banks** in 2010 provides important leadership in this area within the DA bringing both policy experience (see **REF3a**) and also a high profile research agenda in ageing and health issues through his role as Co-Principal Investigator (with Nazroo in Sociology at Manchester) of the English Longitudinal Study of Ageing (ELSA) and also his increasing research collaborations with Prof Matt Sutton and colleagues at IPS looking at the relationship between public health and private health behaviours. He has joined the Steering Group of the Manchester Institute for Collaborative Research on Ageing (MICRA), the Advisory Committee for CCSR and is also a co-investigator on the Health eResearch Centre (HeRC) newly funded by MRC at Manchester. **Griffith** also brings valuable additional research capacity in health as she leads a major research project at the IFS into the impact of consumer food purchasing behaviour and firm food pricing behaviour on nutrition; she is a co-investigator on the *Campylobacter* project mentioned above.

These appointments both complement and enhance the already developing links with health economics group in the Medical School. These links led to successful collaborations on three projects funded as part of a NIHR small grant scheme involving five members of economics, and the NIHR funded International Health Economics Workshop (May 2012). Our commitment to this area is also reflected by the recently introduced pathway in health economics in the MSc Economics programme.

Finance: Mathematical finance was supported through the provision of funds for (i) a post-doc Research Fellow (Bahsoun) to work with **Evstigneev** from 2006-8, after which Bahsoun moved to a lectureship at Loughborough; (ii) external speakers at seminars and workshops organized by the “Stochastic Economics and Finance” (SEF) group at Manchester, formed in 2009 by **Evstigneev** and colleagues in the Maths department. The SEF group was further supported by the award of a Hallsworth Visiting Professorship to William Ziemba (UBC) who was keynote speaker in the group’s 2012 workshop and gave lectures to graduate students. Our commitment to this area is also demonstrated by the appointment of **Villamil**, who is currently the editor of *Annals of Finance*. As a major figure in this field, **Evstigneev** was co-organizer of the Hausdorff Trimester Program in Stochastic Dynamics in Economics and Finance at Bonn (2013) that consists of both research workshops attended by leading financial economists and also lecture courses for graduate students. We offer research training in this area through a specialist MSc course, and contributions by staff to the Financial Economics Area of Research Training in the new ESRC funded NWDTC.

Future strategy: Over the five years following REF2014, our goal is to consolidate further the scope and impact of our research. This goal will be pursued through a staffing policy (see Section **c**) that both seeks to enhance the productivity of current staff and also the targeted appointments of dynamic researchers who, collectively and in collaboration with existing staff, have the potential to further enhance the quality of our future research. In particular, we will undertake theoretically-informed applied work in both macroeconomics and microeconomics, and also build on the Microeconomics and Mathematical Economics RAG’s growing international reputation to establish Manchester as the top European centre for Mathematical Economics research. We have recently progressed this agenda through capacity building via the appointments of ECRs working in applied microeconomics, macrofinance, industrial organization and mathematical economics. We will also continue to promote and broaden our involvement in interdisciplinary research. At the heart of the University’s strategic vision for this decade, *Manchester 2020*, is the promotion of research on the major challenges facing society arising from ageing, energy, poverty and sustainability. Economics has an important role in all of these, and our future strategy will nest within the University’s, for instance by continuing to support and facilitate staff involvement in interdisciplinary research centres at the university such as BWPI, MICRA and SCI.

Progress toward these goals will be monitored both internally through the annual Personal Development Reviews of staff (see Section **c**) and UoM’s planning and accountability cycle (relative to *Manchester 2020*), and also externally through invited reviews by distinguished members of the profession from outside Manchester. SoSS organizes periodic external reviews of

the progress of DAs toward their research objectives, with the most recent review being conducted in 2010 by Prof Ron Amann, former ESRC Chief Executive. This review recommended strengthening efforts to raise our profile and to engage in “larger” research themes. This review informed the development of our staffing policy and research strategy, especially in their focus on supporting interdisciplinary research.

c. People, including:

i. Staffing strategy and staff development

As described in Section **b**, staffing policy has been the cornerstone of our strategy for promoting world-class research at Manchester. We have made targeted appointments of senior staff to cultivate high profile policy relevant research, and appointed 13 highly promising early career researchers, reflecting our commitment to nurturing new talent and the ongoing vitality of the discipline. In addition, Manchester has invested in new teaching focussed positions (6 permanent, 4 temporary) which, in conjunction with the employment of graduate teaching assistants on UG tutorials, help to reduce the teaching load of other staff actively engaged in research.

The University takes active steps to encourage gender balance in appointment processes, including all staff involved in recruitment being required to take a course on Training in Diversity and Equality Issues. Our commitment is demonstrated by the four female Professors in the DA. We support the career development of all academic staff, permanent or temporary, and we have a strong commitment to equality and diversity. Enlightened promotional procedures now identify 4 key areas of performance: research, teaching and learning, service and leadership, and academic enterprise and knowledge transfer. Evidence of our commitment to career development is provided by the number of promotions since 2008: 3 to professorships (2 of whom were ECRs in RAE2001), 1 to reader (ECR, RAE2001) and 6 to senior lectureships (3 ECRs RAE2008; 1 ECR RAE 2001). Both the DA and University invest heavily in the career development of its staff as illustrated by the following:

Every member of the DA undertakes an *annual Personal Development Review*, with the Head of Economics, which helps plan their future career development and covers research agendas, publication aspirations and grants. This is informed by an individual annual report that demonstrates advances along a career trajectory towards making a distinctive contribution to their research field, individually or with colleagues at Manchester and/or beyond. As a minimum (quality and quantity), our target is for each research active member of the DA to publish in any 5 year rolling window, on average, at least 4 research articles viewed as likely to be significant within the appropriate field or sub-field.

SoSS provides the DA with an annual Research Support fund, linked to the number of academic staff, being £55k in 2012-13. This is supplemented from both the DA budget and funds externally generated by *The Manchester School (TMS)*. These three funding sources financed conference support totalling £25k in 2012-13. All academic staff are encouraged to apply for one semester’s paid sabbatical leave, following six full semesters without sabbatical leave. Over the period spring 2008-autumn 2013, a total of 40 semesters of sabbatical leave were taken by a total of 29 staff.

New members of staff are allocated a senior colleague as *mentor* (during their probationary period of 3 years, and typically informally beyond) and have reduced teaching and administrative loads in their first 2 years of appointment. They are also given priority in the allocation of SoSS and DA research funds to provide them with experience in managing research projects. The Faculty of Humanities runs a programme for new academics that provides support/training in teaching, research, student support, knowledge transfer and academic management; it is compulsory for all academic staff appointed to probationary permanent contracts. Further support is provided by the “An Academic Career” website, developed by the University Careers Service, which provides a comprehensive guide to working in higher education and was the winner of the Times Higher Education 2011 award for Outstanding Support for ECRs. The University’s commitment to career development has also been recognized through its receipt of the 2011 Scopus Fostering Young Researchers Institutional Award.

The DA budget provides £9k p.a to support regular (typically weekly) workshops run by all 5 RAGs at which invited external speakers, current staff and PhD students present research. In addition, the DA runs the *Manchester Economics Seminar (MES)* series which provides a forum for distinguished scholars to talk about their research to a general economics, rather than a specialist, audience.

UoM has developed a Concordat Implementation Plan to support the careers of researchers, and received the HR Excellence in Research Award from the European Commission for this work.

All these commitments by the University to research support and staff development combine to create a dynamic and supportive working environment. In the 2013 staff survey (71% return rate), 94% of respondents said that the University is a good place to work and 92% feel proud to work at the University (with similar percentages for SoSS).

The UoA has also benefited from the award of 7 Simon and Hallsworth Visiting professorships since 2008 for visits by distinguished international researchers, such as Mark Machina and Ed Prescott. Visiting Professors actively contribute to our research culture through a programme of activities during their stay, including workshops, training events, and more informal networking with staff, and it was via these visiting positions that we were able to attract **Villamil** and **Yannelis**.

Since RAE2008, there has been some turnover. In the Microeconomics and Mathematical Economics RAG, Hartley retired and his position has been taken by **Nicolò**. In the Environmental and Resource Economics RAG, there have been some changes at both senior and junior level. Gerlagh departed to take up a professorship in his native country at Tilburg University. His senior role within the group was taken over by **Rigby**, promoted to chair in 2010. As a result, there has been less emphasis within the RAG on climate change economics and increased emphasis on food economics and food safety. Gerlagh's position was replaced by two junior posts: one was taken by **Manderson**, the other by Kortelainen, who subsequently left to become principal economist in the Government Institute for Economic Research in his native Finland, and was replaced by **Banerjee**. In addition, Sauer was hired as senior lecturer (co-funded by SCI) but subsequently left to take a professorship in his native country at Kiel; we are currently seeking a replacement. For the period following REF2014, we also foresee making senior appointments in a number of areas in light of retirements over the next 5 years, with an immediate priority being in the Applied Economics and Econometrics RAG.

ii. Research students

Our research culture is enriched by a large and vibrant postgraduate community, whose members are key players in our collective intellectual life. We have awarded 35 PhDs in the period 2008-13 and are supervising a further 37 PhD students (as of end 2012-13). In 2010, we introduced a 2+2 "American style" PhD programme in which the first year involves coursework equivalent to one of our MSc programmes, year 2 involves PhD level coursework and the preparation of a research proposal and years 3 and 4 are dedicated to research. Direct entry into year 2 is possible subject to suitable qualifications. In 2011, we joined with Lancaster and Liverpool in the formation of the North West Doctoral Training Centre (NWDTC) to which we are a significant contributor in Economics. NWDTC is guaranteed a total of 63 new postgraduate studentships per year to support research and training at doctoral level, amounting to more than £15m investment between 2011 and 2016. We have received an average of 3 studentships (£16.7k p.a. each) per year from the NWDTC. In addition, SoSS funds 3 or 4 studentships (£13.9 p.a. each, rising to DTC levels from 2014-15) per year, and the DA allocates £400k p.a. for PhD studentships.

Every student is a member of one of our RAGs and is expected to attend RAG workshops and ultimately (when in year 4) to contribute to the series. PhD students also present at specially organized annual conferences. Prior to the advent of the NWDTC, there was a single conference for students in years 3 and 4 at Manchester, but this is now split into two with a NWDTC doctoral conference at which all year 4 students present, and a conference at Manchester at which all our own year 3 students present. These events are attended by all PGR students and staff, and provide an excellent opportunity for students to obtain feedback on their research from a broader community as well as providing valuable experience in the presentation of their research at conferences. The DA allocates £10k p.a. to the support of these conferences.

The year 1 courses are those offered as part of one of our MSc programmes. Year 2 courses are specialized PhD level courses within the 8 areas of research training offered by the NWDTC: microeconomics and mathematical economics, econometrics and applied economics, macroeconomics, behavioural economics, financial economics (all jointly led by the three institutions), environmental economics, development economics and policy, (both led by Manchester) and human capital (led by Lancaster). All courses offered at Manchester are taught by submitted staff, including **Dasgupta** (0.5FTE), **Villamil** (0.25FTE) and **Yannelis** (0.25FTE). Students from Lancaster have taken our year 2 PhD courses in microeconomics and

Environment template (REF5)

econometrics, and our suite of year 1 courses; our students have taken the year 2 human capital course at Lancaster.

As part of their training, 3rd and 4th year PhD students are typically employed as Graduate Teaching Assistants (following the satisfactory completion of a preparatory training course). The University provides a number of resources to support research students. These include: (i) eProg, an online progression monitoring system; (ii) The Researcher Development Framework that is promoted as a skills audit to help map out future development goals; (iii) The University of Manchester Careers Service, whose award winning “An Academic Career” website (see Section **ci**) also provides guidance to PGR students on academic careers.

Building on the experience gained at our doctoral conferences, students are actively encouraged to submit papers for presentation to national and international conferences, and the DA allocates £15k p.a. to support such activities. Recent presentations by our students include those at: the Asian Meetings of the Econometric Society (2011), the European Meetings of the Econometric Society (2011, 2013), The European Association of Environmental and Resource Economists Annual Conference (2011, 2012), and the Royal Economic Society Annual Conference (2013). A student made both a research presentation and also gave lectures in the Hausdorff Trimester Program in Stochastic Dynamics in Economics and Finance in Bonn in 2013.

PhD students who graduated during the REF evaluation period went on to a variety of employments including: lectureships at Aberystwyth, Huddersfield, Liverpool, Manchester, Middlesex, and Newcastle Universities, The Middle East Technical University, Turkey and universities in China and Cyprus; teaching fellow or instructor positions at the Australian National University, Manchester and Warwick; economists in the central banks of Malaysia, Sri Lanka and Turkey; research fellowships/positions in Health Sciences, York University, the World Bank, the Centre for Economic Planning Research, Greece, and the School of Slavonic and East European Studies, UCL; assistant statistician at the Office of National Statistics; and country economist in the Dhaka Office of UNDP in Bangladesh. Research collaborations between supervisor and student often extend beyond the PhD.

In addition to our MSc programmes in environment, health and finance noted above (Section **b**), we have introduced a new MA programme and continue to offer MSc programmes in Economics, Economics and Econometrics, and Econometrics. Maintaining strict admission standards to ensure quality, these programmes are designed to provide capacity building through the recruitment of research students. We also offer an MSc programme in Development Economics and Policy joint with the Institute for Development Policy and Management.

d. Income, infrastructure and facilities

Income: Research income for the REF period totals £2.2m, a 245% increase in nominal terms over the RAE2008 period. Sources of this income include (with award amount):

- **Hall and Osborn's** project on structural change and monetary policy funded by ESRC (£518k) for 2008-11
- SCI (Tesco) (£485k) funded project on Modelling Consumer Behaviours, 2009-13, Economics (**Wossink, Rigby,**) (Economics £189k).
- The EPSRC (£5m) funded Sustainable Energy Use in Food Chains Research Centre, a joint venture between three UK universities including Manchester which contributes a team of researchers from Chemical Engineering, Economics (**Wossink**) and Psychology. (2013-17) (Economics £110k)
- The EC (€3.1m, 2011-14) funded FP7 BIOMOT project investigating ecosystem services and biodiversity involving researchers from 8 European Universities including Manchester, represented by researchers in Economics (**Wossink**), Philosophy and Psychology (Economics €128k)
- The MRC/NERC/ESRC/BBSRC (£4m, 2012-16) funded project investigating the environmental & social ecology of Campylobacter involving researchers from 6 UK universities including Manchester which is represented by Economics (**Rigby and Griffith**), the only social scientists on the project (Economics £820k).
- Through IFS, **Banks** and **Griffith** play lead roles on a number of current major grants totalling £31.2m, including ELSA funding from the US National Institute of Ageing, the UK Government and ESRC (£13.4m, **Banks**), and an ERC (£1.6m) funded project on prices, food and nutrition (**Griffith**); these grants fund (£490k) their part-time secondments to IFS.

Environment template (REF5)

Additional income was generated through smaller grants covering projects in: health economics (involving members of Economics and the Faculty of Medicine) funded by the NIHR; wellbeing and income dynamics (funded by ESRC and joint with researchers in psychology initially at Manchester and now moved to Stirling); food economics and environmental economics funded by SCI (Tesco); food safety funded by RELU; and agricultural economics funded by the EC, ESRC and DEFRA.

Our strategy for generating grant income involves: (i) The use of seed corn funding from revenue generated by *The Manchester School*; (ii) The University's "investing in success" and "strategic investment" programmes; (iii) Staffing strategy to target the appointment of senior level staff with a track record of grant acquisition; (iv) The targeting of support in interdisciplinary research, e.g. in the areas of health and the environment.

Facilities: The University's infrastructure investment includes the Arthur Lewis Building (ALB) which opened in 2007 and hosts the School of Social Sciences. This state-of-the-art, purpose built facility brings together colleagues and PhD students from all social science disciplines, actively facilitating interdisciplinary research. Our PhD students are fully integrated – physically and intellectually – into the research environment of the DA. PhD students occupy the open-plan desks between academics' individual offices in ALB. This proximity has proved to be successful in fostering interactions both within the PhD student group and also with staff. The University of Manchester Library, as a designated National Research Library, offers a range of tailored products and services to directly underpin research at Manchester. This includes providing access to an unparalleled range of electronic resources including over 40,000 e-journals and a complete range of research databases. Through Manchester *e-scholar*, the Library offers researchers a premium resource to both deposit and disseminate their research outputs. The research of both staff and PGR students benefits considerably from the high-powered computing facilities available at the University. Manchester uses HTCondor, a High Throughput Computing system which gives access to many hundreds of campus PCs and can significantly reduce the time required for processing in, for example, simulation studies of nonlinear econometric methods. In the aforementioned staff survey (in Section **ci**), 91% of the respondents agree that facilities for research at Manchester are good.

e. Collaboration or contribution to the discipline or research base

Interdisciplinary research: As the promotion of interdisciplinary research in environmental, health, poverty and finance was one of our stated goals in RAE2008, our work in these areas has been summarized in Section **b**. Economics contributes to four research centres at Manchester: The Sustainable Consumption Institute (SCI), the Centre for Business Cycle and Growth Research (CBCGR), the Brooks World Poverty Institute (BWPI), and the Manchester Institute for Collaborative Research on Ageing (MICRA).

The contributions of our Environmental economists to SCI have been described in Section **b**. SCI is the conduit for **Wossink's** involvement in the interdisciplinary research project on sustainable energy use in the food chain (see Section **d**), and also a SCI-Nestle UK pilot project on "sustainability and the consumer".

While the principal members of CBCGR are staff and PhD students in Economics, there are also a number of External Affiliates from both UK and overseas universities. Apart from hosting the DA's Macroeconomics seminar series, CBCGR has run international conferences, usually biennially, with participants from both academia and central banks (e.g. Federal Reserve Banks of Minneapolis and New York, and the Central Banks of Germany, The Netherlands, Norway, and Spain).

As noted in Section **b**, members of Economics actively collaborate with members of BWPI. Further evidence is provided by the award in December 2012 by the Department for International Development of £2.2m to a joint Economics (led by Amann) and BWPI team to fund research on "The Brazilian Development Model for Africa".

MICRA is made up of researchers from fields including Medicine, Biology, Sociology, Social Gerontology, Economics, Engineering and Psychiatry. **Banks** works closely with a number of MICRA colleagues to develop and integrate Economics into the agenda.

All four research centres provide foci for researchers, both in Manchester and beyond, to come together and also provide conduits for researchers to share their ideas with users of research. We also contribute to national and international research centres, for example, **Banks** and **Griffith** are

Deputy Research Directors at IFS leading to numerous collaborations such as lead roles in ESRC funded Centres for Microeconomic Analysis of respectively Public Policy (**Banks**) and Fiscal Policy (**Griffith**), **Hall** is a member of the Advisory Board, Info-Metrics Institute, American University, Washington DC, USA, Orme and **Osborn** are members of the Advisory Board of CeMMAP, and **Wossink** is a member of the Scientific Advisory Board, Leibniz Institute of Agricultural Development in Central and Eastern Europe. **Banks** has made further contributions to the research base through his lead role in the design and analysis of ELSA, his past service on the National Strategy Committee on Longitudinal Studies and current roles as chair of the Scientific Advisory Committee of *Understanding Society* and as a member of the Scientific Advisory Committees for longitudinal studies of ageing in Brazil, China, India, and Ireland.

Manchester economists also have many contacts with industry and government as detailed in **REF3a**. These interactions inevitably inform the research agendas of the staff concerned. Leading examples are **Agénor**, whose work at the World Bank led to research collaborations with a member of the Central Bank of Brazil on macroprudential regulation, and **Griffith**, whose work at IFS led to her research on the economic consequences of the introduction of a “Patent-box” following its suggestion by Government; see **REF3a/b** for further details.

Members of Economics are involved in a variety of *national and international collaborations*. In addition to those already mentioned above, examples include: **Agénor**'s work with Alper at the Central Bank of Turkey, see **REF3b**; **Banks**'s key role in the ELSA, a project jointly coordinated by Epidemiology (UCL), IFS and the National Centre for Social Research; **Evstigneev**'s work on mathematical behavioural finance with Hens (Zurich), Schenke-Hoppe (Leeds) and Amir (Arizona), see **REF3b**, and also his participation as an external member of international research projects at the Swiss Institute of Banking, University of Zurich (supported by the Swiss Science Foundation) and the Economics Department, University of Bergen (supported by the Norwegian Financial Market Foundation). **Griffith**'s work (at IFS funded by the European Research Council) on food pricing and nutrition with O'Connell (UCL), Dubois (Toulouse) and Nevo (Northwestern) using methods developed in ESRC-funded work with Dubois. Of the 113 written outputs listed in **REF2**, 74% involve at least one co-author from outside Manchester; with 27% (of the 113) involving at least one co-author with a UK affiliation (outside Manchester), 34% involving at least one co-author with a (non-UK) European affiliation and 21% involving at least one co-author in the US. These collaborations extend to PG training. In addition to our involvement in the NWDTC (see Section **c**), we participated in the EU-funded Erasmus Mundus (with 11 other European Universities) that brought 3 students from Asia to take MSc courses at Manchester.

Our research has been recognized by the following awards: **Griffith** was elected as Fellow of the British Academy in 2009, **Osborn** has been named as a *Journal of Applied Econometrics* Distinguished Author in 2013, **Rigby** received the best paper award for 2010 in *the European Review of Agricultural Economics* and also The 2012 *Australian Agricultural and Resource Economics Society* Quality in Research Discovery Award, **Nicolò** received the 2008 best paper award in the *Journal of Financial Intermediation*, and **Agénor** received the best paper in finance award for 2010 from the *International Finance Review*. Further evidence of recognition is provided through the following invited presentations: **Osborn** gave the keynote address at both the Bank of England's Centre for Central Bank Studies course "Inflation in central banks", (2010), and also at the Fifth Colloquium on Modern Tools for Business Cycle Analysis, organised by EuroStat in Luxembourg, (2008), she also gave a public Guest Lecture at the New Zealand Treasury (2012); **Hall** gave the invited keynote presentation both at the Seventh International Symposium on Econometric Theory and Applications, Monash University, Australia, (2011), and also (for the econometrics section) at the 2013 Agricultural and Applied Economics Association conference in the USA; **Rigby** was invited lecturer, British Council funded Summer School, 'Conflicts over Commons', Bogazici University, Istanbul, 2012.

Fourteen members of staff serve on *editorial boards* of academic journals. Amongst these, **Griffith** is the joint managing editor of *Economic Journal* (2011-), **Villamil** is editor of the *Annals of Finance* (2009-), and **Yannelis** is editor of *Economic Theory* (2009-), *Economic Theory Bulletin* (2013-) and *Studies in Economic Theory* (1991-). Manchester is home of *The Manchester School*, with Orme serving as managing editor and as a member of the editorial board along with **Andrews**, **Blackburn**, and Bratsiotis. The department has also been represented during the REF evaluation period on the editorial boards (including as associate editors) of: *Agricultural Systems*, *Applied*

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Economic Perspectives & Policy, Econometric Reviews, Economic Theory, European Economic Review, European Review of Agricultural Economics, International Journal of Forecasting, Journal of Applied Econometrics, Journal of Econometric Methods, Journal of Financial Econometrics, Journal of Mathematical Economics, Journal of Risk and Uncertainty, Management Science, Quarterly Review of Economics and Finance, and Theory and Decision. In addition, the following served as guest editors for an issue in the indicated journal: Chouliarkis, *The Manchester School* (2011); **Dutta**, *Health Economics* (2009); **Evstigneev**, *Annals of Finance* (2013), *Stochastics* (2013); **Hall** and **Osborn**, *The Manchester School*, (2013).

As a department, we are committed to making significant contributions to the strength and vitality of economics, nationally and internationally. In addition to the points above, this has included active participation in professional bodies and scientific advisory panels, examples of which are:

Service in Professional associations and societies:

- **Blackburn**: Council Member, Royal Economic Society (2009-)
- **Griffith**: European Economics Association elected (2013) President for 2015, Vice President (2013) and Chair, Economics and Economic History Section, British Academy (2012-14).
- **Nicolò**: Elected Member, Council of the Social Choice and Welfare Society (2012-17).

UK Research Council Service:

- **Agénor**: Evaluator, ESRC's World Economy and Finance Research programme in 2010.
- **Banks**: Chair, Scientific Advisory Board of and member, Governing Board of the ESRC 'Understanding Society' Scientific Advisory Committee; member, Access Oversight Committee for CLS Cohorts; member, ESRC, MRC and Wellcome Expert Advisory Group on Data Access; Trustee, Nuffield Foundation.
- Orme: (all ESRC) Member, Strategic Research Board (2005-09); Chair, Research Centres Competition Panel (2008); Co-chair Commissioning Panel, Professorial Fellowships (2012).
- **Wossink**: ESRC Review Panel Member for the NERC-DFID-ESRC program on Ecosystems and Poverty Alleviation (2008).

Research Advisory Roles:

- **Griffith** is Deputy Chair REF2014 Sub-panel 18.
- **Osborn**: Chair of the Economics and Econometrics sub-panel for RAE2008, and subsequently member of the HEFCE Expert Advisory Group for REF; Deputy Convenor of Business Studies and Economics Panel for Hong Kong Research Assessment Exercise 2014; Chair of the International Board for Fellowships and member of the International Board for Research Grants for Irish Research Council for the Humanities and Social Sciences (2007-08); member of the Severo Ochoa Scientific Committee for centres of excellence competition, Spanish Government Ministry for Science and Innovation (2011-12).
- **Koutsougeras** is a member of the Evaluation Panel of the European Union Seventh Framework Program (FP7).
- **Wossink**: Independent Expert reviewer for FP7 (2011-); External evaluator Research Council of Norway program 'Environment 2015: Crosscutting Issues', (2008).

Our commitment to the profession is also demonstrated through participation in the organization of a number of *national and international conferences*. Examples include: **Andrews** sits on the steering group for the Annual Work Pensions and Labour Economics Conference; **Becker** organised a "High-Frequency Econometrics" workshop for the Marie Curie Initial Network on Risk Management and Risk Reporting conference (2011); Chouliarkis co-organised an International Symposium on Business Cycle Behaviour in Historical Perspective at Manchester (2009); **Griffith** was Programme Chair of the RES 2011 conference; **Hall** was a member of the programme committee for the 1st, 5th and 6th Conferences of the Society for Financial Econometrics, and co-organizer with **Osborn** of a Conference on Structural Breaks and Monetary Policy at Manchester, (2011); **Nicolò** was a member of the scientific committee for the Social Choice and Welfare Conference, 2008, 2012; **Osborn** was co-organiser of the Euro Area Business Cycle Network workshop (2008); **Yannelis** was a Programme Committee member for the 2013 Asian Meetings of the Econometric Society. In addition, Manchester will host the RES conferences in 2014 and 2015.