

<p>Institution: University of East Anglia</p>
<p>Unit of Assessment: 18 Economics and Econometrics</p>
<p>a. Overview</p> <p>For 20 years the School of Economics has sustained research excellence by concentrating on three main areas: behavioural and experimental economics, industrial economics and competition policy, and applied and financial economics. We nurture research excellence through seminar series, workshops, research leaves, a sensitive system for allocating teaching loads, mentoring, PhD studentships, and the like. We also belong to a much larger community of economists at the University of East Anglia (UEA). UEA is structured around interdisciplinary research and teaching and there are as many economists in other Schools as in the School of Economics itself. The School, which is part of the Faculty of Social Sciences, benefits from interaction with economists in the School of International Development, the School of Environmental Sciences, the School of Law, the Norwich Business School, and the Norwich Medical School. These interactions are supported in part by research centres, including the ESRC-funded Centre for Competition Policy (CCP) and the Centre for Behavioural and Experimental Social Science (CBESS), part of the ESRC Network for Integrated Behavioural Science (NIBS).</p>
<p>b. Research strategy</p> <p>The School's research strategy during this REF period has been guided by the outline set out in the RAE 2008 statement, specifically, the growing of strength, depth, and influence in the School's three main areas of competence: in behavioural and experimental economics, in industrial economics, and in applied and financial economics. This plan has largely been realised in the shape of the School's REF 2014 return profile. The number of Category A FTEs remains roughly unchanged from RAE 2008, with the Unit of Assessment returning 16 members of staff in this exercise, compared to 14 in RAE 2008. This reflects the focus of the School on developing and supporting high quality across all three research groups.</p> <p>The submitted members of staff, listed by their primary research area, are Cooper, Dietrich, Poulsen, Ramalingam, Sugden, Turocy and Zizzo in behavioural and experimental economics; Chowdhury, Kim, Miravete, and Sitzia in industrial economics; and Brown, Di Maria, Lazarova, Moffatt, and Polanski in applied and financial economics. Growth has been realised in the additions of Professors Cooper, Dietrich, Fatas, Miravete, and Turocy. Moffatt, Poulsen, Sugden and Zizzo have continued through this cycle to sustain high-quality productivity in research outputs. The traditional strength in industrial economics is represented well in this submission through the impact case studies detailing how the expertise in competition policy of Davies and Lyons continues to generate impact. This well-established core has provided a stable foundation to support the development of the School's research activities. There are a further 24 economists from other Schools who are submitted under other UoAs, including Ian Bateman OBE, Greg Shaffer, and Catherine Waddams. These researchers, along with Fatas in behavioural and experimental economics, Bokhari, Davies, Lyons and Mariuzzo in industrial economics, and Saha in applied and financial economics, provide further depth and breadth to the research environment.</p> <p>The most significant evolution relative to the RAE 2008 submission is in the applied and financial economics research group. This group incorporates the research expertise previously organised as the public policy and social institutions group, and reflects in particular the establishment of a core in financial economics, with Professor Moffatt now joined by Brown and Polanski. This group organises its own topic-specific seminar series as well as jointly organising a seminar series on accounting, finance, and policy with the Norwich Business School. A key objective in the next cycle will be supporting the further development and maturation of this still-young research group.</p> <p>In the five years beyond REF 2014, this three-group structure will form the foundation of the School's research strategy. The School has cultivated a culture which encourages and supports staff in achieving world leading and internationally excellent output, in generating substantial external funding and in undertaking research with high impact. Key features of the School's approach include generous personal financial allowances for all staff; robust IT spending on</p>

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hardware, software, and data; a commitment to the next generation through mentoring of junior staff and developing research students; and a rich variety of frequent seminar and workshop series. This is set within the context of a University which aims to maintain a year-on-year position in the top-100 for research amongst the world's universities (realised in 2013 in the Leiden ranking), and which is committed to provide the resources to realise that objective. Our principal method for the measurement of the attainment of these objectives is through official national assessments (such as the REF) but also including other public assessments by the media and other bodies (e.g. reports and analysis of UK research by Research Councils).

c. People, including:**i. Staffing strategy and staff development**

As projected in the RAE 2008 environment statement, the School now has a significantly greater proportion of junior lecturers, especially those in their probationary period. The School takes seriously its responsibility to researchers at the formative stages of their careers and has invested heavily in personal support and development for these junior members of staff. A significant innovation within this REF period has been the transition from a three-year probationary period to a five-year one. In addition to bringing the School more closely in line with the international standards of the profession, this offers probationary lecturers a more realistic timeline for developing a sustainable research programme with internationally-excellent outputs. Junior researchers can therefore focus on high-quality research even though lead times for publication in economics can be lengthy.

The School matches these expectations made of junior members of staff with a system of support to give juniors the resources they need to meet those expectations. A standard annual review process takes place each Spring, which evaluates in all dimensions the progress being made towards meeting the confirmation of appointment standards, and provides rich feedback. Alongside this, there is a supportive system of mentoring in which each probationary lecturer is paired with a more senior colleague who is available for less formal discussions and advice throughout the year. More experienced faculty are expected to assist younger colleagues with strategies for publication and dissemination, as well as in preparing funding proposals and managing research projects. Furthermore, the School has developed a strategy of cultivating postdoctoral research associates, who provide further research support to junior and senior staff. At present there are three research associates physically located within the School, with two more ESRC-funded research associates associated with the NIBS grant to join in the near future. In addition, there are research associates elsewhere on campus associated with other units such as CCP and the Norwich Medical School, which are connected to grants co-held by members of the School of Economics.

The enhanced research support is aligned with enhanced expectations regarding research, with an emphasis being placed on all research-active staff producing output at the internationally-excellent level and a strong encouragement embedded in the confirmation of appointment and promotions process towards world-leading output.

The School supports the systematic building of quality through a local environment that is attractive to researchers who are active and productive at the international level. The School currently offers a yearly personal research allowance of at least £5000 per full member of staff (pro rata for part time staff). These funds may be used at their discretion to support travel, journal submission fees, specialist computer software and databases, payments to participants in experiments, and other research-related expenses. When finances permit this limit may be increased (as it has, to £6000, in each of the last three financial years through 2012/3). This support is in addition to general IT research software and databases, and to computer hardware, made available to staff.

The School believes that ideally research and teaching form a virtuous circle, with teaching simultaneously reflecting previous research while stimulating new directions of thought. Over the REF period the School has been able to continually reduce teaching loads; full-time research-active staff in 2013/4 have an upper baseline teaching load of 95 contact hours with an average of 75 hours. By comparison, the baseline load in 2007/8 was 132 hours. This baseline allocation is further adjusted for probationary lecturers (who receive a discount of 40% relative to the target in

their first year, and 25% relative to the baseline in each of years 2 and 3 of their probation); for other staff in their first year (25% relative to baseline); for primary or support supervision of PhD students and in recognition of staff who take on exceptionally time-intensive administrative responsibilities within the School or Faculty. Additionally, external research and consultancy income buys replacement teaching.

The School nurtures quality via a system of internal support mechanisms which are intended to attract new staff to the School, to provide them opportunities for support and development, and, importantly, to encourage their retention. The School operates a system of annual personal research planning and appraisal meetings for all members of staff in which individuals articulate their plans for research and career development. In addition, the pursuit of research funding is actively encouraged and rewarded by the School. Funding-seeking activities, especially successful activities, are noted explicitly in the promotions process. The School makes also a practice of offering further complementary institutional support for funding applications, allocating, e.g., additional time to research over and above the nominal replacement teaching buyout time mentioned above. We have in place a research leave scheme; typically, every research-active member of staff will take one semester in seven as paid research leave, conditional on presenting a plan for using that time for development of new research outputs or funding proposals. The University has a Research Staff Working Group, chaired by a Pro Vice Chancellor, which oversees the implementation of the Concordat for the Career Development of Research Staff. A network of research staff coordinators facilitates implementation within Schools.

The School Research Ethics Committee provides ethical approval of research undertaken by all members of the School. This committee has established a set of procedures to help the staff and students ensure that their research is conducted in accordance with generally accepted ethical standards and is consistent with the University's ethics policy.

UEA is a member of the Athena SWAN charter as a sign of its commitment to advancing the careers of women in research. UEA holds an Athena SWAN Bronze Award at the institutional level; the School is preparing for a mock draft submission in 2014 for a Bronze Award.

During the assessment period staff held various fellowships or visiting appointments internationally, including in Australia, Chile, Germany, Italy, Japan, Spain, and the United States. Sugden is a Fellow of the British Academy, and held an ESRC Professorial Fellowship from 2006 to 2009.

ii. Research students

The School values the training of PhD students as an integral part of a vibrant research environment, and allocates resources correspondingly. The School makes generous allowances in the teaching workload allocation for supervisors, reflecting the time investment required to provide quality supervision. Research-active staff are encouraged to become involved in PhD supervision immediately upon the completion of their PhD and/or their arrival to UEA, with a general guideline that staff with confirmed appointments will typically supervise two students at a time. Most PhD students have a primary supervisor and a support supervisor, although this arrangement is flexible and can be customised to meet individual circumstances. PhD students form an integral part of the research environment. They are frequent presenters in the weekly internal workshops, where they receive specialised feedback from members of the Faculty, and are expected likewise to be frequent and active participants in seminars and discussion groups.

In Summer 2013 the School offered five summer school courses for PhD students: Experiments and economics of organisation (Cooper), Structural modelling in industrial organisation (Miravete), Behavioural game theory (Cooper), Econometrics: Random coefficients discrete choice models (Miravete), and Quantitative finance (Moffatt). The School also collaborated with CBESS and the School of International Development to launch an annual one-day workshop on lab-in-the-field experiments for development at UEA's London campus in May 2013. Total attendance across all of these events was 130 for 2013, including students from across the UK and Europe.

PhD students are housed together in one spacious suite, which gives the students a suitable home base within the School to carry out their work. This encourages students to be present in the School on a regular basis, and offers them opportunities for interaction and interchange with their fellow students. The PhD suite includes computer workstations, and the School provides as a matter of course not just basic IT requirements, but also licenses for STATA and Scientific Word. In addition, each PhD student receives an annual personal allowance of £500, which can be used towards travel for conferences or master classes, specialist IT or software purchases, or other research materials. Over the last two years, 10 scholarships have been offered covering, at least, UK/EU tuition fees in six cases and international fees in four, a tax-free maintenance grant and a research training support grant of £750 per year. In addition to these sources of support, PhD students apply for and receive grants from CCP and CBESS for additional research costs.

These activities all support the goal of having in place Doctoral Training Centre/Partnership status with the key UK funding bodies. In September 2013, UEA became a founding member of the Eastern Academic Research Consortium (ARC), with Essex and Kent, as a key step towards realising this objective. Participation in the Eastern ARC will enhance the School's internal efforts in supporting our continued recruitment of high-quality research students internationally. As an initial commitment, the partner institutions have agreed to fund six ARC Fellowships and 18 PhD studentships over the first five years of the Consortium.

d. Income, infrastructure and facilities

The School benefits from an environment at UEA in which economists are housed in a variety of academic units. While most of these economists outside the School of Economics proper will be returned to REF in different units of assessment, their presence provides a natural framework for interdisciplinary interaction and research between the School of Economics and other disciplines. Two focal areas for interdisciplinary interaction are found in research centres supported by the Faculty of Social Science, the ESRC Centre for Competition Policy (CCP) and the Centre for Behavioural and Experimental Social Science (CBESS).

The CCP was established in 2004 and its funding was renewed by the ESRC in 2009 as a 10 year Centre of research excellence. The Centre undertakes interdisciplinary research into competition policy, including market regulation, which has real-world policy relevance without compromising academic rigour. Its membership includes researchers from the School of Economics, the Norwich Business School, the School of Law and the School of Political, Social and International Studies. CCP has close links with, but is independent of, regulatory authorities, including the European Commission, Competition Commission, Office of Fair Trading, BIS, Ofgem, Ofcom, World Bank and with private sector practitioners. The Centre produces a regular series of working papers, policy briefings and publications and a bi-annual newsletter with short articles reflecting recent research. An e-bulletin keeps academics and practitioners in touch with publications and events, and there is a lively programme of conferences, workshops and practitioner seminars throughout the year. Recently, CCP launched a blog that comments selectively on competition issues in the news, government and agency policies and on new academic research.

CBESS was organised in 2008 to support the School's and University's traditional strength in behavioural and experimental methods. The centre brings together experimentalists from the School of Economics, the School of International Development, the School of Environmental Sciences, the School of Psychology, and the Norwich Medical School. In collaboration with the School of Economics, CBESS maintains two purpose-built state-of-the-art computerised laboratories for conducting economic experiments. Two postdoctoral research associates act as laboratory managers to provide end-to-end support for the logistics of conducting experiments. In 2012/3 the CBESS laboratories supported approximately 400 experimental sessions spanning 25 separate projects, placing it among the most active laboratories internationally.

Generation of grant income, both from research and consultancy sources, is actively encouraged by the School. Income per FTE stood at around £28,000 in 2012/13. In the current environment, success in maintaining and expanding income streams requires a broad-based and diversified strategy. All three research groups play significant roles in our plans in this regard.

A major strategic achievement of CBESS is the formation of the Network for Integrated Behavioural Science (NIBS) with colleagues at the University of Nottingham and University of Warwick. The Network will benefit from approximately £4 million of funding from the ESRC over four years to undertake foundational, cross disciplinary research modelling human behaviour and behaviour change plus conceptual and applied research examining implications for public decision making. This cooperation will bring over £750k of income to UEA over its four-year span. Income from the Network and other sources has allowed CBESS to achieve its goal of being self-funding.

CCP is transitioning to a mature phase as the 10-year programme of ESRC funding for CCP draws to a close in 2014. After September 2014, CCP funding will arise primarily from four sources: research grants from public funders; contract research; engagement activities, including short courses; and UEA. In addition to its ESRC centre grant, CCP members have during 2012/13 secured an ESRC/Google grant which together with other research related income totalled in excess of £200k. Decisions on other large grant applications are pending. CCP will continue to serve as a focus for research in competition policy and regulation with dedicated space, multidisciplinary seminar series and an annual conference. To support income generating activity, UEA has committed to contribute funding for a 50% director and manager as well as one FTE research associate for the period September 2014 to July 2017. Combined with grant and other income, the Centre aims in a steady state to support a full time director, a full time administrator, three research associates and faculty buyout time of at least one FTE equivalent a year.

Other strategic initiatives in continuing to diversity funding streams include the School's involvement in the RCUK Centre for Copyright and New Business Models in the Creative Economy (CREATE), and the Media@UEA group, which together involve researchers in both industrial economics and the applied and financial economics groups. Both those groups are also actively expanding work in health economics in conjunction with the Norwich Medical School, including participation in the Behaviour and Health Research Unit based at Cambridge.

UEA is committed to providing world-class fit-for-purpose facilities and infrastructure to support our strategy for research quality and income generation. Selected examples include:

- *Research Computing.* The School augments this with substantial local investments in computing facilities. In 2011/2 and 2012/3, the School spent over £110,000 on IT provision. This includes routine upgrades of office workstations on a three-year cycle, larger and higher-quality monitors, and purchase of licenses for STATA, SAS, and Mathematica. In 2012/3, the School contributed £26,261 towards the purchase of a large database of pharmaceutical data in support of the industrial economics and applied and financial economics groups, as well as £16,000 towards hardware and facilities upgrades for the CBESS laboratories. The University maintains a high-performance computing (HPC) cluster available for research projects requiring extensive computational power; this has supported, among others, computationally-intensive analysis of large games using Gambit (Turocy).
- *Peer Review of Grant Proposals.* The University has developed a mandatory pre-submission internal peer review process for all applications to the UK Research Councils. This programme will be extended in future to other major funders.
- *Open Access Deposit of Full-Text Articles.* In support of Government policy, UEA aims to increase the visibility, usage and impact of its research publications by maximising unrestricted online access to its research for all users and researchers worldwide. Specifically, the School will pay Gold Open Access charges automatically for contributions by its members to be published in a journal which is rated by the School as internationally excellent or world leading, as well as outputs which have strong potential for the generation of impact. The School's allocated budget at present for Gold Open Access publishing is approximately £60,000 per year, in addition to the central University fund.
- *Norwich Research Park.* The University is situated as part of the Norwich Research Park (NRP). The Park is one of the largest concentrations of research scientists in Europe, and also includes a large regional hospital, four independent world-renowned research institutes with strategic funding from the BBSRC, and the Sainsbury Laboratory. Government

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awarded £26 million investment to the NRP in 2011, which is being invested in innovative infrastructure to lay the foundation for further world-leading research, enterprise, and engagement activities. This will benefit particularly the continued development of health economics as an area of strength.

- The University manages the *UEA Capital Fund* for investing in research equipment and *UEA Intellectual Property Fund* for commercial development of ideas and protection and exploitation of intellectual property.

e. Collaboration and contribution to the discipline or research base**Seminar Series**

Because there are many economists at UEA situated in a variety of Schools, economics research at UEA benefits from a wide range of seminar series that, both in number and in quality, exceed what would normally be expected at a School of our size. Speakers who have visited UEA in the 2011/2 and 2012/3 academic years include Gary Charness, Chaim Fershtman, Ed Hopkins, Dan Kovenock, Michael Moore, Ariel Rubinstein, Fernando Vega-Redondo and Eyal Winter.

- The School organises a weekly seminar series, which bring in 15-20 visiting speakers per year from across the UK, Europe, and North America.
- There is an internal lunchtime seminar series, meeting approximately 25 times per year, providing an opportunity to present work in progress in a more informal setting.
- CCP holds seminars weekly with approximately 20 speakers per year. In addition, staff benefit from CCP's lively programme of international visitors.
- CBESS organises a weekly seminar series with 25 meetings per year, including hosting 12-14 visiting speakers. CBESS have begun a coordination arrangement with University of Essex to be able to invite speakers based outside Europe to be on the programme.
- The Applied and Financial Economics Group benefits from two seminar series: Applied and Financial Economics workshops and Accounting Finance and Governance workshops, the latter organised jointly with the Norwich Business School. These together host approximately 15 speakers per year.
- Staff and PhD students organise reading groups on various topics. Recent topics include health and pharmaceutical competition and current research in Industrial Organisation.

Interdisciplinary Research/Collaborations (examples)

- Through the Media@UEA initiative, staff collaborate with colleagues in the Schools of Film, Television and Media Studies; Law; Political, Social and International Studies; International Development; Languages and Communication Studies; and Literature and Creative Writing.
- Members of the School contributed to the UK National Ecosystem Assessment in 2011 in collaboration with colleagues in the School of Environmental Sciences.
- Zizzo collaborates with Suhrcke (Norwich Medical School) and Nakamura (postdoctoral research associate) in the Behaviour and Health Research Unit (BHRU). Funded by the Department of Health, BHRU has experts from the University of Cambridge, RAND Europe and UEA.
- Zizzo is a member of the interdisciplinary Centre for Copyright and New Business Models in the Creative Economy (CREATE), an RCUK interdisciplinary research centre designed to help the UK cultural and creative industries become innovation leaders within the global digital economy. The participating institutions are Glasgow, Strathclyde, Edinburgh, Nottingham, Goldsmith's, St. Andrews and UEA, and approximately 80 industry/charity partners.
- Turocy is the project director of Gambit, a Free/Open Source library of game theory software package. Current collaborators on the project in the UK include Bernhard von Stengel at LSE and members of the Computation in Economics group in the Computing Science department at Liverpool, as well as research groups in Australia and Canada.

Existing Networks and Clusters (examples)

UEA is a founding member of the Eastern Academic Research Consortium along with the Universities of Essex and Kent. Announced in September 2013, the Consortium will build on the existing research strengths of the three universities and explore new opportunities for collaboration.

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CCP is part of the Competition Law and Economics European Network (CLEEN), an interdisciplinary and international network of research institutions with the focus on current challenges in competition policy and market regulation.

CBESS collaborates with two other UK's primary centres for behavioural science research, CeDEx group at University of Nottingham and the Behavioural Science groups (WBS and Psychology) at University of Warwick, in the ESRC funded Network for Integrated Behavioural Science (NIBS).

CBESS maintains close links with the Faculty of Social and Behavioural Sciences at the University of Amsterdam. This cooperation involves, in addition to a number of co-authored projects and reciprocal visits for seminars, an annual mini-conference for PhD students.

The School has recently established a new partnership with GATE at the University of Lyon (France) for the training of PhD students.

Policy Advice (examples)

Davies: Academic Adviser of the Office of Fair Trading; advice to various policy bodies including OECD, Monitor & competition authorities from Chile, Ireland, Mexico, Singapore, Sweden

Di Maria: International expert on climate change for the CESifo Group (the Center for Economic Studies, the Ifo Institute and the Munich Society for the Promotion of Economic Research)

Lyons: Member of the UK Competition Commission

Sugden: Consultancy work for Department of Transport and the Department for Environment, Food and Rural Affairs

Zizzo: Member of the Forum of Consumer Experts of the UK Office of Rail Regulation

Membership on Editorial Boards

Cooper: *Experimental Economics* (co-editor-in-chief)

Dietrich: *Social Choice and Welfare, Theory and Decision, Economics and Philosophy*

Fatas: *Journal of Economic Behavior and Organization*

Lyons: *Journal of Industry, Competition and Trade, Economica*

Miravete: *The B.E. Press Review of Network Economics* (editor), *Journal of Economic Behavior and Organization, International Journal of Industrial Organization*

Sugden: *Theory and Decision, Economics and Philosophy, Utilitas, Journal of Economic Psychology, Politics, Philosophy, and Economics, Journal of Institutional Economics*

Zizzo: *Theory and Decision* (coordinating editor), *Journal of Consumer Policy, Journal of Socio-Economics*

Keynote Addresses/Invited talks to plenary sessions (examples)

Dietrich: Prize lecture at the 10th International Meeting of the Society for Social Choice and Welfare, Moscow 2010

Lyons: Plenary/keynote lectures to Italian Association of Competition Economics, Milan, as well as to events in Japan and Chile

Moffatt: Plenary Speaker at the Australian and New Zealand Workshop in Experimental Economics (ANZWEE), Murdoch University, Perth, August 2012.

Sugden: 2010 Keynes Lecture (British Academy annual flagship economics lecture); conference on Markets and Happiness, Bicocca University, Milan (June 2011); Economic Science Association Asia-Pacific Meeting (February 2011).

Professional Associations/Societies (examples)

Bohkari: Member of the Research for Patient Benefit (RfPB) Funding Committee of the NHS National Institute for Health Research for the East of England Region

Miravete: Member of the Empirical Industrial Organization Steering Committee of the Center for Economic Policy Research (CEPR)

Poulsen and Zizzo: Members of the ESRC peer review college (Zizzo also member of the sift panel for the ESRC Future Research Leaders competition)

Sugden: listed on the ISI 'highly-cited researchers' list, Fellow of the British Academy.

Zizzo: Secretary of the Conference of Heads of University Departments of Economics (CHUDE).