

Institution: University College London

Unit of Assessment: 18 Economics

a. Overview

UCL Economics is one of the leading economics departments in the world. It has an outstanding track record in producing cutting-edge research (evidenced by more than 55 “top-5” journal publications in the REF2014 window), informing economic policy (evidenced by our impact studies and by faculty serving on a large number of policy panels) and nurturing new generations of leading scholars, with PhD graduates over the years having been placed at prestigious academic institutions abroad (such as Princeton, Stanford and NYU) as well as in many UK institutions.

Our key strategic aims are to advance the research frontier and to influence policy. We have built a department with a unique culture where empirical and theoretical research blend seamlessly and where there is a constant dialogue across different fields of economics. This has produced a dynamic and vibrant environment conducive to innovative and impactful research, first-rate training, and with a strong link to policy. The quality of our research is evidenced e.g. by having the largest number of citations in total and per faculty member amongst Economics departments in the Russell Group (source: Academic Analytics).

The Department’s ambition has been supported by UCL and this has allowed us to make 21 hires since 2008 (amongst whom 10 have been hired as full professors). Faculty members are heavily involved in externally funded research centres and have been extremely successful in winning competitive grants, amongst them 18 ERC grants. The research environment is underpinned by the high quality of the taught programmes ranging from a prestigious undergraduate single honours Economics degree programme, to high quality MSc, MRes and PhD degrees.

The Department has four broad research groups:

- **Economic theory** which includes microeconomic theory, experimental economics, and behavioural economics; (Bhaskar, Cabrales, Choi, Eeckhout, Guarino, Huck, Jehiel, Kneeland, Kwon, Roketskiy, Skreta, and Spiegler).
- **Applied economics** which includes applied microeconomics, public economics, labour economics, consumer economics, and development economics; (Adda, Attanasio, Blundell, Carneiro, Dustmann, French, Lechene, Machin, Mogstad, Preston, Rasul, Schoenberg and Vera-Hernandez).
- **Macroeconomics** which includes macroeconomic theory, international macroeconomics and finance, applied, and quantitative macroeconomics; (Bassetto, Cui, de Nardi, Kehoe, Laroque, Postel-Vinay, Ravn and Sterk).
- **Econometrics theory** which includes microeconometrics and time series econometrics. (Chesher, de Paula, Giacomini, Kitagawa, Kristensen, Robin, Rosen, Weidner and Wilhelm).

Each of the research groups has produced multiple top-5 journal publications during the REF2014 census period. Many faculty members belong to more than one these four groups, allowing us to create new research synergies at the intersections of different sub-areas in economics.

The Department invests heavily in research. It provides research funding for new hires and teaching loads are kept at very competitive levels for both new and existing faculty. Faculty members are deeply involved with nurturing younger researchers, in the training and supervision of PhD students (recent cohorts have approximately 20-25 MRes students, and 46 PhD students graduated during the REF2014 period), and in the mentoring of postdoctoral researchers. We provide first class computing and data storage facilities including a High Performance Cluster and we host an in-house experimental lab. The Department has a busy workshop schedule which includes no fewer than seven weekly seminars, and it organises a large number of conferences, ensuring a continual inflow of new ideas presented by many of the world’s most outstanding researchers who provide intellectual stimulation and international collaboration. Our network is evidenced by our REF2 submission which documents co-authored papers with scholars in top US Departments such as University of Chicago (Alvarez, Bonhomme and Heckman), Columbia University (Ang, Chiappori, Schmitt-Grohe and Uribe), University of Michigan (Silverman), MIT

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(Chernozhukov), Northwestern (Nevo and Persico), NYU (Gale, Philippon and Veldkamp), University of Pennsylvania (Mailath, Shepard, Tang and Todd), Princeton (Honore, Morris and Scheinkman), Wisconsin (Taber), Yale (Meghir, Moscarini, Samuelson, and Vytlacil), and many others. In addition we have extensive networks across Europe and Asia.

b. Research strategy

The Department aims at producing *ground-breaking* and *policy-relevant* research. We believe in achieving progress through fostering close links between theoretical and empirical research and always aim for extensive cross-field fertilization. The idea of such a 'unified economics' is embodied, for example, in our Departmental Seminar Series which, regardless of topic, is attended by *all* researchers. This constant dialogue between fields that are elsewhere often separate is a core feature of our vision.

Quality of research: The Department produces research of the highest quality: it actively encourages its members to carry out ambitious projects and discourages research of a more derivative nature. The success of the strategy is evidenced by the large number of papers that have appeared in the most prestigious journals and by the Department's representation on the editorial boards of these journals and other leading academic outlets (see Section e). The emphasis placed on the quality of research is supported by the departmental culture, which is underpinned by rigorous promotions policies, see Section C.1.

Policy involvement: The Department believes that economics should play an important role informing policy. Its commitment to producing policy-relevant research is evidenced by many important reports such as the Mirrlees Review (with contributions from Attanasio, Blundell, Laroque, and Preston); the Equinet Report to Providing Independent Assistance to the Victims of Discrimination (co-authored by Dustmann and Schoenberg); the DG SANCO report on Consumer Decision Making in Retail Investment Services (co-authored by Huck); Konjunkturanalysen 2012, a report on Swedish economic policy presented on live TV and discussed by the Swedish Finance Minister (co-authored by Ravn); and its members' representation on important policy bodies and commissions such as the Low Pay Commission and the Tuition Fees Commission (Machin), the Advisory Committee of Ireland's Integration of Immigrants Programme (Dustmann), the Norwegian government's Commission on Quality in Kindergartens (Mogstad), or the government of Punjab's (Pakistan) Economic Opportunities Program (Rasul). Other involvement with policy institutions includes Bassetto, de Nardi, and French's roles as economic advisors for the Federal Reserve Bank of Chicago, Preston's membership of the Department for Business, Innovation and Skills Academic Panel, his membership of the Advisory Panel of the Home Office's Economics and Resource Analysis Group and the Treasury's Senior Analytical Group, or Rasul's involvement with the Centre for Understanding Behaviour Change funded by the Department for Education and his membership of the Academic Panel for Growth Vouchers Scheme.

Promoting research and research-led teaching: While the Department promotes research by offering extremely competitive teaching loads for research-active staff, it also strives to maintain high-quality involvement of all staff in *all* taught programmes. This dual strategy ensures that faculty members can fully immerse themselves in research and, at the same time, that all taught programmes are characterized by research-led teaching.

Research funding: Large efforts are devoted to securing research funding. Faculty members involved in bids for research funding are supported by highly competent and experienced administrative staff, both at the departmental and UCL level, ensuring that all bids are competitive. This has led to an outstanding stream of major research grants.

During the REF period, members of the Department have won 18 ERC grants – to our knowledge, *more than any other European department in any discipline*:

- **Advanced ERC Grants:** Attanasio, Blundell, Dustmann, Eeckhout, Jehiel, Laroque, Robin, Spiegler;
- **Starting ERC Grants:** de Paula, Eeckhout, Guarino, Kristensen, Lee, Pavoni, Rasul, Schoenberg, Szentes, Weizsacker.

Some of these have subsequently left the Department (Lee, Pavoni, Szentes and Weizsacker) but

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many still maintain close links with us.

In addition, faculty members are leading several major, externally funded research centres:

- **Centre for the Microeconomic Analysis of Public Policy**, funded by the ESRC, directed by Blundell (Attanasio and Rasul are co-directors), and hosted by the Institute for Fiscal Studies (IFS);
- **Centre for Microdata Methods and Practice (CeMMAP)**, funded by the ESRC, directed by Chesher, and hosted by the Department and the IFS;
- **Centre for the Economics of Education (CEE)**, funded by the Department for Education and Skills, directed by Machin, and hosted by the IFS, the Institute of Education and the CEP;
- **Centre for Research and Analysis of Migration (CREAM)**, funded by the ESRC, the Anglo-German Foundation and NORFACE, directed by Dustmann, and hosted by the Department;
- **Centre for the Evaluation of Development Policies (EDePo)**, funded by the ERC, directed by Attanasio, and co-hosted by the Department and the IFS;
- **Centre for Macroeconomics (CfM)** funded by the ESRC, co-directed by Ravn, and hosted by LSE, UCL, University of Cambridge, Bank of England and the NIESR.

Members of the unit have also obtained major grants from sources such as the Leverhulme Trust, Nuffield Foundation, NIH, the Gates Foundation and many others. The total amount of research grants raised in the REF 2014 time-frame (and either administered by UCL or by IFS) corresponds to approximately GBP £29m (including grants raised by departmental members through the IFS).

Research life: The Department has an extremely vibrant atmosphere with many joint research projects, daily seminars and a large number of conferences and workshops. There are currently seven regular seminar series: applied economics, development economics, econometrics, microeconomics, macroeconomics, a PhD student seminar series and (unusually for a department of this size) a departmental seminar series attended by all researchers regardless of field. Added to this there are several weekly reading groups attended by both faculty and PhD students. Moreover, UCL benefits from regular seminar series at the IFS that many faculty members attend. As previously noted, UCL Economics has a continual flow of visiting researchers and academics - including a large proportion of the world's most important economists - who spend significant amounts of time in the Department interacting with faculty and doctoral students. This includes recent Nobel Prize laureates such as Heckman and Sargent as well as Hansen, the 2013 winner, who is scheduled to visit in the spring of 2014. The department has also launched an annual Research Day attended by all academics, post-docs and PhD students (held in 2012 and 2013) where faculty members across all fields present their current research. Moreover, the department also organised a PhD alumni conference in 2012 making sure that strong ties are maintained with past PhD students many of whom are now working in other leading economics departments.

The department has organised a large number of conferences and workshops. Highlights include the "EALE/SOLE 3rd International Conference of Labour Economics" held at UCL in June 2010 with over 500 participants, co-organised by Blundell and Machin; "Migration: Global Developments, New Frontiers", the "2008 Annual Conference of the European Society of Population Economics", and "Migration: Economic Change, Social Challenge", all organised by Dustmann which had 550 participants, 250 participants and 400 participants, respectively; "Frontiers of Macroeconometrics" with 110 participants organised by Giacomini; "New Developments in Macroeconomics" with 80 participants organised by Ravn; In addition, the Department was involved in many other events including more than 40 workshops and conferences organised by CeMMAP.

RAE 2008 strategic aims: The Department formulated two key strategic aims in the RAE2008: (1) further integration of theory and empirics and (2) building new strengths in macroeconomics. Both aims have been pursued rigorously and successfully.

Regarding (1), since 2008 very few hires have been made of faculty without interests spread over both theoretical and empirical issues. As a result, the Department has strengthened its distinctiveness in producing applied research founded on rigorously analysed theory, and theoretical research that builds on cutting-edge empirics. We have been driving an agenda on

boundedly rational consumer behaviour, both at the level of fundamental theoretical and empirical research as well as in applied policy, with many fruitful interactions with UK regulators such as Ofcom and the OFT. Beyond that the Department has facilitated new interactions between the micro theory and development groups (notably between Attanasio and Choi who have used experiments in a novel way to inform program evaluation studies) and has also made strategic hires to strengthen its advantage in combining high theory with data (notably through the appointment of De Paula who works on the econometrics of games and the appointment of Kneeland who conducts experiments on epistemological issues in game theory).

Regarding (2), we have pursued an aggressive hiring strategy adding six new faculty members in macroeconomics. The Department has hired Bassetto, de Nardi, Kehoe, Postel-Vinay and Ravn as professors; at the junior level it has hired Cui and Sterk. This new strength in macroeconomics has been further cemented by the establishment of the Centre for Macroeconomics, a new ESRC-funded Research Centre (see above). The Department has now world-class expertise in macroeconomics and many PhD students have begun to specialize in the area.

New strategic aims: The Department's key strategic aims are to produce research of the highest possible quality and to influence policy. We have hired some of the most promising junior and senior researchers and followed a consistent strategy of supporting research and impact at the highest level. This is done by offering very competitive teaching loads, which allow faculty to immerse themselves in research, by providing extensive support to research fund raising, and by rewarding success in terms of research output at the frontier (as evidenced by our promotion policies), and by promoting involvement with policy.

Over the coming years we wish to further exploit the opportunities offered to us by the amount of cross-area research links currently existing in the Department. Such cross-area research links put us in a unique position to develop new insights and bring them into action. To advance this even further, enabling us to open up new and exciting research initiatives with substantial potential for policy impact, we will pursue a strategy of further cross-field integration – within economics as well as to other academic subject areas - through the following specific initiatives:

- a. We envisage a deeper integration of various areas of research. A leading example is an aim at bringing micro and macroeconomic research closer together by surpassing the current state of micro-foundations of macroeconomic theory. We have in mind cross-fertilising ideas such as using methods typically used in applied microeconomics in macroeconomic settings and introducing macroeconomic features into applied microeconomic studies. The Department has already obtained ESRC cross-centre funding for a joint project with the IFS to establish such a programme. CfM also seeks to engage economists from other areas as part of this “unification” strategy. We aim at exploiting methods and approaches developed in behavioural and experimental economics to enrich empirical research and to complement observational data with experimental data from the laboratory. We have begun pursuing such research, notably Attanasio and Choi who use experimental modules for programme evaluation and Huck who is working with experimental modules in the German socio-economic panel and Spiegler who has been working on identification problems with boundedly rational agents.
- b. We wish to promote other cross-centre communication and research. Research centres have considerable expertise in specific areas but we believe that they can further thrive from cross-centre projects between the centres listed above. Such cooperation has significant potential for combining frontier research in different areas by exploiting overlaps of interest between field specialists. We also wish to push this strategy in terms of cooperation with other parts of UCL. As a part of this we have taken steps to strengthen cooperation with UCL's department of Epidemiology including joint workshops and joint research projects. There are also close links with the Institute of Child Health that we plan to develop further over the coming years.
- c. The Department has substantial expertise in handling large and complex datasets including large administrative data collections. It has also been at the forefront of developing new microeconomic methodology for the analysis of such data. We will aim at bringing such data and methods together in order to generate a broad platform of access and analysis for

members of the unit. We believe that this could have a considerable impact since researchers may often have specialist knowledge about particular datasets and/or new high dimensional microeconomic methods for the analysis of such datasets that other faculty members can profit from. Moreover, this process will potentially allow researchers to combine large datasets in a much more efficient manner, thereby providing scope for new ground-breaking research. We envisage close cooperation with the Institute of Education which also has considerable expertise in handling similar datasets. The use of large administrative data sets in education (the Pupil Level Annual Schools Census and the National Pupil Database) and the British birth cohort studies will also be further developed via the unit, its research centres and other UCL and University of London Departments. Data linkage across admin data sets will also be a feature of this research endeavor. This also links with our aim of developing closer connections with other parts of UCL. The department of Epidemiology, for example, administers large health-oriented datasets of substantial interest to our own faculty members.

c. People, including:

i. Staffing strategy and staff development:

A key facet of the Department's strategic vision is to produce the next generation of leading researchers in economics and we believe that a large presence of junior researchers ensures inflows of new and exciting research ideas. Consequently, the Department devotes significant resources to recruiting and developing high potential early-stage researchers. Junior recruitment is managed by the Head of Department and by a broadly composed Junior Recruitment Committee, and we hold interviews at the annual ASSA meetings. The rigor of the process has enabled the Department to identify and attract some of the profession's brightest young talent.

Newly appointed lecturers receive rigorous training in teaching from UCL centrally and the Department offers them relatively light teaching loads, allowing them to invest time in their research. All new lecturers have an academic mentor drawn from the senior staff, and a Promotions Committee undertakes an annual review of research performance. A key aspect of staff development is to integrate newly appointed staff into the activities of the research centres. This offers opportunities to work on collaborative projects under the guidance of senior staff, and creates an environment where new staff members are able to keep abreast of the latest trends and activities, and are encouraged to apply for their own research funding. It also offers routes to disseminate research findings and provides possibilities for interaction with policymakers.

Senior hiring is coordinated by the Head of Department in conjunction with senior colleagues. The Department aims at hiring senior academics who are world leaders in their fields and who can add to the existing strengths of the department and at the same time fit our strategic view of communication between fields and across theoretical and applied areas of economics. The high quality of the department has enabled it to attract some of the most prominent researchers.

Our hiring procedures comply fully with UCL's equal opportunity policies and we strive to generate a friendly hospitable working environment. Currently 20% of all academics on permanent contracts are female. In terms of new staff, 30% of our permanent hires since 2008 have been female. We aim to further enhance the gender balance over the coming years.

Staff Departures and New Recruitments: The Department has hired aggressively throughout the REF period. This process has been due to a combination of a significant expansion of its activities and replacement of faculty members who have moved on to new jobs.

21 hires have been made since 2008: **Senior hires:** Marco Bassetto (joined from Federal Reserve Bank of Chicago), Antonio Cabrales (from Universidad Carlos III de Madrid), Mariacristina de Nardi (Federal Reserve Bank of Chicago), Jan Eeckhout (Universitat Pompeu Fabra), Eric French (Federal Reserve Bank of Chicago), Patrick J. Kehoe (University of Minnesota), Fabien Postel-Vinay (Bristol), Morten O. Ravn (University of Southampton), Vassiliki Skreta (New York University), Georg Weizsacker (LSE). **Junior hires** (including Readers): Wei Cui (PhD Princeton University), Aureo de Paula (PhD Princeton, hired from the University of Pennsylvania), Toru Kitagawa (PhD Yale), Terri Kneeland (PhD University of British Columbia), Dennis Kristensen (PhD LSE, hired from Columbia University), Suehyun Kwon (PhD MIT), Magne Mogstad (PhD University of Oslo), Nikita Roketskiy (PhD New York University), Vincent Sterk (PhD University of

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Amsterdam), Martin Weidner (PhD University of Southern California) Daniel Wilhelm (PhD University of Chicago)

There were 8 departures in the current REF period: Mark Armstrong (University of Oxford), James Banks (University of Manchester), Samuel Berlinski (IADB), Rachel Griffith (Manchester), Simon Lee (Seoul National University), Costas Meghir (Yale), Nicola Pavoni (Bocconi), Balasz Szentes (LSE) and Georg Weizsacker (Humboldt University). Many of the leavers have retained close connections with UCL (Banks, Griffith and Pavoni, who are connected with IFS and Meghir who still holds a fractional appointment with us) and, similarly to our PhD alumni, their departures to other institutions also contribute to establishing networks between UCL and other institutions.

The inflow of new faculty has further promoted departmental dynamism, and a great deal of creativity has been imported from diverse academic and research environments. It has also balanced the “ageing” of the department deriving from internal promotions of junior and mid-career academics. At the RAE 2008 census date, the Department had 21 professors, 5 readers, 3 SLs, and 10 lecturers, and it now has 29 professors, 9 readers, 3 SLs, and 10 lecturers.

Joint Appointments. The Department has a tradition of making use of joint appointments where they fit with its strategic aims. The Department has 0.4 FTE appointments for Jehiel, Laroque, Robin, and for Eeckhout who spend a weekly set time in the Department and the balance of their schedule in Paris and Barcelona respectively. Spiegler has also a 0.4 FTE appointment and is joint with Tel Aviv. Huck has a 0.2 FTE appointment and is joint with the WZB Berlin. Kehoe has a 0.3 FTE appointment and is joint with the University of Minnesota. These part-time appointments demonstrate the flexibility with which the Department takes advantage of research resources of international calibre where full-time appointments are impractical.

Early Career Researchers. Early career researchers are integrated into our research culture. All early-stage researchers in this submission are affiliated to one or more of the research centres in the Department and many of them have already been successful in securing their own research funding. Since 2010 we have also provided funding for Departmental Postdoc (Research Fellow) positions. This enables the fostering of some of the best talent in Economics where market conditions are such that attractive tenure-track positions require some publication successes. We have also been hosting externally funded Postdocs who have made excellent use of the opportunity (notably Zhou who was hired as an assistant professor at NYU Stern).

Promotions. Our rigorous promotion procedures adhere strictly to UCL rules and comply with its equal opportunity ethos. While nominations for promotions are formally made by the Head of Department, there is an extensive deliberation phase conducted by senior members of staff that carefully assesses how candidates meet UCL’s criteria for excellence and take into account individual personal circumstances. We set high standards for research output at promotion of Lecturers to Readers (or Senior Lecturers) comparable to the tenure requirements of top US departments. Promotion to Professor is done with further reference to impact and contributions to the Department and the College in general.

Staff Achievements. Departmental staff members are widely recognized as leading academics. Richard Blundell, for example, is ranked first in the UK according to REPEC. Staff members have been awarded honorary degrees and won prizes for their research achievements (see section e below). Another simple but important reflection of staff achievements is the number of ERC grants won by its members (see b above for a list) and the large number of ESRC Research Centres that the Department is involved with. Staff members play a major role in editing the most prestigious journals of the profession and the Department is extremely well represented on many learned societies (see e again). While the Department is proud of the staff achievements it is also important to highlight that it believes that there is a high return on supporting early career researchers and researchers in areas where funding may be more difficult. The Department also appreciates that it is easier to obtain funding in some areas than in others and nurtures research in all promising areas of economics, including those that are temporarily less fashionable with external funders.

ii. Research students

Aim. The research degree programme aims to train economists to conduct research of the highest

academic quality. The programme's success is reflected in the placement of its students, both inside and outside academia. In the REF 2014 window, graduates of the programme have obtained posts at leading universities (such as Princeton, University of Texas Austin and UCLA), many UK departments (such as Essex, Queen Mary University of London, Southampton, St. Andrews, Surrey, Warwick and York), universities in Europe (such as Bologna, Milan and Uppsala) and national and international organizations (such as the Bank of England and the World Bank).

We have formalized the first year of postgraduate teaching into an MRes degree. The selection of applicants is ever more demanding but, in spite of this, the programme has increased enrolment with the commencing MRes class now comprising roughly 20-25 students each year. Careful consideration is given to the match between an applicant's research interests and the research profile of potential supervisors. Every new student is allocated to a supervisor in his or her field *upon admission* and a second supervisor at the end of that year.

While the Department has always taken great care in making sure that its graduates become fully independent researchers, it also encourages joint work between students and staff. In fact, working in teams that include senior and junior members of staff and often also students is viewed as vital for our overall research environment. This has led to extraordinary publication successes for our students. Individually and in co-authorship with staff, students graduating in the REF 2014 window, over the last seven years, published in journals such as the *American Economic Review*, *Review of Economic Studies*, *Economic Journal*, *Economic Policy*, *Games and Economic Behavior*, *Journal of Development Economics*, *Journal of Economic Theory*, *Journal of the European Economic Association*, *Review of Economic Dynamics* or the *Review of Economics and Statistics*.

Funding. We have created three Ricardo Scholarships that provide full support to students for three years on the programme. Through the UCL Doctoral Training Centre (DTC) we offer six ESRC awards which are highly effective in attracting excellent students. We have also been successful at obtaining a joint ESRC-NERC funded three year studentship. The total funding from ESRC to PhD students correspond to approximately £1.2m. The Department funds around 15 students per year the total investment in scholarships was about £1.1m. Some PhD students have instead been funded through research grants amounting to an investment of approximately £0.5m. The UCL Graduate School is a further important source of financial assistance, for example conference travel, an important feature of student development.

Space. The Department has made a heavy investment in the space available for the research students and devotes the entire South wing of the ground floor of its building to a suite of PhD student offices. There are two large open-plan offices and an office for visiting PhD students with a total of 67 desks as well as a lounge.

Structure. Admission is initially to the one-year MRes which contains specialist 40-hour core courses in microeconomics, macroeconomics and econometrics and options. Each course also has 20 hours of tutorial classes. After successful completion of the first-year courses the student produces a short dissertation. Upon successful completion of the MRes, the students are admitted to the MPhil programme for their second year. During this year we provide specialist teaching in a large number of optional advanced PhD courses and workshops. With the launch of the advanced PhD courses we are aiming at effectively emulating US-style PhD programmes and provide PhD students with frontier based training. Each course and workshop comprises 20 hours. There is also a compulsory workshop in research presentation and publication skills. During these years, students also encouraged to attend master classes offered by the CEMMAP research centre. Students also have their own weekly seminar series where they can present work in progress.

During year 2 students embark on a first research paper under supervision by their advisors. At the end of the year students give their "Upgrade Seminars". This is in practice a mini-conference where students present in front of a broad cross-section of faculty. Successful completion of the upgrade seminar allows the student to progress to the PhD registration.

International collaboration. UCL is part of the ENTER network of PhD Economics departments in Europe (together with Universita Autonoma de Barcelona, Brussels Free University, Carlos III, Mannheim, Stockholm, Tilburg and Toulouse). The department funds up to five students per year

to travel to these nodes to give seminars; we also host students from ENTER nodes and invite them to give talks in our student seminar series. In addition, once a year, four students are funded to go to the ENTER jamboree to present their work, and others attend as discussants.

Graduation and placement: In the relevant RAE period, 46 students graduated from UCL with PhD degrees and 3 students graduated with MPhil degrees. We take great care to support students when they go on the job market, including advice about where to apply, practice seminars for preparation for the job market and to financial support for mailing and copying costs.

d. Income, infrastructure and facilities

Total research income obtained by the Department's staff in the assessment period was approx. **GBP 29m** (including funds administered by UCL and IFS). The funds have been obtained from a large number of sources most notably from the British Academy, the ERC and the ESRC but also from the the Department of Education, the Gates Foundation and the MRC, more unusual funders for Economics Departments,

The large research income has allowed us to invest in diverse activities enriching the intellectual environment at the Department. On top of the investment in infrastructure (see below), important uses of the funds available from the research income include:

- Securing competitive teaching loads allowing faculty to invest in high-quality research. We are targeting a teaching load corresponding to two 20 hours courses per academic year.
- Provision of research funding for, in particular, new faculty, but also in some cases seed funding for existing faculty (see below for more detail).
- Investment in the visitors programme, workshop and seminar programme. We fund directly through the Department or through Research Centres all seven weekly seminar and workshop series that take place in the Department. This produces a constant inflow of new ideas and helps foster research links between members of the Department and visitors.
- Investment in postdoctoral appointments. Postdoctoral fellows are an important addition of junior academics to the Department on top of hires of junior Lecturers. We make sure that they are fully included in all activities in the Department.
- Investment in PGR students. A number of our PhD students are funded through ESRC and ERC grants and the availability of such funds allows us to attract high quality PhD students. We have also invested heavily in the development of advanced PhD courses which are provided in the 2nd year of the degree. These courses are funded entirely through the Department via the resources raised through research grants.

The large number of ERC grants held currently by faculty members and the research centres mentioned earlier guarantee that research income will be high over the coming years, thus enabling our continual investment in research.

Research infrastructure: We have made a heavy investment in providing first-class research infrastructures. We view this as a high-return investment since it directly facilitates staff and students to undertake cutting-edge research. The key infrastructure investments are:

- All faculty are provided with superb office facilities and we also provide space for visitors, post-docs, and research personnel. Over the summer of 2013, a £1mill renovation of Drayton House, which houses the Department, was carried out which has produced first-class facilities for the Department including several new spaces for post-doctoral researchers and for CREAM.
- All members of the Department are provided with PC's and with all necessary software.
- Acknowledging that many members of the Department are engaged in computationally intensive project, we have invested in heavy-duty computing facilities. We house a high-performance cluster in the Department and which is exclusively used by its members; originally established in 2007, it has seen continuous improvements and investments since. The last expansion took place in 2013 with an extra 128 nodes, creating a 424 core system.
- We also have PC cluster rooms that provide state-of-the-art workplaces for 65 research students. We originally created these cluster rooms in 2006 and completely overhauled the infrastructure in 2011 and 2012.
- We house an experimental laboratory that we continuously invest in maintaining and

upgrading and which is used both for carrying out research experiments and for training purposes. The lab provides flexible space for up to 26 subjects; originally created in 2001, the laboratory saw major renovations in 2006 and in 2013.

- We have invested in a superbly efficient administrative team which provides assistance with budgeting for Research Grant applications as well as administrating all issues related to visitors, workshops, conferences, and PGR students. The efficiency of the administrative support has been central for our ability to raise research funding.

Start-up research funding: The Department's performance rests to a large extent on its considerable success in obtaining research funding. However, it recognizes that early career researchers may often find it difficult to access funding from ESRC, ERC and other funders. This problem is partially addressed by new junior hires being included in existing research centres, but the Department has increasingly found it productive also to grant new hires small but significant start-up funds that can be used for traveling, as well as for purchases of software and data. We also provide seed funding to existing faculty in cases where only a limited amount of funds are available for specific projects which nonetheless may have a high payoff. The Department has also created a £100,000 fund for pilot studies in experimental economics with the aim of furthering our expertise in this area. These investments are viewed as extremely productive.

e. Collaboration and contribution to the discipline or research base

Collaboration. As described above, the Department is extremely well linked to the international research community in economics, in particular through its large-scale visitors programme. Many researchers have spent periods visiting the department, including leading thinkers such as Arellano (CEMFI), Buera (UCLA), Carroll (Johns Hopkins), Horowitz (Northwestern), Kennan (Wisconsin), Koenker (Urbana-Champaign), Manski (Northwestern), Meghir (Yale), who all have spent a term or more visiting the department during the REF period. Added to this are many short-term visits, often from almost all of the world's leading universities and a many international co-authors (see our list of co-authors in Section A) with whom there is frequent exchange. We have also maintained our approach to multidisciplinary work, with strong collaborations in this funding period with the London School of Hygiene and Tropical Medicine, Epidemiology and with the newly established UCL-Oxford Research Centre in Sustainable Medicine (CASMI). Unusually, we also funded interaction between Economics and Musicology which has led to a publication in the Cambridge Opera Journal, the top field journal in opera studies (the paper analyses Richard Wagner's Lohengrin through the lens of game theory). We have also many individual links to government agencies, as outlined above in Section b.

Contribution to the discipline.

Editorships. Members of the Department have served in many editorial roles during the REF 2014 period. Both Jehiel and Robin have been co-editors of *Econometrica*. Further editor (or co-editor) roles include the *BE Journal: Macroeconomics* (Bassetto), *Economic Journal* (Cripps, Machin and Ravn), *Econometric Society Monograph Series* (Chesher), *International Economic Review* (Eeckhout), *Journal of Labor Economics* (Schoenberg), *Journal of Population Economics* (Dustmann), *Quantitative Economics* (Attanasio), *Review of Economic Dynamics* (Bassetto), *Review of Economic Studies* (Adda and Rasul). We have also had widespread representation on editorial boards and as associate editors. This includes the *American Economic Journal: Applied Economics* (Carneiro and Rasul), *American Economic Journal: Microeconomics* (Spiegler), *Annual Review of Economics* (Blundell), *Australian Economic Review* (Blundell), *BE Journals: Microeconomics* (Bhaskar), *Econometric Theory* (Kristensen), *Econometrics Journal* (Kristensen), *Economic Inquiry* (French), *Economic Journal* (Dustmann and Mogstad), *European Economic Review* (Huck), *Experimental Economics* (Huck), *Fiscal Studies* (Bassetto), *Games and Economic Behavior* (Huck and Jehiel), *International Journal of Forecasting* (Giacomini), *Journal of Applied Econometrics* (Giacomini and Laroque), *Journal of Business and Economic Statistics* (de Paula and Giacomini), *Journal of Econometrics* (Kristensen), *Journal of Economic Behavior and Organization* (Huck), *Journal of Labor Economics* (Postel-Vinay), *Journal of Economic Literature* (Blundell), *Journal of Economic Theory* (Eeckhout, Jehiel and Spiegler), *Journal of Pensions and Finance* (French), *Journal of the European Economic Association* (Cabralés, Eeckhout, Huck, Ravn and Spiegler), *Journal of Time Series Analysis* (Kristensen), *Macroeconomic Dynamics* (Guarino), *New Palgrave Dictionary of Economics* (Blundell), *Quantitative Economics* (French),

Review of Economic Dynamics (Eeckhout), *Review of Behavioral Economics* (Huck), *Review of Economic Studies* (Bhaskar, Choi, de Paula, Huck, Kristensen, Schoenberg and Spiegler), *Theoretical Economics* (Bassetto and Spiegler). Finally Bhaskar has served as Director of the *Review of Economic Studies* and Blundell has served on the Advisory Board of *Research in Labor Economics* and as a Chair of the Editorial Executive Committee of *Fiscal Studies*.

Learned societies. The Department's members are actively engaged in several of the most important learned societies. Blundell has been President of the Royal Economic Society and President of the Society of Labor Economics. Attanasio is President Elect of the European Economic Association. Machin has served as President of European Association of Labour Economists. Cabrales, Eeckhout, Giacomini, Machin, Rasul and Ravn have been elected as members of the EEA Council and the faculty is also well-represented on the RES Council; Giacomini is also serving as the Chair of the European Economic Association Women in Economics Committee; Huck has served on the Economic Science Association's executive committee; Attanasio, Blundell, Chesher, and Laroque are fellows of both the Econometric Society and the British Academy while in addition Robin is a Fellow of the Econometric Society and Machin is a Fellow of the British Academy. Chesher has been serving as Chair of Section S2 of the British Academy. Blundell, Chesher and Laroque are also Foreign Honorary Members of the American Economic Association.

Grant-giving bodies. Rasul serves on the ESRC's Peer Review College. Attanasio has been Vice-Chair of the ERC SH1 Panel for Advanced Grants. Blundell has been Chair of the ERC SH1 Panel for Starting Grants and has served on the Selection Committees for the Yrjö Jahnsson Prize and the Nakahara Prize of Japan.

Advisory panels and boards. Adda has been serving on the evaluation panel for the Paris School of Economics. Blundell serves on the CEMFI Board of Trustees and is President of the Scientific Council of the Toulouse School of Economics. Dustmann serves on the Scientific Advisory Committee of the Institute for Labor Market Research. He is also on the External Advisory Committee of ISER and on the Advisory Committee of Germany's national education panel, NEPS.

Conferences. Rasul and Ravn have served as Programme Chairs of the Royal Economic Society Conference (in 2013 and 2010, respectively). The 2010 Society of Labor Economists and European Association of Labour Economists Conference was the third joint conference of the societies and was held at UCL whilst Richard Blundell was President of SOLE and Machin was President of EALE. Dustmann was Chair of the Organizing Committee of the 2008 Conference of the European Society of Population Economics and 2011 and 2013 Norface Migration Conferences. Eeckhout and Spiegler have serving on the Organizing Committees for the ESSET meetings in Gerzensee. The Department has been represented on the Programme Committee of all EEA and Econometric Society European Meetings during the REF period.

Keynotes. Attanasio has given the Walras-Bowley Lecture at the 2010 Econometric Society World Congress and the Joseph Schumpeter Lecture at the 2010 EEA meeting. Chesher has given SETA's Inaugural Econometric Theory Lecture and the 2013 Frank Knight Lecture at Cornell. Huck has given keynote presentations at the 2010 Vienna Competition Conference and the OECD Competition Committee's Hearing on Competition and Behavioral Economics in 2012. Rasul has given keynote lectures at 2012 Biennial Conference of the Hong Kong Economic Association and the 2010 Brazilian Meeting of the Econometric Society.

Honorary doctorates and other accolades. Blundell received honorary doctorates from the University of Mannheim and the University of Bergen; Machin an honorary doctorate from the University of Wolverhampton. Blundell has received the 2008 Jean-Jacques Laffont Prize, the 2010 CES Prize, and the 2012 IZA Prize in Labor Economics. Choi has been awarded the Cho Rakkyo Junior Award by Yonsei University and the Young Scholars Award by the Korea-America Economic Association; Mogstad has been awarded the 2011 Sandmo Prize for especially promising Norwegian economists under the age of 40. Rasul has been awarded CESifo Distinguished Affiliate Award. Spiegler has been awarded the Michael Bruno Award from the Israel Institute for Advanced Studies.