

Institution: University of Warwick
Unit of Assessment: 18 – Economics and Econometrics
<p>a. Overview</p> <p>The Department of Economics at the University of Warwick is one of the largest economics departments in the country. Its research interests are both broad and deep and while there are no formal groups, the Department's research clusters include:</p> <ul style="list-style-type: none"> - Economic Theory: Akerlof, Bernhardt, Choy, Dutta, Glazer, Halac, Kremer, Mezzetti, Muthoo, Perry, Polemarchakis, Ray, Sgroi, Squintani, Stovall - Econometrics: Almunia, Arulampalam, Chaisemartin, Pitt, Smith, Sovinsky - Macroeconomics and International Economics: Chen, Gozzi, McMahon, Mitchener, Moav, Noguera, Novy, Pancrazi, Perroni, van Rens, Vukotic - Industrial Economics and Labour Economics: Arulampalam, Becker, Doyle, Draca, Lavy, Mezzetti, Moav, Oswald, Sgroi, Sovinsky, Waldinger - Institutions, Development and History: Becker, Choy, Crafts, Draca, Gupta, Harrison, Macchiavello, Mani, Mitchener, Pascali, Ray, Woodruff - Public Economics and Political Economy: Almunia, Bernhardt, Brollo, Buisseret, Dutta, Lockwood, Muthoo, Perroni, Squintani, Troeger and - Behavioural Economics: Mani, Oswald, Sgroi, Stovall. <p>A three-day review in 2007 by a panel of distinguished external advisors – Professors de Meza (LSE), Dixit (Princeton), and Nickell (Bank of England) – noted that the Department had achieved '... significant status in research, teaching and learning and should be highly commended for doing so.'</p> <p>In August 2008, following the external appointment of Professor Muthoo as the Head of Department - and with the full support of the university's senior management team - the Department embarked on a significant programme of reforms, as part of its strategy to create the optimal environment for nurturing economic research of exceptional calibre. As a result of these reforms, it is worth highlighting that the Department has also addressed all of the review panel's major suggestions for further improvement, including better recruiting methods, making some 'star' appointments, improving the PhD programme, and establishing a new research centre.</p>
<p>b. Research strategy</p> <p>The Department's research strategy is an essential element in its long term goal, namely to strengthen its position as a world-leading economics department and to become the best economics department in Europe. The production of excellent research that advances scientific understanding through publication in top-tier academic journals and, increasingly, which provides insights that might be applied to addressing the world's urgent economic problems will be key to achieving this goal.</p> <p>The strategy over the assessment period, and going into the future, has four key components: 1) hiring, promoting and retaining superb researchers; 2) maximizing the time available to our staff for pursuing research in ways that also enhance our highly regarded educational programmes; 3) providing the necessary research tools, support and infrastructure; 4) creating a sustainable environment characterized by academic vitality, intellectual challenge and innovative thinking.</p> <p>Major changes achieved during the assessment period and as a result of this strategy include the following:</p>

Hiring and Permanency: the Department overhauled its approach to recruitment and retention. Salaries were reviewed and brought into line with the best economic departments here and abroad. We tightened our criteria for advancement from assistant to permanent professor which further signalled our emphasis on research excellence and also created greater parity of approach with other leading economic institutions.

Reorganisation of teaching and management structures: the Department undertook a comprehensive assessment of its course modules and teaching distribution and responsibilities. This has resulted in more flexibility for our faculty members. Alongside this, the Department's administrative team was reorganised and expanded and professional administrators were recruited to support with areas like communication, student experience, research funding and events. These changes have significantly freed-up academics' time and created a far stronger and more pro-active support system for research and academic matters.

Increased emphasis on, and investment in, research-relevant events: this REF cycle saw an important expansion in the quantity and quality of research-related activities and events organised by the Department. These include: weekly seminars, workshops, lunches, study groups, reading and work-in-progress groups, international and domestic speakers, academic and policy-oriented meetings as well as several annual conferences in Warwick's campus facilities, in London at Chatham House and at the University's Venice site. To raise its research profile and establish stronger connections on the international stage, the Department also increased its support for, and encouragement of, research-related travel. This has resulted in more faculty members being able to attend internationally significant conferences and conduct internationally collaborative research, as well as bringing a range of co-authors and eminent visiting scholars to campus.

A more rigorous PhD programme: the Department initiated a more demanding PhD programme (MRes + PhD), and reformed the programme toward the model used by leading North American departments in order to attract higher-calibre students. Our strong commitment to this programme was demonstrated with the Department's backing of fifteen full scholarships, and ten new, advanced-level modules.

Research centres: The department created two new research centres in 2010: the ESRC-funded Centre for Competitive Advantage in the Global Economy (CAGE); and a multidisciplinary behavioural research centre, Decision Research at Warwick (DR@W). Deliberately designed to provide a broad research agenda umbrella that encompasses key areas of established department expertise (history, development and behavioural economics), CAGE serves a critical role in the department's research outreach strategy and in our broader strategic aim of ensuring that the department's research remains informed by, and relevant to, real-world economic problems. DR@W serves as an interdisciplinary, experimental and behavioural science initiative for economics, psychology, management, marketing and statistics. We boosted support for our two existing research centres, the Centre for Research in Economic Theory and its Applications (CRETA) and the Warwick Economics Research Institute (WERI) with the introduction of events, including annual political economy and theory conferences, and improved communication channels for policy-oriented research, such as a re-designed WERI Bulletin.

Evidence that the above changes are working to achieve the Department's strategic aims include: (a) twenty three per cent of REF2 submissions are in the "Top Five" economics journals, compared to ten per cent in RAE2008; and (b) sixty five per cent of REF2 submissions are in Diamond's "core" journals, compared to forty five per cent in RAE 2008.

Looking to the future, the Department's strategic objectives over the next five years remain firmly focused on providing the tools to improve the quality and impact of our researchers and their work and to sustain the excellent research environment in ways that continues to provide catalysts for collaboration and innovation. Our key plans include: (1) establishing

two more research centres to enhance key areas of expertise and generate more external research funding; (2) developing new research capacity in key areas of strategic importance, such as applied micro and development; (3) maintaining a healthy balance in the comparative proportion of early career researchers and more established researchers; (4) continuing to pursue very senior hires to provide research leadership in key areas such as applied microeconomics, development, and macroeconomics, including targeting individuals who may serve as magnets for acolytes in the discipline; (5) further strengthening the system of career incentives to underscore research quality and lasting impact over quantity; (6) supporting the ESRC grant renewal for CAGE; (7) vigorously pursuing new, large-scale funding opportunities by public granting agencies (such as European Research Council grants) and private sponsors; (8) steadily improving the quality of PhD candidates.

Among the new, research-relevant initiatives planned and/or under consideration are: 1) expansion of the Department in its existing building to enhance communal areas and to accommodate an additional estimated 15 faculty and eight post-doc positions; 2) construction of a new or re-modelling of an existing campus building as the Department's future home (by 2016) to accommodate growth, provide more and better space for interactive gatherings, and to take advantage of state-of-the-art workplace design principles to promote the exchange of ideas and collegiality; 3) establishing new, externally-funded research centres, and investing further in our recently established Warwick Policy Lab to improve interaction between policymakers and researchers; 4) more aggressively resourcing the Warwick Economics Visiting Scholar's Programme; 5) finding vehicles that effectively bring Warwick Economics into London – the closest, international, academic- and policy-impact magnet – through a defined presence, such as a Warwick in London site (similar to the University's Venice-based conference centre) and/or a programme of regular lectures.

To monitor our continued progress, we plan to use the same rubric (modelled on the 2007 exercise) employing, first, an internal, self-review and, subsequent to that, a formal, independent, academic review by outside experts on our research activities and strategy. The tentative date is set for 2015, coinciding with the University and Department's 50th anniversary celebrations. In the meantime, the Department will continue to follow its effective research strategy and to foster the production of excellent research through a culture defined by academic vitality, intellectual challenge, and individual creativity and initiative.

c. People, including:

i. Staffing strategy and staff development

People lie at the core of our research aims and strategy. Our recruitment strategy prioritises the hiring and retention of high quality researchers. These are individuals who: have research published in the discipline's best journals; have a research agenda that is compelling and addresses important world issues; and who have demonstrated their desire to contribute to the dynamism of the Department's research environment. To recruit and retain top researchers, the Department relies on incentives, development tools and a supportive environment to foster and maximize their potential and success. Maintaining and expanding a strong pool of established researchers is crucial to securing a sustainable path for the Department's research capacity.

Our junior appointment strategy identifies the most promising early career researchers (ECRs) with a view to nurturing new talent as a long-term investment. The 15 ECRs hired during the assessment period have already produced high-visibility research and enhanced the Department's research environment and ethos. Some have been approached by other high-ranking departments (e.g., Northwestern, UCLA, Bonn, Bocconi, and Oxford), but we have successfully retained colleagues with our attractive package of a dynamic research environment, extensive research support and balanced teaching loads.

To amplify and enhance our staffing strategy, significant changes were made during the assessment period:

Recruitment methods: the Department revised its recruitment approach and activities, changing procedures to make them nimbler and smarter in terms of identifying talent using national and international networks and professional contacts. The new approach, supported by necessary resourcing, proved highly successful; in the assessment period the following appointments were made: 15 new assistant professors (Almunia, Akerlof, Brollo, Buisseret, Chaisemartin, Choy, Draca, Gozzi, Macchiavello, McMahon, Noguera, Pancrazi, Pascali, Stovall, Waldinger); and 16 new associate/full professors (Becker, Bernhardt, Crawford, Kremer, Halac, Glazer, Lavy, Mitchener, Moav, Muthoo, Perry, Ray, Sovinsky, Squintani, van Rens, Woodruff).

Increasing competitiveness: salaries were reviewed and brought into line with those of leading economic departments. As a result, the Department was able to attract 15 junior and 16 senior faculty members with high research credentials – as evidenced by measures such as calibre of research publications (see REF2); and by the international rankings of the institutions from which the Department secured them, including Yale, Berkeley, Harvard, Princeton, Stanford, Columbia, BU and UCSD. The salary reforms were enabled by three key factors: 1) the Department's robust financial health, which saw a near tripling of income and a quadrupling of surpluses in the assessment period. 2) a high degree of budget autonomy, which gave the Department Head flexible authority to achieve aims; 3) unstinting support by the University's Vice-Chancellor and senior management to pursue a mission of achieving higher standards.

Creating and protecting research time: to create more time for faculty members to undertake research and to help the Department attract academics with high research ambition, teaching responsibilities were reviewed and re-balanced and professional administrative support was boosted. The Department ended its "one-size-fits-all" work model in which all faculty members were expected to contribute in equal measure to the department's research, teaching and administrative needs - in favour of a more bespoke approach, one which recognises and leverages each individual's comparative advantages. The Department began making greater use of fixed-term, full-time teaching fellows (ten, up from none in the previous cycle) and PhD students (twenty, up from five in the previous cycle), thus providing required teaching experience and income streams for a broader group of students. Our new paradigm, which treats teaching-focused and research-focused colleagues equally, has improved both the quality of teaching and the calibre of research.

Rigorous standards for advancement to permanency: the Department instituted and rigorously applied higher research standards for granting of permanency to assistant professors. New protocols were put in place both to facilitate forthright annual appraisals of progress for assistant professors, and to provide needed support (such as study leaves and re-balanced teaching/administrative duties) to meet criteria. The Department subscribes to the Concordat to Support the Career Development of Researchers; its principles have been implemented and underlie the staffing and research support strategies and investments described here.

ii. Research students

High-calibre PhD students are essential to the Department's intellectual climate and research environment. They represent the new generation of researchers. Thus, they spread and sustain the influence of the work of our professors and they serve as powerful ambassadors for the calibre of intellectual training received in the Department through their careers in academia, government and public policy. PhD students participate in all important facets of department life, including through events (workshops, seminars, etc.) teaching and personal interaction with their peers and faculty members. In turn, our faculty members benefit from highly-skilled PhD assistance and are themselves invigorated by

working with up-and-coming, dynamic researchers.

Significant changes were undertaken in the assessment period in an effort to recruit graduates of elite bachelor's degree programmes and to better prepare graduate students for the demands of research-driven careers in academia and in high-level professional, non-academic work.

The department established new, more demanding graduate programmes that focus on providing exceptionally high-quality training in advanced economics, with a particular emphasis on frontier research. The programmes are: a two-year MRes programme (distinct from the longstanding, one-year MSc programme), and a PhD programme based on the system used in leading North American university economics departments. The MRes programme provides more thorough coverage of core subjects and offers an expanded choice of research-level modules in specialised subjects. In year one, students take three core advanced modules in macroeconomics, microeconomics and econometrics; and in year two, they take field courses and complete a dissertation. Only students who achieve required standards in all elements will be admitted to the four-year PhD programme, where they will be able to embark on research with the foundations in place to make their own mark. The new structure and progression rules will provide both students and the Department with clearer evidence of candidates' suitability to pursue the PhD. The first cohort enters in the fall of 2013, with 17 students admitted (all of them with financial aid) from an applicant pool of 118.

Department support for PhD students and their integration into Department life significantly increased in the assessment period. Spend per annum on scholarships and bursaries, for example, more than doubled. More remuneration is now offered to PhD students additional responsibilities they take on, such as teaching, examining and invigilation. In 2011, following the changes during the assessment period in ESRC funding arrangements for postgraduate training, the Faculty of Social Sciences became an 'ESRC Doctoral Training Centre'. Under the current (renewable), five-year award, the Department has an annual allocation of six post-graduate fellowships until 2015/16 – up from an average of three ESRC post-graduate fellowships per year under previous arrangements.

PhD students in our Department initiated and organised a new conference in March 2013. The Department was pleased to show its full support for this initiative and provided funding for the inaugural event, which featured top PhD students from across Europe as well as Department faculty. The PhD conference proved to be so successful that the Department has since committed to making it an annual event. PhD students will continue to drive the event, which serves as a vehicle for students to learn about cutting-edge research by their European peers, and gain conference-planning and agenda-setting skills.

In September 2011 the Department initiated a visiting professors programme, in which top scholars spend between a week to a month in the Department to present special lectures to research students and to engage with them informally. Participating scholars include: George Akerlof, Ken Binmore, Oded Galor, Miles Kimball, Oliver Hart, Leslie Marx, Phil Reny, Ariel Rubinstein, Ken Shepsle and Fabrizio Zilibotti.

The Department actively supports the placement of its PhD graduates via frequent general advice, mock interviews, job-market paper presentations and word-of-mouth advertising. A senior faculty member is tasked with overseeing and deploying our placement support strategy. The Department provides full financial support for students to attend the AEA job market in the US. Our students are also given encouragement and support to attend short courses offered by top academics elsewhere in the UK and Europe - and to present their own work at workshops and conferences. If a visit to another economics department is considered beneficial for an individual and their work, the Department will provide support for the trip.

Environment template (REF5)

The total number of PhD students registered as full-time in the programme rose over the assessment period from 46 in 2006/07 to approximately 70 in 2012/13. Over the same period, a total of around 58 PhDs have been awarded. Of all our graduates, 26 were hired for academic or research posts in the UK (Alfano, UCL; Aoki, Aberdeen; Arico, East Anglia; Bracco, Lancaster; Dickson, Bristol; Gabrieli, Reading; Gutknecht, Oxford; Ianulardo, Exeter; Kishtainy, LSE; Maffini, Oxford; Morozumi, Nottingham; Salvatori, Essex) and abroad (Backus, IEB, Barcelona; Boukouras, Goettingen; Castro, Coimbra; Dalton, Tilburg; Diez, Valencia; Ferreira Dias, Aveiro, Portugal; Gelsomini, IESEG, Paris; Gonzalez, ICESI, Colombia; Kim, Chung-Ang University, Seoul; Magalhaes, Alicante; Matakos, Rochester; Mavromatis, Amsterdam; Ohinata, Tilburg; O'Sullivan, Trinity College Dublin; Rousakis, Florence); nine were employed as professional economists by international organisations, central banks, governments or independent think tanks (Acosta Ormaecha, Moheeput and Saborowski, IMF; Barnett and Ota, Bank of England; Malik, Banque de France; Nedeljkovic, Central Bank of Serbia; Manquilef, Government of Chile; Hunt, RAND Corporation). These graduates have produced in excess of 50 refereed journal articles between them.

d. Income, infrastructure and facilities

Due to its strong financial performance over the assessment period, the Department has been able to invest in research to a degree that had previously not been possible. The university's senior management and administration teams provided crucial support through a shared vision for the Department's high research aspirations, allowing budgetary flexibility and autonomy, and the deployment of university resources (human and physical) where effective. Some of the key elements initiated in the assessment period were:

Increased external research funding: external research income increased from around £4 million in RAE2008 to just over £6 million in this assessment period – almost all of this from the UK and EU research councils. CAGE funding, which accounts for around half of the current figure, enabled a broad spectrum of high-quality research and additional non-academic, policy outreach. Smaller grants have supported research networks and conferences. We encourage bids of any size and on any topic, both sole and collaborative, particularly those involving ECRs. The department's Warwick Economics Research Institute, collects and disseminates intelligence on funding opportunities, brings potential collaborators together, and provides assistance for funding applications and project management.

Increased investment in Department research-relevant events, which creates a research hub culture: during the assessment period, Department spending on activities that are designed to promote intellectual vitality doubled. Research-oriented, interactive events, including large conferences, seminars and workshops, tripled in number. Activities now regularly take place both at a large scale (on campus at the state-of-the-art Warwick Conferences facilities and off campus at the University's historic Venice site) and at the internal specialty level. In a given year, for example, we would now expect at least seven, field-specific events (e.g., in development, growth or public economics) to take place. Faculty initiated internal weekly gatherings for specialty research categories, which have proved to be beneficial and very popular. The Department also hosts work-in-progress reading groups (on topics such as applied micro and macro) with 25-30 staff and PhD participants as well as weekly reading groups on specialities such as theory, political economy or firms. These attract an average of five faculty members and 12 PhD students each time. Research support more than doubled over the cycle, from an average of £2,000 per scholar per year to £5,000 on average, with support levels of up to approximately £10,000 per year for young scholars who need additional support. The Department provides seed money for new projects, with RA support and data collection assistance.

Increased support for research-related travel for staff and visitors: to underscore its research commitment, enhance Department vitality, and increase its profile on the international research stage, the Department made substantial, additional investments in research-

relevant travel. The Department funded travel for attendance at important conferences, to work with international co-authors, and to conduct research in destinations near and far. The Department also funded travel to Warwick for high-profile academic visiting scholars, faculty co-authors, and internationally-recognised researchers. On the latter, the Department supported visits ranging from one week to one month for around ten internationally-recognised researchers each year to teach; present papers; work with students and faculty in a range of ways and to appear at speaking engagements for the Department and the university more broadly.

Attracted its first ESRC-funded research centre, the Centre for Competitive Advantage in the Global Economy (CAGE): established in 2010, CAGE provides the umbrella structure that unites diverse, core research strengths - history, development and behavioural economics - and serves as an outreach arm, particularly through policy-oriented work with Chatham House. Decision Research at Warwick (DR@W), also established in 2010, is an innovative interdisciplinary (economics, psychology, management, marketing and statistics) initiative focused on behavioural science. These two new endeavours, along with the previously established Centre for Research in Economic Theory and its Applications (CRETA) and Warwick Economics Research Institute (WERI), provide administrative frameworks and collegial structures for promoting quality research interaction.

Reorganised administrative structure and expanded administrative services: the Department invested in its administrative capabilities and capacity with the aim of maximising research time for faculty staff without compromising teaching and student experience. The number of administrative staff was increased to 27 in 2013, from 12 in 2008, and IT staffing to five in 2013 from two in 2008. New professional appointments were made in areas such as communications, finance and human resources, all of which directly or indirectly support the strong research infrastructure.

Secured more prestigious grant awards: In the assessment period, Department staff received notable awards, among them: Victor Lavy, recipient of an Advanced European Research Council (ERC) grant, and Ilan Kremer and Fabian Waldinger, recipients of Standard ERC grants. Another prestigious research-consortia appointment of note is the selection of Christopher Woodruff as the Scientific Coordinator for Private Enterprise Development in Low-Income Countries (PEDL), the five-year (2011-2016), £15 million joint research initiative of the UK Department for International Development (DFID) and the Centre for Economic Policy Research (CEPR).

Leveraged university-led research promotion initiatives: the Department takes advantage of a number of university-led schemes that provide direct financial support for research activities, or support the Department in generating research income. Examples of research promotion initiatives include: the Warwick Institute of Advanced Study (IAS) and IAS-sponsored seed grants, and Warwick's Research Support Service.

Space, facilities and IT: the size, quality and nature of the Department's physical infrastructure improved in the assessment period. The Department's physical space expanded by circa 35 percent to accommodate the increase in faculty, visiting professors, and administrative and IT staff; and to provide larger and better-quality common rooms for staff, visitors and research students. IT staffing capacity more than doubled, as did the annual expenditures on IT equipment and software, allowing for improvements in a number of areas. To support the work of DR@W, the Department created a new experimental laboratory, dedicating space and equipment to the task.

The pursuit of outside research grants provides a key area for potential growth going forward. Department goals for the next assessment period are: to renew CAGE's ESRC funding in 2013; to more than double research income to £15 million, and to establish two additional, large research centres with outside funds that can enhance and expand the reach of the Department's research stronghold specialties. Administrative capacity added

toward the end of the current cycle should enhance the capacity of researchers to complete successful grant applications in a timely manner. Toward the end of the current assessment period, the Department put incentives in place that will show results in the next cycle. In addition, recent senior appointments – some of whom have a strong track record of attracting research income – are working to attain this goal.

e. Collaboration and contribution to the discipline or research base

The department's outward-looking research culture cultivates an ethos of service to both the broad academic community and to society at large. Our researchers collaborate widely, both with other academics – economists and non-economists – and with non-academic researchers and practitioners throughout the world. These collaborations serve an important role in generating productive research connections that empower frontier-level research, generate new perspectives and leverage expertise well beyond the grasp of any single department. Department faculty make significant contributions to the international peer review process, to granting bodies and to professional associations. They engage with end users (e.g., government, business, and NGOs) and disseminate their findings to the broader public.

National/international collaborations. The department has close links with researchers worldwide, and these connections are growing in quantity and quality, as evidenced by: 1) sixty per cent of REF2's submission stemmed from national and/or international collaborations – an increase of around twenty per cent from that submitted in RAE2008. 2) over fifty per cent of the REF2 submission involved collaborators based outside the UK, compared to thirty per cent in RAE2008. These collaborative links have developed from the activities our researchers undertake away from the department: seminar and conference presentations and longer stays at other institutions during study leave or otherwise; and by the opportunities created within the department for external researchers to visit the department for seminars, collaborative work, and extended visits.

Interdisciplinary work. The department's work with scholars from other disciplines, (e.g., political science, psychology, health and medicine) puts it at the forefront of multi-disciplinary trends and research. The department's interdisciplinary outreach makes use of individual research agendas, joint appointments, grant-related research funding, university-level initiatives and multi-university collaborations. Some notable examples include:

- (i) Andrew Oswald's pioneering research combining psychology, health, and the hard sciences, including biology. Collaborations include work with Harvard Medical School doctor N. Christakis and University of Edinburgh animal psychologist Alexander Weiss and Kyoto University comparative cognitive scientist Tetsuro Matsuzawa;
- (ii) The establishment of the interdisciplinary DR@W on behavioural research with economists, psychologists, and mathematicians;
- (iii) Vera Troeger's joint appointment in 2011 with the Warwick Politics Department as part of the Department's new investment in, and engagement with, quantitative political science. Further investment in this area was made in 2013 with the appointment of Peter Buisseret who completed his PhD from the Princeton's Politics Department;
- (iv) Francesco Squintani's work on party factions with Torun Dewan of the LSE Government Department and on conflict with Kris Ramsay of Princeton's Politics Department;
- (v) Abhinay Muthoo's work on seniority and agenda power in legislatures with Ken Shepsle from Harvard's Government Department;
- (vi) In 2012, Michael Waterson received a five-year EPSRC grant of £3.7 million for research on energy issues with engineers, mathematicians and geologists at Warwick (lead institution), Nottingham, Loughborough and the National Geological Survey;

- (vii) Jacob Glazer's appointment in health economics in 2012 is an investment by the department to formalize and develop deeper collaboration with Warwick's Medical School and the Liverpool School of Tropical Medicine, focusing on health care management, research and training;
- (viii) Wiji Arulampalam works with an interdisciplinary effort with Indian partners on "Women's autonomy and the nutritional status of children". This was an ESRC Pathfinder Research Project, run jointly with N. Srivastava (Allahabad University, India) and A. Bhaskar (International Food Policy Research Institute, New Delhi); and
- (ix) Work with multi-disciplinary routes within the university include Christopher Woodruff's lead as Coordinator of the University's International Development Global Priorities Programme which bring together researchers from different disciplines with interest in international development.

Networks and research collaborations with third-sector organisations and businesses. Our researchers actively participate in external policy debate. Policymakers, government departments, parliamentary bodies and regulators, businesses and NGOs seek out department expertise, and our work has led to significant non-academic impact (such as those detailed in REF3). This interaction enriches the research environment in important ways. It signals that the department work can be a lever for policies that benefit society, and it serves as a source of intellectual inspiration and practical research ideas and avenues. Examples (more fully detailed in REF3) that illustrate organisations with which faculty have engaged include: Becker (House of Commons); Chen and Novy (OECD and UK Department for Business, Innovation and Skills (BIS)); Crafts (HM Treasury and BIS); Lavy (Government of Columbia); McMahon (Bank of England); Mitchener (Federal Reserve Bank of San Francisco and advisory role to Chinese Government (with DFID and US State Department)); Moav (Israeli cabinet); Perry (Israeli Telephone Company); Polemarchakis (Office of the Prime Minister of Greece); Scharf (HMRC, Charities Aid Foundation and Justgiving); Waterson (BIS, Competition Commission and Office of Fair Trading); Woodruff ((Etisalat and National Savings Bank (Sri Lanka), DFID, Equity Bank (Kenya), Parliament, World Bank)).

Seminar series and conferences. The department also highly values its members' active involvement in the organisation of wider research events, both within Warwick and outside. The university and department have organized and/or provided local facilities for a number of professional meetings over the assessment period, including: the 2010 Review of Economic Studies May meetings, the Public Economics UK annual conference (with HM Treasury and the IFS). We have brought established and starting researchers to Warwick by organizing and hosting around forty department funded or externally-funded events, such as workshops and conferences on various themes during the assessment period. Recent examples of collaborative conferences held at Warwick (in addition to those mentioned elsewhere in this document) include the 2013 CAGE/CEPR Conference on "Long-Run Growth: Unified Growth Theory, and Economic History", and the 2012 "CAGE/CEP Workshop on Trade Policy in a Globalised World" (held at Warwick's Venice conference facility). A Political Economy seminar series is organised jointly with the LSE Government Department. Our researchers have also organised a number of collaborative conferences outside Warwick such as the following: an annual summer workshop on Russia, China, and the Middle East at Stanford University (Harrison, co-organiser); 2008 conference on well-being at San Francisco Federal Reserve Bank (Oswald, organiser); ESRC supported Network of Industrial Economics in 2008 and 2009; and in 2009 and 2011 Society for the Advancement of Economic Theory Conference, Ischia and Barcelona (Squintani, organiser); 2010 conference on "Lessons from the 1930s Great Depression" at the British Academy, sponsored by the British Academy, Economic History Society, and the Royal Economic Society (Crafts, organiser); 2010 ESRC-funded conference on child nutrition, New Delhi (Arulampalam); 2011 workshop on "Globalization and Labour Market Outcomes", Geneva, funded by ILO, World Bank, CESifo and EFIGE (Becker); 2011 of 4th HIPOD Conference in Fort Neemrana, India (Gupta, co-organiser); Tri-Continental International Trade Policy 2012

Symposium, UIBE, Beijing, China (Becker, organiser).

Professional associations, learned societies, and journal editorships. Our researchers are represented in the leading professional associations promoting the advancement of the discipline (including the Econometric Society, the British Academy and the Royal Economic Society), and are closely involved with the academic peer review process with top journals. Many of our staff are affiliated to prestigious academic associations including the following: Crafts and Hammond are Fellows of the British Academy; Dutta, Hammond, Polemarchakis, Perry, Whalley are Fellows of the Econometric Society; Many are also research associates of international research groups, such as the NBER and CEPR. During the REF assessment period, many of our staff have had been involved in editorial roles in many professional journals, either as members of editorial boards or as editors, including the following: Becker, *European Journal of Political Economy*; Chen, *Economic Journal*; Crafts, *Cliometrica*, *Economic History Review*, *European Review of Economic History*; Dutta, *Social Choice and Welfare* (joint managing editor), *Games and Economic Behaviour*; Gupta, *Journal of Economic History*; Lavy, *Labour Economics*, *Economic Development and Cultural Change*; Lockwood, *Journal of Public Economics*, *Economic Journal*; Macchiavello, *Journal of Development Economics*; Mitchener, *Cliometrica*, *Journal of Economic History*; Moav, *Journal of Economic Growth*, *Journal of Macroeconomic Dynamics*; Oswald, *Science*; Muthoo, *Review of Economic Studies*, *Journal of Economic Psychology*; Perry, *Journal of Economic Theory*, *Games and Economic Behavior*; Scharf, *Journal of Public Economics*, *International Tax and Public Finance*; Squintani, *Economic Theory* (co-editor), *Social Choice and Welfare*, *International Economic Review*; Waldinger, *Review of Economic Studies*; Waterson, *International Journal of Industrial Organization*; Woodruff, *Journal of Development Economics*, *World Bank Economic Review*, *Journal of Comparative Economics*. Members of professional councils include: Arulampalam, mentor, Royal Economic Society Women's Committee; Dutta, President-elect, Society for Social Choice and Welfare; Gupta, member of the Council of the Economic History Society, member of the Audit Committee of the International Economic History Association; Hammond, Member of the Section S2 (Economics and Economic History) Standing Committee of the British Academy; Naylor, Second Secretary of the Royal Economic Society; Perry, Council member of the Game Theory Society, Charter member of the Game Theory Society; Scharf, elected member of Royal Economic Society Council, mentor, Royal Economic Society Women's Committee.

Other service to the discipline by members of the Economics department includes: (i) Contributions to grant awarding bodies: Arulampalam, member of the panel of advisers for Commonwealth Scholarship and Fellowship applications; Harrison, Chair of the Ed A. Hewett prize committee of the Association for Slavic, East European, and Eurasian Studies; Waterson, member of ESRC First Grants Assessment Panel; Woodruff, scientific coordinator, Private Enterprise Development in Low-Income Countries (CEPR/ DFID) and (ii) Contributions to other advisory bodies not previously mentioned: Oswald, International Commission on Measurement of Economic Performance and Social Progress; Waterson, member, UK competition commission; Woodruff, co-director, Firm Capabilities Program, International Growth Centre Executive Committee, Consortium on Financial Services and Poverty, University of Chicago.