

<b>Institution:</b> University of Warwick
<b>Unit of Assessment:</b> C16 Economics and Econometrics
<p><b>Section 1. Unit context and structure, research and impact strategy</b></p> <p>Since its establishment in 1965, the Department of Economics at Warwick has become one of the largest and most well-regarded Economics departments in Europe. We engage in innovative research that extends the frontiers of the discipline, contributing to a deeper understanding of how economies function and how they can adapt to future challenges. We cover most fields of theoretical and empirical economics, working with collaborators from other disciplines and beyond academia to generate knowledge that can be used to improve economic growth and wellbeing worldwide. By international league tables, we are consistently in the top thirty Economics departments worldwide and in the top ten Economics departments in Europe for research. Looking forward, our aim is to be one of the top five Economics departments in Europe for research. To achieve this aim, we have had in place, and continue to have, a strategy for research and impact with five key elements. These elements build on the strategy outlined in our REF 2014 environment statement.</p> <p>1. The first element of our strategy is, <b>via recruitment and retention, to maintain and improve our excellent research reputation in all major areas of economics</b>. This was also the first element of our REF 2014 strategy, which we believe we have been successful in implementing since then. First, we invest considerable resources into both junior and senior hiring. In all years since 2014, we have had several openings at junior level, and fill these via an intensive search process run by the Junior Hiring Committee, described in more detail in section 2. Our Senior Hiring Committee has been successful in making a number of key senior hires in areas that were identified as priorities in the last environment statement, as explained further below. We make full use of Departmental flexibility in promotion and salaries to retain valuable members of staff.</p> <p>2. The second element of our strategy, as in our REF 2014 strategy, has been <b>to create a structured environment where researchers within the Department have time for research and opportunities for collaboration</b>, as collaborative research is becoming increasingly important in our discipline. Therefore, <b>five formal research groups</b> were introduced in 2015, which span key research areas in the discipline: <b>Development and History, Econometrics and Labour, Macroeconomics and International Economics, Microeconomics, and Political Economy and Public Economics</b>. Further detail about the groups is given below. In 2018, a sixth group, <b>Experimental and Behavioural Economics</b>, was added. In addition to this, we have maintained and developed our two research centres: CAGE (Centre for Competitive Advantage in the Global Economy, ESRC-funded) and CRETA (Centre for Research in Economic Theory and its Applications). We have also helped to support and develop the Decision Research at Warwick (DR@W) centre, an interdisciplinary collaboration with a number of other departments at the University.</p> <p>The research groups provide a way of coordinating research activities within the Department, whereas the research centres raise the external profile of our research groups. Both research groups and centres support researchers in the preparation of bids for research funding. They are described in more detail in section 1.2 below.</p>

Six seminars (linked to the research groups) run in the Department each week and feature external speakers from a wide range of universities both within the UK and abroad and this is described in more detail below.

3. The third element of our strategy is **to maintain and increase our engagement with the international research community**. We have many short-term visitors to the Department via our extensive seminar programme described above. To complement this, we have developed a new, more formalised Visitors' Programme, for longer-term visitors who will visit for two to four weeks and typically give a seminar, although this is currently on hold as a result of the coronavirus pandemic.

A second route to international engagement is building links with other leading Economics departments in Europe via the EUTOPIA Alliance (**REF5a-2.12.1**), a University-level initiative for collaboration with other research-intensive universities in Europe. We are in talks with the Economics department of the University of Pompeu Fabra on joint initiatives. Further afield, we have links to the Economics department at Monash University in Australia through the Monash-Warwick Alliance (**REF5a-2.12.1**), as explained in section 4.

A final initiative to increase engagement has been to establish a number of post-doctoral positions within the Department. Three of these were initially funded by CAGE and are now funded by further research grants including a British Academy Fellowship. The Department also won a Royal Society Newton International Fellowship in 2017.

4. The fourth element of our strategy is **to raise the international profile of the Department though placement of our PhD students at leading departments worldwide**. This was highlighted in our REF 2014 environment statement as an objective and considerable progress has been made since then. In October 2013 we accepted the first intake of students into our new, more rigorous and selective PhD programme (MRes plus PhD). This new programme (described in more detail in section 2 below) is now paying off, with the quality of placements improving year on year. The programme is also an important mechanism for attracting top academic staff who are looking to work with high quality PhD students. We aim to build upon the quality of this programme, in the calibre of students we recruit and their job placements.

5. The final element of our strategy for excellence is **to facilitate impact from our research**. We see impact as a very important part of our overall research profile, and we aim to ensure that our excellent research has the widest and deepest possible impact on society and the economy. The Department's impact strategy is closely linked to our objective to recruit the best quality academic staff and based on the recognition that research quality is integral to impact. In our hiring choices we consider candidates' potential and experience in relation to achieving impact as well as their academic promise.

We believe that impact is most likely to be achieved through robust and sustained engagement with external stakeholders and we support this in a number of ways. We actively promote and disseminate our research to non-academic audiences via a wide range of communication channels, led by our Communications team, as described in more detail in section 1.2 below. In addition, we encourage collaborative research with practitioners, think tanks and other external organisations, and support our researchers to share their expertise through advisory roles. This strategy has enabled a strong track record of impact, evidenced by our impact case studies in addition to the examples of wider contributions to the economy and society as set out in section 4 below.

Looking to the future, we plan to continue with our **five-point strategy** outlined above. In addition, we are investing in fast-growing sub-fields of economics such as data science economics, where our links with the Turing Institute (**REF5a-2.12.2**) and with Warwick's Statistics and Mathematics departments are key strengths. We also support interdisciplinarity by investing in areas that overlap with other social sciences and humanities, including: political economy; economic history; behavioural economics. These strategic priorities are led by our conviction that societal issues need to be addressed from a multi-disciplinary angle, around our economics core. Our cross-disciplinary activities are intended to increase the visibility and impact of economics research and strengthen the Department. Section 4 below describes how our researchers actively engage with colleagues from other departments both within and outside the University, collaborating across a wide range of disciplines.

## **1.2 Structure**

Here we explain how these strategic aims are supported by the Departmental structure.

### **1.2.1 Research Groups and Research Centres**

The Department is large and diverse with 59 teaching & research staff and 3 research-only staff (as of 31<sup>st</sup> July 2020). To provide additional focus, research staff are organised into research groups, which have been introduced since the last REF period. Each research group has a coordinator and deputy coordinator, and an annual budget (£16,000 in 2019/20), which can be spent on organising conferences, workshops, inviting visitors, etc. All academic members of staff join a research group of their choice. Staff members can also choose to join a second research group as an associate member, as many staff have interests in more than one area. PhD students are also required to join at least one group.

Every research group runs its own seminar programme with external speakers. Additionally, the Development and History and Labour and Econometrics groups come together for the CAGE seminar. All research groups also have informal workshops (such as reading groups and lunchtime workshops) or one-day conferences where colleagues can present their work. In total, we run around 200 seminars/ workshops each year. The activities of the research groups are overseen by the Research Committee, whose members are the Research Group Coordinators, the Director of Research, Impact Director, Director of the MRes/PhD, the Departmental Research Manager, and the Departmental Head of Administration (Business and Research).

Regarding research centres, our ESRC research centre (**CAGE**) has been in existence for more than ten years, and has been very successful in raising the research and impact profile of the Department, which is reflected in the fact it has secured two rounds of ESRC funding. In particular, CAGE is unique in ESRC centres in Economics in bringing together economic historians with other economists. It conducts policy-driven research, drawing lessons from historical and contemporary data to inform policymakers and journalists. We have secured CAGE transition funding from the ERSC until December 2024, with the objective to maximise the impact of the research activity and investment to date with a view to self-sustainability.

Our second research centre, **CRETA**, coordinates the activities of pure and applied theorists in the Department. It hosts an annual lecture in Economic Theory, co-organises one-day workshops jointly with the Department of Economics at the University of Birmingham and hosts an annual summer school in Economic Theory and its applications.

Our third centre, Decision Research at Warwick (**DR@W**), is an interdisciplinary initiative which focuses on behavioural and experimental research of decision making, and is co-led by Economics, Psychology and Warwick Business School (WBS). See section 4 for further details.

### **1.2.2 Impact Support**

There is an academic Impact Director for the Department as well as a dedicated Impact Director for CAGE. These roles provide strategic oversight for impact activities and ensure that impact is maintained as an integral part of the Department's research culture. They provide guidance to colleagues on strategies to generate impact from their research and share relevant non-academic contacts. The Departmental Impact Director collaborates directly with the Director of Research and the Head of Department and attends Senior Management Team meetings as appropriate, as well as representing the Department at the Faculty Research Committee.

We have recently expanded our in-house Communications team to proactively support the dissemination of our research to non-academic users and embed a sustainable culture of impact. The team includes the full-time Departmental Communications Manager, the full-time Online Communications Officer and the part-time CAGE Communications Manager. To ensure sustainable support for impact, we have also recently appointed a dedicated part-time Communications Manager for Research Impact, who has a specific focus on facilitating pathways to impact and capturing evidence of impact.

The team disseminates the implications of research for non-academic audiences through the Departmental and CAGE websites, social media channels, and publications such as policy reports and the CAGE Advantage magazine. Furthermore, they work closely with the University's dedicated Media Relations Manager for Social Sciences to identify opportunities for media coverage both in terms of expert comments and press releases. Academics can also access direct support from the Media Relations Manager at media training sessions. Our academics are often featured in the media as expert commentators on current economic and societal issues, as well as providing research-based commentary via portals such as VoxEU and The Conversation.

Moreover, CAGE has a number of well-established relationships and mechanisms for achieving impact, including a long-running partnership with the Social Market Foundation (SMF). In collaboration with the SMF, CAGE has hosted four policy events per year during the REF period, providing a forum for academics to present their research to policymaker audiences and build contacts. CAGE has worked with the SMF to produce briefing papers to accompany the events, as well as an annual 'policy report'. In 2015 and 2016 CAGE hosted policymakers from HM Treasury who visited the Centre for a series of two CAGE-HM Treasury Research Days. CAGE also has a regular presence at political party conferences; for example, Arun Advani presented his work at panel events supported by CAGE at the 2019 Conservative and Labour Party conferences, which enabled him to develop important relationships with senior economic advisors in both political parties.

CAGE also runs a successful Policy and Media Fellowship programme, whereby each year a senior civil servant and a journalist are appointed as Policy and Media Fellows respectively, and spend a day visiting Warwick to meet with academics in CAGE and the wider Department (in 2019 the Fellows were Ben Chu, Economics Editor at The Independent, and Amy Morgan, Department for Education). The scheme enables academics to build non-academic networks and develop skills in presenting their work to non-academic stakeholders. The success of the

policy-driven focus of CAGE's work is reflected in the fact that all of our case study leads are CAGE Research Associates.

### **1.2.3 Other Structures**

During the current REF period, we have introduced additional incentives in the workload model, and in criteria for promotion to associate and full professor, to reward impact and engagement activities, as well as research grant applications, as described in further detail in section 2.

We promote an open access research culture. In line with the wider University policy, faculty are required to deposit accepted versions of journal and conference articles into the open access Warwick Research Archive Portal (WRAP) (**REF5a-2.10**). A dedicated member of the Department's professional services team liaises with academic staff to manage the deposit process. In addition, staff are strongly encouraged to publish in the online Departmental, CAGE and CRETA working paper series. In the year ending 31 July 2020, papers in the Departmental and CAGE series have been viewed more than 375,000 times and downloaded more than 107,000 times. We also encourage faculty to share research data, beyond where this is a funder requirement. In particular, CAGE is currently working to digitise several sources of historical data on South East Asia, drawn from a wide set of archaeological, anthropological, official, and commercial sources. These datasets will be made available to other researchers in formats suitable for statistical analysis.

We support a culture of research integrity in line with the University's Research Code of Practice, which is regularly reviewed and updated in line with sector-wide guidance. Our staff intranet pages signpost staff to the Research Code of Practice and support available from the University's research governance team. We also provide guidance on seeking ethical approvals for research via the University's Humanities and Social Science Research Ethical Committee (HSSREC). All new members of staff involved in research are required to complete online research integrity training (**REF5a-2.11**).

## **Section 2. People**

### **2.1 Staffing strategy and staff development**

Our staffing strategy is to retain, attract and develop world-class staff who have innovative research agendas and if possible strong impact potential. This is the first element of our research and impact strategy as outlined in section 1. Recruitment into the Department is organised by two hiring committees: Junior Hiring Committee which recruits Assistant Professors, and Senior Hiring Committee which recruits Associate and Full Professors.

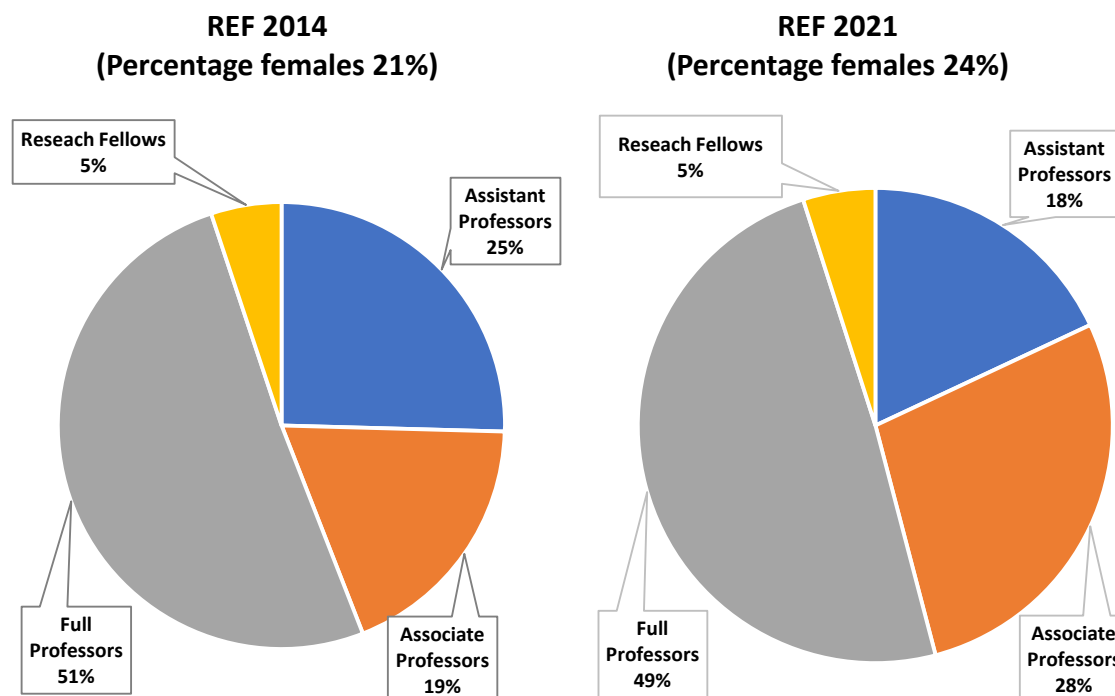
#### **2.1.1 Recruitment**

The recruitment of Assistant Professors is very structured and revolves around the American Economic Association's conference in January and the European Economic Association's conference in December. Staff from the Department interview candidates during the conference and select candidates (around 15-20 per year) to 'fly-out' to Warwick for one to two days to meet the Department. Typically, the candidate will make a seminar presentation, and meet individual faculty via scheduled meetings as well as more informal social interaction. In this way, we can showcase our world-class facilities and research strengths. We are also committed to gender equality in the hiring process, as described in more detail in section 2.3 below.



Since the last REF, this strategy has proved very successful. We have made 29 hires at Assistant Professor level in the current REF period, with four additional Assistant Professors to start employment after 1<sup>st</sup> August 2020. In recent years we have appointed Assistant Professors who were PhD students at Boston, Brown, Caltech, Duke, London Business School, London School of Economics, Paris School of Economics, Pompeu Fabra, Princeton, University of California (Santa Barbara and Berkeley), University College London, University of Michigan, University of Oxford, Toulouse and Yale.

Our active hiring at junior level has enabled us to develop and maintain a balance in the age profile of the Department, an aim of our 2014 environment statement. We now have 63% of T+R and R-only faculty under the age of 50 (31st July 2020), compared to 57% in 2014. The Figure below shows that this hiring strategy has also slightly improved both the senior to junior balance and gender balance among research-active faculty; relative to 2014, we now have more females and slightly fewer full professors as a proportion of the total.



Since 2014, we have successfully retained a number of outstanding Assistant Professors who have been promoted to Associate Professor. However, we cannot expect to keep everybody: in recent years a number of junior faculty have moved on to senior positions in some of the top-ranked economics departments both in the UK and internationally (for example, Fabian Waldinger (London School of Economics), Michael McMahon (Oxford), Marina Halac (Yale), Peter Buisseret (Chicago), Clement de Chaisemartin (UCSB), Luigi Pascali (Pompeu Fabra), Guillermo Noguera (Yale), Elliott Ash (ETH Zurich)). We feel that this reflects both the quality of our hiring strategy in identifying future leaders, and the supportive research environment at Warwick, which has helped them develop into top economists. We also often maintain connections with these leavers by giving them continued affiliation as CAGE or CRETA research associates, in line with our third strategic aim of fostering international collaborations and developing our international profile.

In common with most UK Economics departments, recruitment of outstanding senior staff can be challenging. However, since the REF 2014 submission, we have been successful in making four full-time hires at the Full Professor level: Roger Farmer (macroeconomics, University College Los Angeles), James Fenske (development, Oxford), Manuel Bagues (applied micro, Aalto) and Eric Renault (econometrics, Brown). In addition, we have made four hires at Associate Professor level: Daniele Condorelli (micro, Essex), Stefano Caria (behavioural, Bristol), Helios Herrera (political economy, Montreal), and Natalia Zinovyeva (labour, Aalto, starts August 2020). These hires provide leadership and enable us to develop research capacity in areas highlighted by our environment statement for the previous REF, specifically macro and applied micro. Moreover, in the current REF period, we have not made any part-time senior appointments of faculty who also hold positions elsewhere, and our strategy going forward is to continue with this approach, in order to ensure that our appointments can make a full contribution to academic environment within the Department.

All senior staff are on tenured contracts. All junior hires are on tenure track contracts and are fully tenured after successful completion of a five-year probation period. There are currently three Research Fellows in the Department on fixed-term contracts.

### **2.1.2 Career Progression and Development**

Once at Warwick, we offer maximum support to both early career researchers and tenured faculty to promote career progression and development, in line with the Concordat on Researchers (**REF5a-3.3**). Assistant Professors are mentored by at least one senior faculty member in the same sub-discipline, are given a reduced teaching load during their probation (no more than 30 face-to-face teaching hours in each of the first three years and no more than 40 hours during the remaining two years of the five-year probationary period) and a higher personal annual research allowance (£5k per annum) to enable travel and conference attendance.

The Departmental Academic Staffing Committee (ASC), established in October 2017, supports colleagues through the probation process and meets to evaluate each individual against the probationary criteria on an annual basis. The Committee is very proactive in supporting colleagues through the promotions process. In 2019/20 for example, five Assistant Professors were promoted to Associate Professor and four Associate Professors were promoted to full Professorships. The progress of probationers is also reviewed at a meeting of senior colleagues in the Department. The Head of Department meets with individual colleagues to provide feedback from these meetings. In addition, the Department's research group structure facilitates extensive informal monitoring; senior colleagues advise junior colleagues in their groups on research, publication and career progression.

Turning to support for tenured staff, all associate professors have an allocated mentor to advise and support them in their progression to full professor. Mentors give feedback on their progression towards this goal on an annual basis.

All staff are able to apply for Academic Study Leave, with one term available for every six terms in post. The criteria for assessing research leave applications reflect our strategic priorities (high-quality research, preparation of research grant applications, impact) and all applications are evaluated against these criteria by the Senior Management Team and HR Officer. To date, all applications have been approved (although academic leave was cancelled for the 2020/21 academic year due to the coronavirus pandemic).

Since the last REF, we have introduced a formal and transparent system of personal research allowances, which can be used for conference attendance, visits to/from co-authors, purchase of data, etc. While we have had to make temporary reductions to research allowances as a result of the coronavirus pandemic, we have minimised the reductions for junior academics to ensure they remain well-supported in their career development. Although also currently on hold as a consequence of the pandemic, additional small-scale discretionary funding has been available in the REF period for the employment of short-term Research Assistants, who are recruited from our cohort of students.

The Department provides workload credits to support, reward and incentivise staff to apply for research grants and to achieve impact from their research, thus reducing their non-research related workload. This aligns with the aim set out in our 2014 environment statement to further strengthen the system of career incentives to support research quality and impact. Specifically, there is a baseline number of credits for research activity, which can be enhanced by (i) submitting large research grant applications; (ii) achieving buyouts from research grants; (iii) engaging with the press, policymakers and other non-academic stakeholders to promote research, as an investment in pathways to impact. For staff working on impact case studies, administrative and teaching duties are reduced by up to 20% in each of the last two years prior to REF submission. The same duties are reduced by 10% for those who may not have case studies but who demonstrate significant progress in achieving impact. Staff are also supported to take up opportunities that are offered at Faculty and institutional levels to facilitate their research and/or impact. For example, staff members have made eight successful applications to the ESRC Impact Acceleration Account (**REF5a-2.7**) for grants of between £2.6k and £10k.

As well as time and financial support for impact, we support exchanges between researchers and non-academic stakeholders through the CAGE Media and Policy Fellowship scheme described in section 1.2.2 above, and by encouraging our researchers to take up secondment and knowledge exchange opportunities. For example, Thijs Van Rens recently spent time working with the House of Commons Health Committee and Roland Rathelot supported the Future Leaders' Talent Scheme run by the Cabinet Office in June 2017, which included giving lectures and advice to civil servants on evaluating public policy. Staff are also encouraged to attend the Faculty of Social Sciences impact training events, such as workshops on 'Engaging with Parliament', as well as media training run by the central Press Office. Research and impact successes are celebrated in the fortnightly Departmental staff newsletter and on the website, and shared with relevant teams across the University.

## **2.2 Support mechanisms for, and evidence of the training and supervision of, PGR students**

An aim set out in the 2014 environment statement was to improve the quality of doctoral candidates and to this end, we introduced a new, more rigorous and selective PhD programme (MRes plus PhD), with the first intake of students in October 2013. Students are recruited on the basis of academic excellence, but we aim to ensure that we have a balanced intake, particularly in terms of gender. In the most recent year relevant for this REF, 2019/20, 46% of the intake was female. All PGR students take the compulsory two-year MRes and need to demonstrate a strong performance in order to proceed onto the PhD. The MRes is designed to give students research skills in the core areas of economics (microeconomics, macroeconomics, econometrics, research design) to a level where they are at the research frontier, so they can commence work on the PhD.



The MRes enrolls and funds between 13-17 students each year and all but two or three of these students per year progress onto the PhD. This is the flagship programme for the Department and is an important mechanism for attracting top academic staff who are looking to work with high quality PhD students. The ESRC has remarked that the programme is sector-leading. The programme is led by the Director of the MRes/PhD who is supported by a deputy, two senior staff members who act as placement officers to prepare students for the Economics job market and assist them in securing an academic position following completion of their PhD, and a dedicated Professional Support Services team.

Prior to the introduction of MRes/PhD, completion within the recommended four years was almost zero, but with most submitting within five years. In contrast, the MRes training better prepares students for their PhD and the first two cohorts have now graduated from the combined programme with on-time completion rates of 89 percent and 88 percent. This high on-time rate reflects the comprehensive support and monitoring processes we have in place on the programme. Each PhD student has an academic supervisory committee made up of a main supervisor and up to two co-supervisors. They are required to meet with their supervisor at least monthly and provide an electronic report of the meeting (including the advice of the supervisor and what the student is required to complete before the next meeting). They are also required to submit progress reports every six months to the Director of the MRes/PhD programme and to present their most recent paper at the annual PhD forum. If a student is identified as not being on track to submit on time, their supervisor is contacted for further information. A meeting is then organised between the Director of the MRes/PhD programme, the student and the Programme Manager, and a set of key milestones are set out for the following six months leading up to the subsequent progress report or forum meeting. Students are advised of the various options open to them including temporary withdrawal or change in status from full-time to part-time.

Doctoral students are allocated a desk in a shared office and are well-integrated into the Department's research culture. They are required to join at least one of the Department's research groups and encouraged to attend seminars and workshops. They are given opportunities to meet with external speakers through allocated slots on the speaker's meeting agenda, and are able to present and get feedback on their research through the 'Work In Progress' workshops. Students are also encouraged to attend impact training workshops offered through the ESRC Doctoral Training Partnership and the central University.

The Department provides substantial financial support to the MRes/PhD programme, through paying the fees and giving a stipend of around £11,000 per annum to all MRes students and PhD students unable to obtain external funding. In addition, the Department provides employment opportunities for PhD students through hourly-paid teaching, and in each of the past three years has provided this employment for every PhD student that requested it. Some students instead choose to do research assistant work to boost their income. Students can also apply for up to £1,200 from the Department during the course of the MRes/PhD for conference attendance or research data costs.

Since 2013 the Department and CAGE have provided funding for an annual international PhD conference at Warwick, which provides students with the opportunity to network and share ideas. The conference is organised by Warwick PhD students and features presentations from PhD students from around the world, receiving hundreds of applications each year. Furthermore, through the Warwick-Monash Alliance, one of our PhD students co-organises the Applied Young Economist Webinar series (launched April 2020), in collaboration with a PhD candidate at

Monash University. The series aims to provide PhD students and post-doctoral researchers across the world with a platform where they can present their work and make new connections.

Our support for PGR students has paid dividends in the improvement of placements for these students in recent years. For example, in the assessment period our PhD students have secured tenure-track positions at the Universities of Ashoka, Amsterdam, Bocconi, Bristol, Colombia, Erasmus University, Los Andes (Chile), Manchester, Munich, NYU Shanghai, Pittsburgh, Rochester, Sichuan (China), Stockholm, Sydney, Tilburg, Toronto, Tübingen, the European University Institute and Beijing-Dublin International College. Students have also secured up post-doctoral positions at places including the Barcelona Institute of Economics, Bonn, Geneva, Heidelberg, Milan, Oxford, Paris School of Economics, and Yale.

Outside of academia, during the assessment period, our PhD students have progressed to careers at the Bank of England, National Grid, European Commission, Central Bank of Ireland, Bank of Korea, Federal Reserve System, Colombian Central Bank, Chilean Ministry of Finance, Bank of Mexico and Australian Institute for Business and Economics.

Our former PhD students also publish at the highest level. For example, the cohort of students graduating in 2014 alone have four top-5 publications between them. One of our 4<sup>th</sup> year PhD students has had three papers accepted for publication (in the Quarterly Journal of Economics, the Economic Journal and the Journal of the European Economic Association). Another PhD student who completed the programme in 2020 has a paper forthcoming in the Journal of Political Economy.

### **2.3 How the submitting unit supports and promotes equality and diversity**

The Department is committed to providing equal opportunities for all academic staff, regardless of background, circumstances and contract type, in line with the Concordat on Researchers.

One of the biggest challenges for Economics as a discipline is achieving a gender balance at both junior and senior level. We approach this challenge in a number of ways, beginning with the hiring process. All staff involved in recruitment activities are required to complete “Unconscious Bias” and “Recruitment and Selection” training online (**REF5a-3.3**). Moreover, since 2016, both Junior and Senior Hiring Committees have had female members, and these committees consider carefully the gender balance of both interviews and fly-outs. At junior level, this has led to a rise in the percentage of offers made to women from 30% in 2014/15 to over 60% in 2019/20. Many of these offers have been accepted, and as a result, we have seen a large improvement in gender balance at the Assistant Professor level where (July 2020) we have seven female colleagues (41%) compared with two females (16.7%) in August 2013. In addition, we have recruited three female Assistant Professors who will be arriving after July 2020.

The increase in females at the Assistant Professor level enables us to support female academics through probation and promotion to address the gender imbalance at the senior level, as recruiting women at the Full Professor level is very challenging. Specifically, in addition to Personal Development Reviews (PDR) and an academic mentoring scheme, the Academic Staffing Committee, described above, supports T&R colleagues through the probation and promotion process.

In addition to this, we organise a number of formal and informal events throughout the year that are designed to support women in Economics. For example, we have introduced a termly

“Women in Economics” lunchtime event which provides a dedicated space for women to discuss gender and the working environment. We are also fully committed to the principles of Athena SWAN, to ensure we create an environment where staff and students are able to thrive and progress regardless of their role or gender. We are currently preparing our application for a Bronze Award for submission in April 2021.

We are also committed to equality and diversity more generally, not just in gender. Once a faculty member arrives at Warwick, understanding of equality and diversity forms a key element of the Department’s induction plans and all new staff are required to complete the University’s online “Equality, Diversity and Inclusion in the HE Workplace” training module within two weeks of joining. Equality and diversity is a standing agenda item at all formal committee meetings. Diversity and inclusion questions are included within the annual Personal Development Review process, and the bi-annual University ‘PULSE’ survey asks a number of questions in this area. The results of the PULSE surveys are used to shape the way the University and Department work going forward.

A Wellbeing, Equality, Diversity and Gender Group (WEDGG) was set up in November 2018 with the remit of promoting wellbeing, a positive working culture and a collegiate environment in the Department. Three important initiatives introduced by WEDGG are:

- 1) all job market seminars from 2019/20 onwards take place between 2pm and 4pm to facilitate attendance from staff with caring responsibilities;
- 2) for the academic year 2020/21 onwards, all seminars in the Department will have to end by 4pm for the same reason;
- 3) the introduction of a of termly Women in Economics lunchtime event as described above.

We have maintained the ethnicity split of research active staff in the Department since the last REF, but going forward a key aim of our hiring strategy will be to develop a greater balance, in line with the significant progress we have achieved in the diversity of staff on teaching only contracts in recent years. As of 31<sup>st</sup> July 2020, there are 45 staff on T&R or R-only contracts who are white and 9 BAME (8 unknown). This compares to 42 white T&R or R-only staff members and 9 BAME as of 31 July 2013. The current fraction of BAME staff to total is therefore 14.5%, which is just at the average for academic staff at University of Warwick as a whole.

The Department supports flexible and remote working, in line with University policy, and there are a number of staff who take advantage of this. Flexible working arrangements can be formal or ad hoc. Formally, there is a Returners Fellowships scheme for those returning from long periods of leave (e.g. parental leave) which provides central funding for up to 60% of the salary for replacement staff costs for between 6 or 12 months (**REF5a-3.4**). Also, academic staff returning from long-term leave are supported with flexibility in the Departmental workload model on an ad hoc basis. For example, an academic who recently returned from maternity leave in term one was not given teaching duties until term two, allowing them to focus on research and prepare for teaching more flexibly.

Staff with long-term illness or disabilities are supported in the Department according to their needs. For example, we have adjusted working patterns, purchased additional equipment and referred individuals to Occupational Health for additional support where necessary. We have implemented local initiatives, such as a Departmental ‘buddy’ scheme, designed to assist staff with mental health issues, and review these regularly to assess their impact. Phased returns are organised for staff returning from periods of leave due to long-term illness. Similarly, research

students returning from periods of temporary withdrawal are given appropriate support in line with their individual circumstances.

Support is available for staff with caring responsibilities, not only through the flexible-working policy but through the University's time off for dependents scheme and carer support networks. The University also offers a one-off payment towards the cost of childcare for those attending conferences, which several of our staff, of all genders, have taken advantage of. Our Departmental HR officer works proactively to promote the range of support options available to staff.

We have also addressed equality and diversity issues in the construction of our REF submission. We relied on the advice of six external referees, one of whom was female. This reflects the composition of the economics profession at the senior level in the UK, where only about 14% of full professors are female (HESA data for 2018). We also endeavoured to find a female member for our internal REF Committee, but we were constrained because one of our few female full professors (Bishnu Gupta) serves on the REF Panel for UOA 16, and two female full professors left during this period.

### **Section 3. Income, infrastructure and facilities**

#### **3.1 Unit's income**

Total annual research income in the assessment period has remained stable between £1.0m and £1.4m, and in the last financial year (2019/20), was £1.092m. We engage with a wide range of funders and have obtained funds from sources including the British Academy, ESRC, AHRC, DFID, Alan Turing Institute, the International Growth Centre, Royal Society and the EU; we have particularly high success rates with the ESRC and the British Academy. Colleagues awarded notable grants during the REF period include Victor Lavy (European Research Council Advanced Grant and Nuffield Foundation), James Fenske (Philip Leverhulme Prize), Ben Lockwood (ESRC standard grant), Roland Rathelot (ESRC Transformative Research Call), Dennis Novy (ESRC standard grant) and Mirko Draca (ESRC Future Leaders Fellowship and UKRI Covid19 fund). Stefano Caria joined the Department in April 2020, bringing in two grants from DFID.

As well as pursuing large-scale funding opportunities, the relationships Economics has developed with smaller funders such as the International Growth Centre (IGC) has led to opportunities for both early and established researchers to apply for and access further research funding. Six IGC grants have been received by researchers in the Department since 2015. Two of our researchers were also awarded funding as part of the Turing-HSBC-ONS Economic Data Science Awards 2018 and we plan to draw on our links with the Alan Turing Institute (**REF5a-2.9.4, 2.12.2**) to benefit from future funding opportunities.

A key component of our research income has been the ESRC grant supporting the CAGE research centre. We see CAGE as an integral part of the Department's research infrastructure and have been awarded a further £2.1m transition funding over the period 2020-2024. We plan to apply for ESRC funding for a successor centre to CAGE in 2021/22. As described in section 1 above, CAGE is also a key vehicle for driving non-academic engagement and impact.

We view research income primarily as an input towards generating research outputs and impact. However, we are aware that, especially with the possible loss of access to EU funding, we need to maintain and, if possible, improve our track-record in research funding. To support this goal, in the current REF period, we have taken two initiatives. First, as described above, the academic workload model has been revised to incentivise individuals to submit large grant applications. Second, throughout the current REF period, the Department has had in post a Research Manager who supports, encourages and facilitates the development and submission of grant proposals.

As well as informing all academic colleagues of upcoming research funding opportunities on a regular basis, the Research Manager liaises closely with the Director of Research and Head of Department to identify academics suited to specific calls, such as the UKRI Future Research Leaders Fellowship scheme, ensuring a more targeted approach. Mirko Draca won this award in 2015. The Research Manager also has one-to-one meetings with all new academic starters in the Department to discuss their research, and to introduce them to the funding application processes at the University.

Once a staff member wishes to take the process further, the Research Manager works closely with that person and the University's research development team (Research & Impact Services (R&IS), **REF5a-1.7**) to develop and review applications, create budgets and submit proposals, ensuring high quality submissions. As part of this they have fortnightly meetings with colleagues in R&IS to discuss upcoming submissions and awards. The Research Manager works closely with the Department's Communications Manager (Research Impact) to embed pathways to impact into the design of research projects, and provides post-award support, working with grant-holders to ensure projects are managed as per funder rules and liaising externally with funders and partners when necessary.

### **3.2 Infrastructure and facilities pertaining to research and research impact**

Our academic staff are supported by a large Professional Services Staff (PSS) team. In addition to the teaching and learning support staff, there are 16 members of the PSS team who provide support for research-related activities. This includes staff working across administration (5), communications (4), IT (5) finance (1) and facilities (1).

Our IT team implements and manages effective IT systems and services that support the delivery of the Department's research activities, including running experiments and analysing data. In 2015 the Department invested in a new server to provide high performance computational analysis. This service consists of 192 Xeon CPU cores and 1280GB RAM and is currently used by 107 individuals. We also appointed a dedicated Linux Systems Administrator in November 2015 to provide technical support to ensure the server is maintained and that all colleagues (including PhD and MRes students) are supported on the use of the server. The server has software such as Stata (MP), Matlab, R and Mathematica but also allows for a variety of other programming languages to be run. Also, in 2017, we installed three Bloomberg terminals in the Department, which give faculty and graduate students access to high-quality financial data.

We have also created and manage a large computer laboratory for use in experiments. Many of the projects that use the laboratory are interdisciplinary collaborations with colleagues from departments involved in the DR@W research centre.



Our IT and Communications teams work closely together to promote the Department's research activities online, a crucial element of our impact strategy. The dedicated Web Developer provides technical and design support for online applications and has recently supported the redevelopment of the CAGE website and the Departmental research and impact webpages.

The Department also maintains close links with colleagues in the central University, benefitting from the support of the Social Sciences Research Impact Manager and Impact Coordinator, the Social Sciences Research Support team, and the Media Relations team.

Finally, as regards physical infrastructure, we recently received approval and funding (£1.3m) from the University to improve the space within the Social Sciences Building, where Economics sits (**REF5a-4.2**). The work was undertaken over the summer of 2019 and provides more open spaces to facilitate engagement between staff, and social learning space to encourage interaction between students and staff.

## **Section 4. Collaboration and contribution to the research base, economy and society**

### **4.1 Research Collaborations**

The Department has close links with researchers worldwide, and these connections are growing in quantity and quality. One way of looking at this is to note that 83 percent of the outputs in our REF2021 submission were co-authored with colleagues outside the University (compared with 60 percent in REF2014), and that 71 percent involved international co-authors (compared to 50 percent in REF2014).

Examples of staff collaborations during the REF period with leading scholars outside of Warwick include: Mingli Chen (Chernozhukov, MIT), Condorelli (Szentes, LSE), Draca (Bloom, Stanford, and van Reenen, LSE), Fetzer (Besley, LSE), Hidir (Buisseret, Harvard), Clement Imbert (Duflo, MIT), Mukand (Rodrik, Harvard), Muthoo (Shepsle, Harvard), Novy (Alan Taylor, UC Davis), Ornaghi (Banerjee and Finkelstein, MIT), Pogorelskiy (Plott, California Institute of Technology, and Palfrey, Caltech), Perry (Reny, Chicago), Squintani (Hopenhayn, UCLA), and Van Rens (Gali, Barcelona GSE).

Collaborative links have developed from the activities of our researchers away from the Department (for example seminar and conference presentations and longer stays at other institutions during study leave or otherwise), and by scholars visiting the Department for seminars, collaborative work, and extended visits. Recent extended visits include Dixit (Princeton), Reny (Chicago) and Whalley (Western Ontario), and these longer-term visits will be formalised through our new Visitors' Programme, the implementation of which has been delayed by the pandemic.

We also organise and host a number of annual Department-funded or externally-funded multi-day events, including the CRETA Conference, the Econometrics Summer Masterclass and Workshop, the Macro/International Conference and Workshop, the Econometric Theory Workshop, and the Applied Workshop. Faculty members, practitioners and researchers from other universities and research institutes attend these workshops and conferences.

The Department, and also individual staff members within the Department, have a number of formal links with external research institutes and centres. Warwick has a Memorandum of Understanding with the National Institute of Economic and Social Research (NIESR). Roger Farmer was a Research Director there from November 2016 to September 2019 and remains an Honorary Fellow. He has been awarded, jointly with NIESR, a large ESRC grant on "Rebuilding Macroeconomics" for which he is a Hub Leader. This grant will fund the redesign of the NIESR core forecasting model to incorporate more financial market and behavioural elements. Farmer is also currently a Research Advisor at the Bank of England. Ben Lockwood is a Research Director at the Centre for Business Taxation at the University of Oxford, and has a number of past and ongoing research projects there. Sascha Becker has taken up a Professorship at Monash University (remaining a part-time Professor at Warwick), and Eric Renault spends six weeks per year at Monash as a Visiting Professor.

#### 4.2 Interdisciplinary Work

The Department's work with scholars from other disciplines, (e.g. political science, sociology, 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. Examples our interdisciplinary collaborations within the University include: Mingli Chen (Computer Science, Statistics, Maths), Daniel Sgroi (Psychology), Andrew Oswald (Psychology), Wiji Arulampalam (Warwick Medical School), Kobi Glazer (Warwick Medical School), Eric Renault (Statistics, WBS), Andrew Oswald (WBS behavioural science group), Herakles Polemarchakis (Mathematics). Our researchers are also involved in cross-University research groups and networks, including the Global Research Priority (GRP) networks (**REF5a-2.9.1**) which bring together academics from different disciplines to address global problems. Daniel Sgroi co-leads the Behaviour Brain and Society Global Research Priority (GRP) with colleagues from WBS and Psychology, which looks at how people live and why they make decisions. Thijs Van Rens co-leads the Food GRP with colleagues from Statistics, Life Sciences and Theatre, which addresses the impact of food on health, the environment and culture. He is coordinating an interdisciplinary research group on obesity interventions through the Food GRP, with colleagues from the Medical School, Business School, Life Sciences, Psychology and University Hospitals Coventry & Warwickshire.

There are also interdisciplinary research collaborations outside the University. For example, Daniel Sgroi is working with two computer scientists from Queen Mary University on a project to find innovative ways of measuring wellbeing using music data. The project came about through common affiliations to the Alan Turing Institute (where one of Sgroi's PhD students is currently seconded). Sgroi has also worked with colleagues at the Alan Turing Institute and Warwick's Psychology Department on a project to measure national wellbeing by analysing text data (a collaboration facilitated by DR@W). Michela Redoano is collaborating with computer scientists at the University Carlos III de Madrid on a project on the impact of Facebook on voting behaviour. Eric Renault is also part of a consortium of researchers associated to the Paris-Seine Initiative (which Warwick has a formal alliance with), which aims to address ecological research challenges in which stochastic dependence is a main issue. Roger Farmer leads the Instability Hub of the Rebuilding Macroeconomics research initiative and his team includes cross-disciplinary participation from Physics, Psychology, Mathematics and Management. During the REF period Andrew Oswald has had interdisciplinary collaborations with colleagues at King's College London (a project looking at blood samples and cognitive ability in humans), the University of California San Diego (mental health and wisdom in humans, ongoing), and NatCen

(morbidity and suicidal thoughts). Sascha Becker has a long-standing collaboration with colleagues in the Sociology Department at the University of Washington. Furthermore, Mingli Chen, Mirko Draca and Jonathan Cave are Research Fellows at the Alan Turing Institute.

Furthermore, we support interdisciplinarity at PhD level and many of our students are involved in the University of Warwick's Bridges Programme (funded jointly by the University and the Leverhulme Trust, **REF5a-3.9.1**), which aims to bridge the gap between contemporary research questions in social sciences and the training in mathematical and computational approaches needed to answer them. Sascha Becker was Deputy Director of the programme from 2015-2019 and helped to secure the funding, together with colleagues in Statistics and Psychology. The Bridges seminar series is run by two Economics PhD students.

#### **4.3 Engagement with research users, beneficiaries and audiences**

At the unit-level, we run a range of events that aim to drive engagement with diverse communities and the public. Under its transitional funding period (2020 onwards), CAGE has already collaborated on a number of policy reports and events with a wide range of impact partners including the Institute for Fiscal Studies (IFS), the Resolution Foundation, the NIESR, the Institute for Government and the International Inequalities Institute. It is also continuing its long-running partnership with the SMF. In addition, CAGE has taken part in the ESRC Festival of Social Sciences, hosting events aimed at a local public audience. Section 1.2 provides further details on other mechanisms that drive engagement with non-academic stakeholders as part of our impact strategy.

At an individual level, researchers across the Department engage extensively with non-academic stakeholders. Firstly, many of our academics collaborate with or produce work directly for research users beyond academia. For example, Giovanni Ricco was commissioned by the European Commission to study public debt and public deficit in the euro area (2015) and is regularly called on for advice by treasuries and central banks in different countries. He has developed a model of inflation that has been adopted by Nowcasting, an economic forecasting company. Marta Santamaria is working on a project with the World Bank to evaluate road infrastructure in Tunisia and Pakistan. Lucie Gadenne works with a think tank in Calcutta (the Centre for Training & Research in Public Finance Policy) and recently produced a report on the impact of a tax simplification policy for the authorities in West Bengal. Andreas Stegmann is working with the Indonesian Ministry of National Planning and Development and the World Bank in Indonesia on a large-scale project to retrain village government officials and build state capacity across Indonesia. Jonathan Cave has produced a number of policy-relevant reports, including a report in 2017 for the European Commission on policy options relating to the Digital Single Market strategy. He has also produced policy briefs and a white paper for the recent Horizon 2020 'Picasso' project on EU-US ICT collaboration, which involves a consortium of academic and non-academic organisations. In addition, Cave and colleagues were commissioned by the European Parliament's Committee on Industry, Research and Energy to produce a report on 'Smart Cities' in the EU in 2014. Stefano Caria has a number of projects with non-academic collaborators, including work on employment interventions to help Syrian refugees find jobs in Jordan (with the International Rescue Committee) and worker retention and productivity in Ethiopia (with the Ethiopian Development Research Institute).

Secondly, individual members of faculty share their expertise through roles on advisory boards and councils. For example, Dennis Novy was appointed to the UK Council of Economic Advisors in 2018, which advises the Chancellor of the Exchequer, and served as Specialist Advisor to the

House of Lords on the Transatlantic Trade and Investment Partnership inquiry in 2013-14, advising members of the European Union Select Committee. Michael Waterson has been serving as a member of the Competition Appeals Tribunal since 2017, and Jennifer Smith served on the Migration Advisory Committee. Since July 2018, Roland Rathelot has been Vice President of the scientific committee that is in charge of evaluating the French Ministry of Labour's 15 billion euro skills improvement scheme (Plan d'Investissement dans les Compétences). Rathelot is also an affiliate of the Abdul Latif Jameel Poverty Action Lab (J-PAL) and, from 2015-2019, was a member of the Cross-Whitehall Trial Advice Panel which assisted the Government in its efforts to use randomised controlled trials to evaluate public programmes. In 2014 Rathelot served as an instructor on a five-day training course for local NGO staff and civil servants (Middle East and Africa) on evaluating social programmes, organised by J-PAL and the International Labour Organisation. Stefano Caria is the academic lead for the Ethiopia programme at the International Growth Centre, which provides policy advice to Ethiopian government agencies. He is also a trustee of the Global Change Data Lab and has affiliations with J-PAL and the Centre for Economic Policy Research. Arun Advani is a member of the consultative committee for the Office for Tax Simplification's review of capital gains tax, and has also provided advice on capital gains tax to the Scottish Fiscal Commission.

Thirdly, our researchers regularly give talks and presentations to policy and practitioner audiences. For example, Roger Farmer, Christopher Roth and Christine Braun – alongside colleagues from WBS and Rebuilding Macroeconomics – organised a major policy conference in December 2019 in partnership with the Bank of England, on the theme of uncertainty and the financial markets. This was the third conference in a successful series organised by Farmer and the Bank of England. In 2020 Giovanni Ricco co-presented a paper on risks to economic growth at a high-profile policy conference organised by the Brookings Institute, which was followed by a private briefing on the results with the vice-chair of the Federal Reserve. Natalie Chen delivered the keynote address at an event organised by the Centre for Training and Research in Public Finance and Policy in Calcutta (January 2020), a Ministry of Finance, Government of India initiative. Arun Advani regularly gives presentations or one-to-one advice to policymakers and think tanks based on his research on capital gains, top income tax and carbon pricing. Ben Lockwood has given talks at the Treasury (June 2019) and the National Audit Office (March 2020).

As well as facilitating impact, these interactions have enriched the research environment by enabling our researchers to better understand their research areas and the questions that need addressing. They can shape their work to respond to relevant social and economic issues, while sharing their increased knowledge with other colleagues through our research group structure. Exposure and interaction with non-academic stakeholders has also enabled our researchers to raise their profiles and build credibility in their fields, extend their networks, and develop new collaborations.

#### **4.4 Wider contributions to the economy and society**

In addition to the activities described above and in our case studies, we outline below specific examples of the wider activities and impact of the Department's research. Roth, Thiemo Fetzer and Stefano Caria were part of the 'COVID-19 International Behavioural Science Working Group', a team of researchers convened by the Municipality of Rome to evaluate public understanding of the Italian government's health messaging about the crisis. Fetzer has also been advising the Ministry of Housing, Communities and Local Government on the effects of Covid on homelessness and insecurity in the UK.

Dennis Novy has regularly been called on to provide advice and present his research on international trade to senior civil servants. In February 2018 he delivered a workshop to 30 civil servants from HM Treasury, the Department for International Trade and the Department for Exiting the EU on how to estimate the effect of trade costs on international trade flows. He has also presented his research at the German Federal Ministry for Economic Affairs, the Bank of England and the Scottish Government. He was cited in the House of Commons International Trade Committee report on 'UK-US Trade Relations' (May 2018) and in the World Trade Organisation's 2018 World Trade Report. The technical reference paper to the Government's report on 'EU Exit: Long-Term Economic Analysis' cites work by Novy and Natalie Chen (also Warwick Economics) on how to measure the effect of technical barriers to trade. In addition, a measure of trade costs developed by Novy (Economic Inquiry 2013) was used to underpin the World Bank-UNESCAP value-added trade cost database (2015).

Research by Vera Troeger and collaborators has shown how maternity leave provisions in UK Higher Education institutions affect the productivity, job satisfaction and career progression of women in academia. The findings received wide media coverage and led the University of Exeter to extend the period it offers full pay from 8 weeks to 26 weeks for employees taking maternity leave, adoption leave or shared parental leave. It also increased paternity leave entitlements from 2 weeks to 6 weeks at full pay. In addition, the University of Warwick implemented an improved maternity and adoption leave pay policy in January 2020 as a result of the findings. Following the research, the Department for Business, Energy and Industrial Strategy (BEIS) also invited Troeger to evaluate and advise on its shared parental leave and pay policy.

Thijs Van Rens successfully applied for a Parliamentary Academic Fellowship with the House of Commons Health Committee to support its work scrutinising the Government's Childhood Obesity Plan. He submitted written evidence to the inquiry himself which was heavily referenced in the Committee's report to Government, informing the Committee's recommendation that the Government expand the Soft Drinks Industry Levy to cover other food groups.

Sascha Becker's work on the impact of EU regional policy on regional development has informed thinking on UK regional policy. He has provided advice to HM Treasury on post-Brexit regional policy and given talks to policy audiences in Brussels (including at Bruegel and the Warwick in Brussels Office) and London (including at HM Treasury and the SMF), as well as at the European Commission Joint Research Centre (2016) and the Conservative Party conference in 2018. He contributed to a consultation event at the Department of Business, Innovation & Skills (now BEIS) in November 2013 that led to his work being cited in its 2014 'Review of the Balance of Competences between UK and the EU'. In addition, the Welsh Assembly's External Affairs Committee invited him to give evidence on current and future EU and UK regional policy in January 2017.

In 2017 Ben Lockwood met with staff from the Office for Tax Simplification (OTS) to brief them on his research into the effect of the VAT threshold on small firm behaviour in the UK. The research informed the thinking of the OTS on the VAT threshold and the OTS drew on this research in its 2017 report 'Value added tax: routes to simplification' to highlight how the current threshold is having a distortionary impact on business activity and acting as a disincentive to economic growth.



Abhinay Muthoo is the lead academic on the All-Party Youth Violence Commission, set up in March 2017 and chaired by Vicky Foxcroft MP. The Commission published an interim report in July 2018, outlining preliminary findings and recommendations based on data from its national 'Safer Lives Survey', which sought to understand how violence manifests in and impacts young people's lives. Following the report's recommendation to adopt a public health approach to dealing with youth violence, such as the successful Scottish Violence Reduction Unit (VRU), the Mayor of London set up a VRU in September 2018. The UK Government subsequently set up 17 further VRUs across England and Wales.

Kobi Glazer was part of an expert team that provided advice to Israel's National Security Council on strategies for healthcare management during the coronavirus crisis. The team produced two policy reports with recommendations that informed the Israeli government's response to the crisis, including mechanisms to mitigate the effect of the crisis on the health of non-Coronavirus patients.

Aditi Dimri worked with the Centre for Budget and Governance Accountability, an NGO in Delhi, on a project to improve the transparency and accessibility of state level budget data in India. The project created a public data dashboard that presents sources of revenue and expenditure commitments in a user-friendly way to support the public consumption of finance data and improve the accountability of state finances.

Motty Perry (in collaboration with Philip Reny, University of Chicago) developed a new index for ranking economists and publication series, the Euclidean Index, which has been incorporated into RePEc's aggregate ranking system (from summer 2017 onwards).

#### **4.5 Responsiveness to national and international priorities**

Our researchers address current societal and economic issues and aim to provide recommendations to policymakers and other stakeholders. Most recently, we have initiated a considerable range of work in response to the coronavirus crisis, with academics working across data collection, forecasting, and analysis of possible short-term and long-term policy interventions. This includes work on the economic impact of the virus, compliance with lockdown measures and strategies for lifting them, social protection measures, and policies to rebuild government finances.

For example, Stefano Caria, Thiemo Fetzer and Chris Roth are part of an international team of researchers who conducted a large-scale survey covering 58 countries and over 100,000 respondents between late March and early April 2020 on how citizens prepared and coped with the spreading coronavirus, shedding important information on how people perceive and comply with government measures to reduce the spread of the disease. Also, Andrew Oswald made the case for allowing young people to return to work first in two policy papers, which were downloaded over 17,000 times and gained significant media coverage; Oswald also provided advice directly to HM Treasury. Since spring 2020 Arun Advani has been on the editorial board of the Economics Observatory, which aims to provide research-based information to policymakers and the public on the economics of the pandemic.

Brexit has been another key government priority during the REF period, and a number of researchers in the Department have produced analysis to inform policy decisions related to leaving the EU. Fetzer has a paper, published in the American Economic Review, which finds that the EU referendum could have resulted in a Remain victory had it not been for the UK

government's austerity-induced welfare reforms begun in 2010. This paper has been very widely covered by the media, with the work mentioned in over 50 media outlets. Becker and Novy have published several widely cited papers on the determinants of the Brexit vote, using individual and regional data. There is also the work by Novy and Becker on trade and regional development issues described above.

#### **4.6 Professional associates, learned societies, and journal editorships**

##### **4.6.1 Fellowships**

The achievements of Warwick faculty are widely recognised in the wider economics profession. Nick Crafts and Peter Hammond are Fellows of the British Academy; Mark Harrison is a Fellow of the Academy of Social Sciences; Bhaskar Dutta, Roger Farmer, Peter Hammond, Herakles Polemarchakis, Claudio Mezzetti, Eric Renault and Motty Perry are Fellows of the Econometric Society. Renault is also a Founding Fellow of the Society of Financial Econometrics. Both James Fenske (2016) and Mirko Draca (2018) have been recipients of the Wiley Prize, which is awarded annually for achievement in research by an outstanding early career economist. The International Journal of Economic Theory issued a Festschrift in honour of Roger Farmer in May 2019.

##### **4.6.2 Committee Memberships**

Individual staff members are committed to serving the wider profession through service on the management and executive committees of a number of leading learned societies. Wiji Arulampalam serves on the Executive Committee of the European Association of Labour Economists and was an elected member of the Women's Committee of the Royal Economic Society from 2011-2015; Sascha Becker is an elected Council Member of the Royal Economic Society from 2018-2023. Nick Crafts has been nominated as the RES President-Elect for 2021-2022.

##### **4.6.3 Research Associations**

Many of our staff are also research associates of international research groups, such as the National Bureau of Economic Research (NBER), the Centre for Economic Policy Research (CEPR), the IZA Institute for Labour Economics and the IFS. Helios Herrera has recently been appointed as a Director of a new Political Economy Research Group (POLECON) within CEPR, jointly with Ronny Razin at LSE. Fetzer is a member of the Royal Society's DELVE (Data Evaluation and Learning for Viral Epidemics) team.

##### **4.6.4 Editorial Boards**

Individual staff members currently serve (or have served since the last REF) on the editorial boards, or are editors of, a number of different leading journals. Editors, associate editors and co-editors include Dan Bernhardt (Co-editor, Canadian Journal of Economics), Natalie Chen (Associate Editor of the European Economic Review and the Economic Journal), Sascha Becker (Associate Editor of the Economic Journal, the Journal of Economic Growth and the Journal of Comparative Economics), Bhaskar Dutta (Managing Editor, Social Choice and Welfare), Mirko Draca (Associate Editor, Economica), Debraj Ray (Co-Editor, American Economic Review), Eric Renault (Co-Editor, Econometric Theory), Roger Farmer (Co-Editor of Macroeconomic Dynamics), Roland Rathelot (Associate Editor, Regional Science and Urban Economics) and Vera Troeger (Editor in Chief, Political Science Research and Methods.) Members of editorial boards during the REF period include Sascha Becker (Journal of Economics, Management and Religion), Bishnu Gupta (Journal of Economic History), Ben Lockwood (Social Choice and

Welfare, International Tax and Public Finance), Dennis Novy (Economic Policy), Robin Naylor (Education Economics), and Roland Rathelot (Economic Policy).

#### **4.6.5 International Conference Committees & Research Events**

Since 2014, individual staff members have also served on many programme and scientific committees of leading international conferences, such as North American, European and Latin American meetings of the Econometric Society, the Econometric Society World Congress, the European Economic Association and Royal Economic Society conferences, and the Economic History Society and Asian Historical Economics Society conferences.

In addition, the University and Department have organised and/or provided local facilities for a number of conferences over the assessment period, including: the annual Public Economics UK conference (with HM Treasury and the IFS), the annual Princeton/Warwick/Utah Political Economy Conference in Venice, the Royal Economics Society Conference (April 2019, Kirill Pogorelskiy served as local organiser) and the annual CAGE Summer School, organised jointly with Warwick's Institute of Advanced Studies.

#### **4.6.6 Keynote Lectures**

Several members of staff have been invited to give keynote lectures during the REF period, for example Sascha Becker (Adam Smith Lecture, 30th Annual Conference of the European Association of Labour Economists, 2018), Bishnu Gupta (Tawney Lecture, Economic History Society Annual Conference, 2017, Max Weber Lecture, University Carlos III, Madrid, 2019) and Eric Renault (North American meeting of the Econometric Society, 2019).