

<b>Institution: Brunel University London</b>
<b>Unit of Assessment: 16 – Economics and Econometrics</b>
<p><b>1. Unit context and structure, research and impact strategy</b></p> <p>The Department of Economics and Finance is a large, highly international unit that has grown significantly since 2014. Our diverse academic staff, with a good representation of female and minority ethnic academics, undertake interdisciplinary research and continue our long tradition of actively engaging with global enterprises and institutions, national governments and industry. More than half of the existing members of the Department have been hired in the last 5 years, with the total number having risen from 26 to 39 since 2014.</p> <p>Our research is organised in four research centres: Brunel Macroeconomics Research Centre (BMRC), the Centre for Economic Development and Institutions (CEDI), the Centre for Empirical Finance (CEF) and the Finance and Accounting Research Centre (FARC). As we have grown, we have built critical mass in these centres to develop and foster applied, multidisciplinary and policy relevant approaches to Economics and Finance. We made a number of strategic appointments since 2014, including four in the last 12 months (Hashimzade, Steeley, Felgenhauer, Realdon). Facilitated by these centres our research focuses around a number of themes that broadly relate to Journal of Economic Literature classifications, namely Accounting and Business Economics; Applied Microeconomics; Banking; Econometrics, Mathematical and Quantitative Methods; Financial Economics; Global Financial Markets, Risk and Financial Flows; Macroeconomics, Monetary Economics and Growth; Microeconomics and Public Policy, and Political Economy.</p> <p>We develop our research aligned with the research priorities and strategies of Brunel University and the College of Business Arts and Social Sciences (CBASS). One of our research priorities is the response to issues brought about by globalisation. Rapid spread of globalisation in economic and financial activities in recent years has led, on one hand, to higher efficiency from better integrated markets while on the other, to higher risk of economic and financial crisis, contagion and their graver global socio-economic consequences. Thus, the significant development in research into <b>International Economics and Finance</b>. The recognition of our research strength in International Finance and Financial Econometrics and the significance of our work on Global Financial Markets, Risk and Financial Flows is reflected in the editorial positions of our colleagues in reputable journals such as Caporale for International Economics (IE) and Journal of International Money and Finance (JIMF) and Skinner for the International Review of Financial Analysis (IRFA).</p> <p>Furthermore, our research in <b>Accounting</b> and in <b>Applied Micro and Business</b> is directly linked to CBASS research priorities across Enterprise, Entrepreneurship and Social Responsibility. Our research in <b>Public Policy and Political Economy</b> is directly linked to CBASS research priority areas in Socio-economic Health and Open Society. There are also links across research in sustainability and stability of financial systems linking to economic stability and transparency. Within this research strategy we are investing in further growth in the areas of <b>Banking</b> and <b>Accountancy</b> as outlined below.</p> <p>Recent strengthening of research in <b>Money and Banking</b> came from the appointment of Barrell, a former Director of the National Institute of Economic Research (NIESR) as Head of Department (HoD). This has formed a catalyst for our research on Bank Performance and Macro Prudential Policy that has garnered considerable interest following the 2008 global financial crisis. With support from the Department, Davis organised, under the umbrella of BMRC, several conferences and a specialist workshop series in Banking and Financial Market Regulation that obtained funding</p>

from the Bank of England and CBASS. A deeper focus on research in Banking, developed organically from a long tradition of research in Money, Macro, Finance, and Development, that led in 2020 to the establishment of the Banking Research Group (BRG). The group's work on macroprudential policies in reducing the risk of financial crisis, led by Davis and Karim, has had direct impact on the approach to research at Norges Bank. Their development of a macroprudential sector for the National Institute Global Econometric Model (NiGEM) influences macroeconomic and monetary policy for a range of global users including central banks and international organisations such as the EC and the Organisation for Economic Co-operation and Development (OECD).

The Globalisation research agenda of the Department has been a key element of our strategic growth in **Accountancy** since 2014. This growth was facilitated by the establishment of FARC, directed by Skinner, and organisation of conferences on topics in governance and risk management. These conferences helped widen our research networks while strengthening and promoting our research in Accountancy. Both Accountancy and Banking allow us to exploit our location on the edge of London. The international nature of these subjects facilitates their close interaction in research. Thus, the focus of our research strategy has given us an opportunity to redefine Economics and Finance at Brunel by evolving our research topics in Economics and Econometrics to associate with the closely related fields of Banking, Finance, and Financial Accountancy.

Development Economics has traditionally been an aspect of study in the Department, and it links naturally to the globalisation research agenda. Our work in this field has built on applied micro theory and applied macro theory, with strong emphasis on applications in economic policies and institutions. An example of the relevance and wider impact of our research is Fidrmuc's work with the Government of the Slovak Republic. Following a directive by the EU, reflected further in the reports and special meetings of the OECD, the Slovakian Government were strongly advised to adopt data driven socio-economic policy. Fidrmuc has had a direct impact on this by configuring new regional employment strategies and devising the mechanisms to monitor and evaluate their success. Similarly, Pazzona has recently been recruited from the University of Santiago specifically for his research on conflict and crime in South America. After joining the Department, he organised a CEDI conference on the economics of crime and a workshop on the political science and political economy of conflict dynamics.

The research strategy of the Department continues to focus on a range of areas in Economics and Econometrics, as well as in Banking, Finance, and Financial Accounting, within a structure defined by our centres (BMRC, BRG, CEDI, CEF, FARC). Research projects will cut across the centres, contributing to a coherent agenda of empirical, theoretical, applied and policy-oriented research, aligned with the research priorities and strategies of Brunel and CBASS.

Theoretical and applied research in **Microeconomics** concentrates on building strength in research directions with high potential for generating impact. This was facilitated by recent strategic appointments in **Behavioural and Experimental Economics** (Felgenhauer, Fischer), **Behavioural Finance** (Steeley, Wang), **Public Economics** (Gould, Hashimzade), and the **Economics of Conflict and Crime** (Pazzona). Work in these areas applied to **Development** is also a key aspect of the agenda of CEDI and will extend with recent collaborations in **Law and Economics** (Hashimzade).

Research in **Macroeconomics** in the context of **International Economics and Finance** is centred in BMRC with a focus on the behaviour of the exchange rate and financial flows, especially in relation to financial crises (Caporale, Hunter, Spagnolo F., Spagnolo N.) This research builds on European and wider international links, including those with the Central Banks of Italy, Japan, Finland, Norway, and the European Central Bank, and thus lays the ground for economic and societal impact. Recent appointments have led to developing work on **Monetary and Fiscal**

**Policies and Income and Wealth Inequality** (Theophilopoulou). In the context of **Development**, including, for example, research in sustainable development, growth and environment (Ghosh) and in foreign direct investment (Hunter), research located across BMRC and CEDI.

Both macroeconomic (Davis, Karim, Theophilopoulou) and microeconomic (Badunenکو, Chan) approaches to research in **Banking** will now be primarily concentrated in BRG. On the macro side, we will continue research in monetary and macroprudential policies, where wider impact is envisioned especially in application to economic recovery in the wake of the Covid-19 pandemic. On the micro side, to the existing research strength in bank regulation, we add expertise in the research in bank productivity and efficiency. Recent appointments (Kang, Realdon, Steeley) enable us to build research excellence in the related field of **Financial Economics**.

Our research in **Econometrics** has traditionally been strong in theoretical and applied time-series and financial econometrics. Theoretical and applied research in non-stationarity and volatility in time series and panel data (Hunter, Karanasos, Xu) is concentrated in BMRC, while Canepa who returned to Turin still works with colleagues at Brunel. Research on applied financial econometrics cuts across BMRC and CEF (Caporale, Hunter, Spagnolo F., Spagnolo N.).

Research in **Financial Accounting** will continue within FARC (Skinner), with the support of recent recruitment in this field (Agyemang-Mintah, Rahman) and in the field of Governance (Owusu, Usmani). Sadly, Usmani a promising young researcher lost his life on the 1<sup>st</sup> of August 2020 after returning to their family in Pakistan.

These fields, along with Financial Economics, have additional strategic importance for the Department because of the special interest from prospective Master's and PhD students, and their sponsors. These are often the government institutions of Middle-Eastern economies, such as Jordan, Saudi Arabia, Syria, and the UAE. Our research expertise translated into high-quality teaching and supervision enables the Department to produce graduates with higher-level skills for these countries. This helps establish and maintain important networks of contacts in their private and public sectors, which creates opportunities for wider economic and policy impact for our research.

In addition to strengthening further our research in the fields described above, we are currently developing a new interdisciplinary research agenda in **Law, Economics and Finance**, in collaboration with the Brunel Law School. The setting up of a new Research Centre for Law, Economics and Finance (RCLEF) has been confirmed by the Senate and Council of the University. Hashimzade, appointed to Brunel at the end of 2019, will lead the Centre. This provides a unique opportunity to collaborate with other researchers in CBASS, and to integrate our research into socioeconomic themes that cut across Humanities and the Social Sciences. The RCLEF builds on existing expertise in law and economics of financial regulation (Davis), economic analysis of crime and justice (Pazzona), and law and economics of public finance (Hashimzade), with colleagues from the Law School. RCLEF will collaborate with Research Centres and Institutes at Brunel, initiating interdisciplinary research projects and exploring synergies across subjects. The RCLEF will collaborate nationally with the Tax Administration Research Centre (University of Exeter) and the Centre for Crime, Justice and Policing (University of Birmingham) and internationally by building on and expanding members' research connections in Canada, Chile, Germany, Greece, Hong Kong, Israel, Italy, Lithuania, Poland and the USA.

Our research strategy encompasses capacity building by the means of recruiting and supervising Doctoral (PhD) students. Given the size of our current PhD cohort (30 students) and the recent intake of PhD candidates (5 per year on average in the past 2 years), the size of our PhD programme should increase with staffing with an expected doubling of awards over a 5-year cycle. Increasing size of the PhD programme is instrumental in enhancing the visibility of the department, with the prospect of participation in the US and European academic job markets. This will also

enhance the dynamism and richness of the research life of our students by increasing the numbers of better prepared PhD candidates.

An integral part of our research and impact strategy is the strategy for publication of outputs in peer-reviewed journals. We aim to consolidate our publication record by encouraging publications of at least 3 star-quality and to achieve publications of 4 star-quality in the top journals in Economics and Econometrics, such as the International Economic Review, the Journal of Monetary Economics and the Journal of Econometrics. We mentor and encourage early career staff and PhD students to discuss, publish, and undertake research projects in association with more senior colleagues. The Department is also committed to support staff who have research interests outside Economics and Econometrics to publish in top-quality journals in Finance (Journal of Financial and Quantitative Analysis, Journal of Money, Credit and Banking), Management (European Journal of Operations Research), and Health Economics (Social Science and Medicine). We also support our staff, especially early career researchers, with research interests in Financial Accounting, to publish in top accounting journals. Moving forward, we will continue supporting high-quality interdisciplinary research both inside and outside the Department.

### **Impact Strategy**

Our impact strategy is closely related to the applied and interdisciplinary nature of our research that has regularly engaged with industry practitioners and policy makers. The impact of our research operates through the engagement of individual staff members and through the work of our research centres.

As a department, we have cultivated a rich agenda of public engagement via external events and knowledge exchange activities. This is reflected in Davis developing further his research on pensions after arriving from the Bank of England. Davis's research has continued to decisively affect pension policy in the UK and more recently attracted potential collaboration with colleagues from the University of Santiago, further extending this impact in South America.

Our external engagement has been facilitated by a long-standing association with NIESR, where Davis and Karim spent time initially when Barrell was Director. This work is also an illustration of how impactful research has been built on by nurturing budding academic skills of our PhD researchers. Elements of this research developed from the thesis of Karim, subsequently appointed as a lecturer, and now the research of Noel, originally a Master's student who returned to Brunel to do a PhD with Davis and Karim.

As previously mentioned, Fidrmuc has had an influence on policy at the Government Office of the Slovak Republic for whom he was involved in the setting up of the Institute for Strategy and Analysis (ISA) a policy-maker agency. Following this the National Productivity Board of the Slovak Republic (NPB) was created and has done research on wellbeing to drive regional aid policy and policy on unemployment. This work reflects our capacity to accommodate some flexibility in employment and offer support in terms of time and resources to colleagues involved in impactful research activities requiring mobility and field work.

The strategy is ongoing with for example, the impact case studies in Pensions and Banking now residing within the BRG. There is the prospect of some further impact related to the work in Slovakia with an evaluation of pilot studies by the NPB to determine any benefit from their policies. Macchiarelli, who prior to coming to Brunel worked with Professor De Grauwe at the LSE, was afforded the opportunity to spend time at Harvard. Now as a researcher at Brunel he is working at NIESR as part of a pipeline to promote further impact. This impact strategy is also part of the rationale for the creation of the RCLEF.

**Open research environment**

Our work is highly cited; Brunel economics papers on the Web of Science published between 2014 and 2016 have an average of 12.8 citations, and those submitted to this assessment have an average of 11.4. In part this reflects the impact of support for **open access** in research, and the result of the deposit of full-text published articles in the Brunel Research Database (BRAD). In addition, papers as yet not published in academic journals are expected to appear in the Department's Discussion Paper series (available online). Which are also broadcast and reported on in Research Gate (RG), Research Papers in Economics (RePEc) and the Social Science Research Network (SSRN), which forms further forums for research dissemination. The Brunel University Research Archive (BURA) incorporates both bibliographic data and the full text of outputs, is indexed in Google Scholar and broadcast on an outward-facing server that an outward-facing server operates through BURA and resides in the library. In this REF cycle, we prioritise Open Science activities, and the Figshare research data repository.

**Research integrity**

The department upholds the overarching importance of research integrity and of the standards agreed by the Concordat. Our Director of Research (DR) representing our Department Management Board (DMB) supports these principles. Research integrity and research ethics are key items, while the Ethics chair (**Kang**) is a supernumerary DMB member.

Ethics approval is required for all research projects involving human participants and/or identifiable data and approval must be obtained before any research can begin. This applies to research conducted by staff members, PhD, graduate and undergraduate students. We ensure that our Postgraduate and Undergraduate community are aware, via induction procedures, guidance and through ongoing supervision, that their research must conform to prevailing 'ethical, legal and professional frameworks'.

The introduction of a new system for research ethics, streams applications according to their risk level and has improved the robustness of our monitoring processes. The Department deals with low-risk applications while high-risk applications follow the University ethics approval process.

**2. People****Staffing Strategy**

Since 2014 our staffing strategy has been informed by our research agenda in globalisation. Here, we build on the existing international aspects of the Department and seek out new opportunities availed by a strong global outlook. Since 2014 our staff headcount has grown by over 60%, from 26 to 39 eligible for submission. This has been achieved by strategic recruitment and replacement in our core areas of Economics, Econometrics and Finance, and by additionally identifying Banking and Accounting as growth areas. Expanding the Department's reach into Banking and Accounting is natural given our research agenda as the issues related to globalisation are prominent in these fields.

The Department's staffing strategy prioritised recruitment of staff at the junior level while replacing more senior members of staff as needed. The aim was to approach our chosen staffing profile, namely 10-15% professors and readers, 30-35% senior lecturers, and 40-45% lecturers, complemented by 5-10% of staff on education/professional contracts. At the same time, we strive to improve the gender balance and ethnic diversity of staff. Transparency and equal opportunity principles are embedded in our recruitment and staff development processes.

For leadership succession purposes, two professors who have served as HoD/DR (Hashimzade and Steele) were recruited to replace retiring former Heads of Department (Barrell and Bennett). The strategic plans and staffing strategy worked in tandem to create a larger department enabling us to transform the age, gender, and ethnic diversity profile, to plan succession in leadership roles, and to recruit and train more PhD students.

We target our staffing efforts on the strategic development of existing and new research agendas. This has allowed existing research centres to evolve and new clusters to grow out of them. For example, Pazzona and Fischer were recruited to support Fidrmuc and create a new group exploring Conflict Dynamics and the Economics of Crime. This has enhanced our strength in Economics of Development and Institutions and paved the way to establish a research cluster in Law and Economics. Similarly, the Department recruited staff to enhance our expertise in fields such as Banking and Accounting.

### **Expansion and transformation**

Staffing expansion and transformation is implemented through the research centres, both existing and newly established. While some staff members are associated with one research centre, many conduct their research across centres.

The BMRC, that was formed in 2005 is led by Karanasos and has contributed to the national and international reputation of the department by organising conferences and workshops with participation of prominent researchers including those in editorial roles in major journals in Economics, Econometrics and Finance. The BMRC has generated research in Development (Fidrmuc, Ghosh), Macroeconomics (Ghosh, Macchiarelli), and Banking (Davis, Karim). This has been reinforced with the hiring of Theophilopoulou and Chan who conduct research in Money, Credit and Banking. Badunenko will now also contribute by his work on Bank Efficiency and Growth. Barrell has been working across several topics in Macroeconomics, including Money and Banking, and Foreign Direct Investment, along with Hunter and their former student Nahhas. The strategic appointment of Xu enhanced the centre's expertise in time-series econometrics while also contributing to research in Banking.

In the CEF, led by Caporale, significant aspects of this research have focussed on International Economics and Finance (Caporale, Hunter, Menla Ali, Macchiarelli, Spagnolo, F., Spagnolo, N.). Caporale has led in developing links with the Central Banks of Finland, Italy, Japan and Norway as part of the research agenda on exchange rates and financial flows. Caporale, in his role as the CEF director, organises regular CEF workshops with participation of prominent researchers. A former PhD student (Beirne) works at the European Central Bank (ECB).

CEDI, until recently led by Fidrmuc includes several new members, which has allowed for research into behavioural and experimental economics (Felgenhauer, Fischer), public policy (Gould, Hashimzade) and political economy and institutions, including economics of conflict and crime (Pazzona). Such appointments maintained and enhanced expertise in these fields after Bennett retired, and Chioveanu and Rablen left to go to Nottingham and Sheffield Universities, though they still collaborate with us.

FARC, led by Skinner, has consolidated our research in Accounting and Finance, strengthened by recent strategic appointments of Steele and Realdon. The conferences and workshops associated with FARC reflect our recruiting in Accounting (Agyemang-Mintah and Rahman), Governance (Owusu and Usmani), Behavioural Finance (Wang), and Banking and Finance (Kang).

**Support for staff**

A series of transformative incentives conducive to higher quality research have been adopted and implemented since 2014. These include the university's review of the quality of staff research output on a regular basis; a new promotion policy with clearer criteria around research excellence as a necessary condition for promotion; an efficient and transparent work allocation model (WAM) which ensures that staff on a research contracts are able to devote at least 40% of their time to research; a very generous teaching buy-out policy where external research and consultancy income buys replacement teaching, thereby freeing time for research; availability of pump-priming with Brunel Research Initiative and Enterprise Fund (BRIEF) research grants providing support to promising research initiatives; and a new flexible sabbatical leave policy.

Thanks to these strategic incentives and the Department's rigorous recruitment and promotion process, significant progress along three dimensions has been achieved: (1) improving its research output and publication record; (2) strengthening the PhD programme and (3) enhancing wider economic and societal impact of our research.

With recruitment and promotion criteria clearly aligned with the highest sector standards, top-quality peer-reviewed journal publications are expected as the norm in the Department. Thus, our 2021 submission is comparable in size to 2014 (about 100 papers), while the quality has substantially improved, with higher citations and more papers in more prestigious and well-established journals. This improvement was greatly aided by the Department's strategy of encouraging pre-publication engagement and dissemination. We consistently support our staff participating in the top national and international conferences, including the American and European Economics Associations (AEA, EEA) European (ESEM) and World Econometric Society Meetings, American and European Finance Associations (AFA, EFA), Royal Economics Society (RES) and top field conferences.

**Moving Forward**

With a net increase of 13 staff, the Department recruited 19 new staff across Economics, Econometrics, Finance, Banking, and Accounting, of whom 10 were early-career researchers. With the support of more established staff, early career researchers are particularly engaged in the process of developing funded research and expertise in supervising new PhD students.

Following this primary expansion phase and thanks to all the incentives that have been introduced, we expect to move post 2020 into a period of consolidation. During this phase, we expect to grow at a slower rate to enhance both research and teaching. More importantly, the Department is expected to reap the reward of all these transformative changes by improving its performance by raising external income, increasing PhD completions, improving its publication record and enhancing the visibility and strength of research impact.

Several members of the Department have had success in securing prestigious external funding. In particular, Campos. Smaller grants have been obtained from the British Academy, the RES and the University of Santiago (Pazzona). Other funds have been obtained for our conferences from the ESRC via the Money Macro Finance Research Group (Caporale) and from Non-linear Dynamics in Econometrics (Karanasos). Funds have been obtained from the Bank of England in support of research in Banking and for three recent Banking conferences. To stimulate further external grant capture, our WAM allocates time to staff members preparing grant applications

and gives generous support when successful, while we participate in the College and University internal peer-review procedures.

### **Staff Development**

Key elements of the Department's Staff Development Strategy are training, research leave, annual staff development review, promotion strategy and operation of the WAM. Newly recruited junior lecturers are allocated half the normal teaching load and are given lighter administrative roles thereby supporting them to launch their research career. In return, new junior lecturers are required to achieve certain key research-based milestones within the two-year probationary period: publication of two high-quality research papers and completion of a research grant application.

To support staff to achieve these probationary requirements, new recruits do a training programme designed to improve their research and research administrative skills. This consists of eight workshops spread over two terms and includes topics such as "Applying for Research Funding", and "How to write an Impactful Grant Application". In addition, training on Diversity, Immigration Compliance, Anti-Bribery and Data Protection is useful for research project management. Senior staff are supported via role-based training, in leadership and management to move into line management roles. This investment in staff training has improved the morale and sustainability of the department. Thus, the latest 2019 Brunel Voice Survey finds that the fraction of Department of Economics and Finance staff actively seeking employment elsewhere had halved since 2015.

After probation, all members of staff can apply for a one or two terms research leave that provides teaching relief and light administration roles, so that successful applicants have additional time to concentrate on their research. Staff members can make a case for a full sabbatical. For example, Macchiarelli secured a visiting scholar post at Harvard for 2017-2018 and this sabbatical produced a book "The European Central Bank between the Financial Crisis and Populisms" (Macchiarelli, Monti, Wiesner and Diessner).

Each year, all members of staff go through a Professional Development Review (PDR) where a key focus is on staff training needs and support. This process is formally separate from the internal promotion process. Accordingly, the PDR represents an opportunity for staff to be open in their discussions of their career plans and the role they play in the Department and to identify how to remove any impediment to achieve their goals.

The internal promotion strategy supports the development of staff. Transparency, equality and diversity are at the heart of the process. Transparency is enhanced by making available a wealth of published material regarding the criteria for promotion to all levels and by a series of promotion information workshops chaired by senior managers at Brunel. Also, all applicants, especially unsuccessful applicants, are provided with feedback. All members of the promotion board take further specialist training in equality and diversity including on unconscious bias and these meetings also include a member of human resources to manage the process. Brunel assists staff by providing pathways for staff to demonstrate excellence. For example, each year staff can apply for research awards, awards for hosting seminar series, awards for research that lead to impact, pump priming awards and research leave where successes in achieving these awards can be used to support internal promotion.

The WAM is designed to recognise all the contributions made by staff members. The model measures the hours allocated to each task to ensure that 40% of staff time is available for



research, while there are reductions in the number of modules taught, and tutee and supervisee allocations for newly recruited junior lecturers.

### **Equality and Diversity**

The equality and diversity strategy is embedded in Brunel's recruitment, promotion and staffing strategies. About half of our 19 new recruits (10/19) are junior academics and a proportionate percentage of new staff are female (6/19) and BAME (9/19). Our staffing profile is sustainable; there are more staff below the age of 40 (18%) than there are staff that are 60 or more (10%).

The ongoing results of the Department's transformational staffing strategy is readily apparent in the data. Currently, 54% of staff are white, against 81.9% of the UK population (UK 2011 census data). The Department's gender diversity is maintained by recruiting female academics at all levels, including, among post 2014 appointments, one professor (Hashimzade), three Senior Lecturers (Barone, Theophilopoulou, Xu) and two Lecturers (Sova, Wang). In total, 28.1% of staff are female, close to the sector average according to the RES Report: The Gender Balance in UK Economics Departments and Research Institutes (2016). This is despite the departure of several female members of staff since 2014, including four senior lecturers (Canepa, Chioveanu, Gong, Sanchez) and three lecturers (Ji, Hassan and Ventouri-Dimitropoulou). The Department is actively increasing the participation of female academics in the Economics and Finance profession as 47% of all graduated research students since 2014 are female (21 of 45) and 44% of all enrolled research students (7/16) are female, which is higher than the sector average.

These appointments were driven by the excellent academic quality of the candidates, which is evidenced by the proportion of submitted outputs being in line with the proportion of staff by gender and ethnic background. Female staff make up 26% of the department and contributed 24% of the outputs and BAME staff make up 18% of our submission and contributed 15% of the outputs. The 18% of staff aged between 30-39 only contributed 12% of our outputs, reflecting the fact that many of them are recent junior appointments who are developing their research programmes.

The promotion process explicitly controls for equality and diversity; the success of this can be judged by the results as four of seven promotions to senior lecturer were female (Chen, Karim, Liu, Moore). Furthermore, the newly appointed equality and diversity champion that now sits on the DMB is tasked to contribute to our people and staffing strategies.

### **Research Students**

It has been part of the ethos of the Department to consider our PhD students as junior members of faculty. Accordingly, PhD students have been actively supported to participate in conferences, publish working papers, submit their work to journals and engage with academics and professional media such as Google Scholar, LinkedIn and RG amongst others. PhD students participate in our research conferences and seminars along with an annual research symposium of their own. PhD students are also funded to attend research conferences and workshops organised by the British Accounting and Finance Association, the RES and more specialised events in Banking and Finance.

The Department is committed to strengthen its PhD programme; an aim that was already underway prior to 2014 by developing links with other institutions and forming associations within the College. A critical step is to match research student candidates with an appropriate supervisory team in a timely manner. Therefore, the Department centralised the initial scrutiny of

applicants to jump start the recruitment process. Once recruited, PhD students are supervised by a team consisting of first and second supervisor with an independent research development officer to enhance the supervisory process by acting as an independent source of advice at key stages of the supervisory process. Since 2014, Brunel provided electronic record keeping of PhD supervisions to facilitate the complete education of all full-time PhD student within four years.

This strategy has been in place since the 2015-2016 academic year and since 2014 all 45 research students graduated within four years. In contrast, 17 of 45 research students took longer than four years to complete prior to 2014. As previously mentioned our strategy has aimed to encourage graduated research students to publish in high quality journals to facilitate the successful launch of research careers. Karanasos supervised Yfanti, a 2015 graduate, and they published in 2016 in the IRFA, 2019 in the Annals of Operations Research (AOR), and 2020 in the European Journal of Finance (EJF) and the International Journal of Finance and Economics (IJFE). Working and publishing with former PhD students is common (for example, Campos, Caporale and Hunter).

Working with research students also contributes to departmental impact. Noel, supervised by Davis, graduated in 2019 and this work contributed to two impact case studies. He is a co-author of one published paper and one working paper as part of the impact case study on Banking competition, bank regulation and financial stability. These papers formed part of a research grant provided by the Bank of England and Noel gained experience in grant culture as a research assistant.

Another metric indicating the quality of research students can be seen in the destinations of graduated PhD students. Since 2014 graduates became lecturers or visiting lecturers at UK Universities including Brunel, Durham, Leicester, Loughborough, Northampton, Queen Mary and Sussex. Similarly, PhD students have taken up posts in Universities abroad including Cairo, King Abdelaziz (Saudi Arabia), Mut'ah (Jordan), Chiang Mai (Thailand) and the Multimedia University (Malaysia). Otherwise they have taken up professional positions in the Ministry of Finance (Oman) and the Bank of Italy, amongst others.

The Department supports PhD students by providing an annual research allowance to cover research expenses and by offering occasional seminars on topical issues such as Big Data and more regular technical seminars on the use of local data resources. From 2016-17 all first-year PhD students are placed on a training programme which covers econometrics software. The Department encourages PhD students to attend weekly research seminars and to attend some of the five conferences that have been typically hosted by the Department each year. To improve their presentation skills, and to receive wider feedback from non-supervisory staff, PhD students are required to make an annual presentation of their work to the Department doctoral symposium. During their third year, research students are encouraged to attend at least one major research conference by allocating funding for attendance; nearly £25,000 has been spent on research student conference attendance since 2014.

Brunel, as a research-intensive university, is submitting 100% of all eligible academic staff. We followed the processes set out in our Code of Practice for the fair and transparent identification of independent researchers and to ensure that the submitted outputs provided a balanced and unbiased representation of the work of our diverse academic community, their characteristics and contractual positions (age, disability, race, sex, part-time workers and fixed-term employees). Output selection was monitored through regular Equality Impact Assessments.

### 3. Income, infrastructure and facilities

The Department focuses research funds on enhancing the research environment, and creating research impact and outputs. That develops from our working paper series that involves the research collaborations of academic staff with their PhD students. This engineers a pipeline to academia both internally at Brunel along with other institutions and to broader society to financial institution, national government and international bodies. It starts with developing them as cadet academics and by enhancing the quality of their research. Knowledge of electronic media (LinkedIn, RG and the SSRN) facilitates networking and disseminates research to a wide audience. This is facilitated by the promotion of our research at external conferences. The conferences organised by our research centres expose PhD students and early career researchers to new methodological and theoretical developments in Economics and Finance. The conferences plus our regular Departmental research seminar series are also important to promote the Department and allow junior academics and PhD students to network with academics and PhD students beyond Brunel. In addition to attracting academics external to Brunel to attend they also attract practitioners and policy makers.

Next, we consider funding for conferences and workshops for the four research centres, external conference support for staff and students and Graduate Teaching Assistants / Hourly Paid Lecturers. We normally provide primary support for five internal conferences/workshops. This comprises conference support for four research centres and from 2017 for a further workshop in Banking. In 2019-20 one workshop was organised in December under the umbrella of CEDI, but after that we were only able to run an omnibus online research workshop in June. Our PhD Colloquium ran online in May 2020 and our seminar series operated online from April 2020.

The Department has focused a significant element of academic staff funding for research on support for participation at external conferences. Sums of around £600-£1,000 are provided for presentation at reputable, national/regional conferences. While further support is focused on one or more “gold ticket” conferences: AEA, AFA, EEA, EFA, ESEM, RES and World Congress of the Econometrics Society.

The Department allocates substantial funds to support our PhD Students. They get in the region of £400 per annum focused initially on attending further technical training events, then for presentation at recognised post graduate colloquia and by their final year of study for presentation at conferences that include RES and EEA. Our PhD students fully engage in conferences at Brunel being advised by their supervisors to attend relevant elements of the different programmes. We also offer significant funding to support GTA positions up to a University maximum of 180 hours per annum. This develops our students' skills so they are ready to take on work in a university. Recently qualified students are offered HPL and fixed term lecturing appointments as a stepping stone in their careers. We also support academic visitors who are either established academics or PhD students lecturing at institutions outside the UK.

The Department recognises that research quality both depends on and reflects our ability to attract external funding. As part of our wider goal of driving up the quality of our outputs, Brunel has a long-established Research Support and Development Office (RSDO), a dedicated administrative unit that supports, mentors and monitors the funding application process. In recent years Brunel re-designed the administrative support structure to enhance the quality of research proposals. Recent enhancements include strengthening and formalising the departmental peer review process and from the introduction of PACE, a newly purchased computerised application tracking system. The BRIEF award scheme is intended to help early career researchers new to Brunel to pump prime their proposal while the research leave scheme provides another stepping-stone to external grant application. BRIEF is for £5,000-£15,000, which via selection through the College supports promising research initiatives transit into external grant applications. Chioveanu obtained £12,500 in 2014, and most recently three more

junior appointees (Pazzona, Gupta, Rahman) were guided to apply in 2019-2020. The number of grant applications submitted has risen to 7 between 2014-2019 with 4 in the last two years. The strategy to encourage the pursuit of grants includes training for early career researchers, a policy that expects academics under probation to actively apply for funding. This has been further developed by Skinner in 2018 and extended by Hashimzade who took over as DR in late 2019. Further support exists in relation to facilitating external research capture as is explained below, including sabbaticals and support for conferences and workshops.

External grant applications now pass through five phases with the intention to improve their quality and the likelihood of success. For the first phase, the PI sends a draft grant proposal to two colleagues selected and agreed upon by the applicant in consultation with the Departmental DR. The applicant then adjusts the proposal based on formalised feedback from colleagues and then sends the adjusted grant proposal including costings to the RSDO. The grant application is now entered into PACE along with the comments made by the internal reviewers. Once entered into PACE, the RSDO conducts the second phase approval process by reviewing the costings and the internal review comments to provide detailed expert advice. The PI responds to these comments and advice and the proposal enters the third phase where the CBASS Vice Dean of Research (VDR) gives further advice that the PI needs to take on board for approval. The HoD, then looks at the proposal (Phase four) and after that it goes to the University (Phase five). Completion of phase five triggers submission of the application. PACE ensures that all steps are completed and no application stalls in the process.

As previously mentioned all new junior members of staff are required to make a grant application during the (typical) two-year probationary period. To help launch the research career of newly arrived junior members of staff, we reduce the teaching load by approximately half during their first year. We support the development of research grant applications by encouraging applications for one and two term research leave and by operating a formalised internal grant award process for early career researchers. Applications of research proposals are also research targets for PDR and promotion.

Applicants for research leave must submit a research proposal and receive approval of the HoD in the first instance and subsequently the VDR. One likely and desired outcome from research leave is a major grant application. The University granted a two-term research leave to Campos during the first round of this scheme in 2016-2017 and a one term research leave for Chioveanu during the second year of this scheme in 2017-2018. The BRIEF award can help with this as they are intended to help school more junior members of staff in the grant capture process.

The Department experienced an extraordinarily high turnover (18 members left since 2014) whereas a large fraction of new recruits entered at the lecturer level with no prior full-time experience. It would seem that even in these circumstances the grant application management system would appear to have improved significantly the quality of our grant applications, raising our success rate in the last 2 years. Recent successes include a grant of £100,000 from the ESRC, as well as a number of smaller grants from the British Academy and institutional funding from the Bank of England. Over the entire period, the department received £190,000 in external funds including £70,000 from DfID. The ESRC grant of Campos enabled the publication of two Books (Structural Reforms and Economic Growth in Europe, editors Campos, De Grauwe and Ji, published by Cambridge University Press (2020) and Campos, De Grauwe and Ji published by Oxford University Press (2018)).

Brunel and CBASS have established a system to circulate funding information regularly and promptly to all academics and to conduct an annual performance review of funding applications at a department level. It provides advisory support in facilitating research contract negotiation and costing along with research account management for use of awarded funds. Funding application success depends intimately on the quality of prior publications, and Brunel and the

Department provide support to increase output quality. Brunel provides support for submission to journals, which is uncapped and then funds Open Access Publishing.

In 2014 with the creation of the CBASS, both a research and postgraduate research office were created to facilitate research links, grant acquisition and PhD recruitment. Support has also arisen through the appointment of well qualified systems programmers and software engineers to support systems, and maintain and acquire software. The Graduate School also provides more generic skills programmes including Core Skills and Online Research Training, which is available to all staff. The RSDO Business Development Service offers support in developing collaborations with industry.

The Department is equipped with excellent computing facilities in support of research for both staff and PhD students. Software that enables us to process datasets with state-of-the-art modelling techniques, which are required to produce articles that are reviewed by top journals. We have a 200-user licence for EViews, a licence for Micro Fit 5.5, lab licences and multiple single user licences for STATA. The College provides a licence for SAS and MATLAB with statistics module and DYNAIR. The University has licences for Mathematica and SPSS. Academic staff are also equipped with individual licences for RATS with the CATS module, Limdep with Nlogit and Oxmetrics Professional (G@RCH, Ox object orientated language, PCGIVE, STAMP), Scientific Word and Scientific Workplace. Staff and students have good access to professional accounting, economic and financial data at both corporate and national level. We have licences with the Library for Bloomberg, Company databases Fame and Osiris, Thomson One, Fitch Connect, Thomson Reuters Eikon including DataStream, World Bank and IMF Country Statistics. Our Library also provides us with access to more than 9,000 books and 128 journals and 2,106 e-journals related to our research interests via Science Direct and Wiley Blackwell, amongst others.

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

The Department supports collaboration and engagement through research centres, networking support, global partnerships, and outreach.

##### **Collaboration via Research Centres**

Typically, 2016-2019 our research centres hosted every year at least one one-day conference each with nine to twelve invited presentations and presenters coming mainly from Europe and the UK. For example, the CEF (2019) annual conference included nine papers presented by UK academics coming from CASS, Imperial College, Kings College, LSE, Sussex, and overseas academics from Denmark, Norway and Stockholm. At these conferences we engage with external academics and this helps foster research relationships. For example, the BMRC annual conference has a tradition of recruiting influential academics, such as: Kapetanios (co-editor International Journal of Forecasting) and Giraitis (associate editor Econometric Theory (ET) presented in 2017, Taylor (Editor in chief of the Journal of Time Series Analysis and co-editor of ET) presented in 2018 and Baillie (founding editor of Empirical Finance) presented in 2019. Speakers of such quality attract other leading academics and help foster research collaborations. For example, Pavlidis who presented at the 2018 conference, suggested a topic subsequently worked on by Karanasos (BMRC Director) and his student Yfanti to produce papers published in 2020 in AOR and the EJF.

FARC is unusual by having a local area focus where academics in London and the surrounding area are invited via an open targeted competitive call to present their work. This conference is designed to encourage participation by charging no conference fee and by timing the conference for early in the second week of July when there are very few such conferences.

In addition to its regular annual conferences, CEDI hosts seminars on topical issues. In recent years, Brexit and the changing relationship between the UK and the EU became an important topic and in 2017 a seminar series was designed to promote further understanding. Accordingly, Giacon, Principal Counsellor at the European Bank for Reconstruction and Development (EBRD), presented their new strategy for new EU Member States and Colantone from Bocconi University presented his research on European Populism. Moreover, as part of our staffing strategy, the Department sought to reinvigorate the topics we explored that led to Pazzona and Fischer being recruited to support Fidrmuc to innovate topics. As a result, the conference titled “The Economics of Crime” was held in the 2018-2019 academic year and supported by funds allocated to CEDI by the Department. A further conference on Conflict Dynamics was held in December 2019-2020 and this was further supported by a RES grant and funds from the University of Santiago. These conferences attracted speakers from the USA, Chile, Sweden, Italy, Ireland, Norway, and France along with presenters from Bristol, Essex, Kent, Queen Mary, RHU, Southampton and Surrey.

The first Brunel Banking Conference was initially funded by the Bank of England in 2018 and is now hosted annually by the BRG. These conferences feature speakers from central banks, (Bank of England, Banque de France, ECB, Norges Bank), from industry (Moody’s, Deloitte LLP, GARP, Lloyds of London) and from Universities (Essex, Loughborough, Oxford and Brunel). More than 30 non-presenters attend each year, with in 2019, 15 attendees from UK universities (three PhD candidates from outside Brunel) and the remainder from Central Banks, Regulators and Financial Institutions.

These Brunel Banking Conferences were integral to developing two impact case studies. The 2018 conference titled “Bank Regulation, Competition and Risk” helped sustain a research team led by Karim and including Davis and Noel then their PhD student. This facilitated Karim to further research collaboration that produced six papers, of which four are published, one each in the Journal of Financial Stability – JFS (2017), EJF (2018), European Financial Management Journal (2018) and the Journal of International Financial Markets, Institutions and Money (2020). This series of papers established, for the first time, that bank competition is significantly related to financial instability. Moreover, a bank leverage ratio, while used in the corporate distress literature, was demonstrated to the Bank of England to be a useful indicator of risk to complement capital ratios to monitor banks.

The 2019 conference entitled “Macroprudential Policy, Bank Regulation and Financial Stability” enabled Davis to extend the research relationships with Karim and Noel to include Carreras, Piggott, and Liadze from NIESR. Outputs from collaboration included six papers, of which two are published in the JFS (2018) and Economic Modelling – EM (2019). The latter article (Davis, E.; Liadze, I.; Piggott, R, 2019), “Assessing the Macroeconomic Impact of Alternative Macroprudential Policies” was voted the winner of the inaugural Best Paper Award in Financial Economics in EM. This article, established the usefulness of concentration and distribution measures in monitoring systemic risks in the banking system and motivated the inclusion of such measures in the NiGEM. This model has impact as it serves as a forecasting and simulation tool of global economic trends enabling evaluation of macroprudential policy over the wider economy. The OECD acknowledging this has commented that they consider such measures should feature in the NiGEM for all G7 countries not just the UK, Germany and Italy.

### Networking Support

A key element of developing and maintaining a research culture are several ongoing networking support activities including hosting visiting scholars, holding a weekly seminar series, funding attendance to at least one major academic conference each year for all staff members and at the University level the funding of open access for all journal publications. The Department supports visiting scholars as visitors foster productive international research relationships. Eight members of staff hosted ten visiting scholars since 2014. Visitors were from all over the world including Chile, China, Egypt, Italy, Japan, Pakistan, Saudi Arabia, Syria, Turkey and the UK. Very often such visits resulted in quality published output. For example, Fidrmuc hosted two visiting scholars since 2014, Ghalia, from University of Northampton and Tunali, from Istanbul University resulting in co-authored articles in the Journal of Hospitality & Tourism Research (Ghalia), the Journal of Common Market Studies (Tunali) and the European Journal of Political Economy – EJPE (Tunali).

As mentioned above our weekly seminar series normally operates from mid-September to the end of June. Some 25-30 seminars typically involve UK speakers, but we proactively seek to invite academic visitors to the UK and from nearby EU countries. For example, during the 2018-2019 academic year, Grau, from the University of Chile, presented a paper “Juvenile Incarceration and Adult Recidivism” in line with the “Conflict Dynamics” topics explored by Pazzona. New colleagues, especially entry level recruits, are encouraged to invite co-authors especially senior former supervisors to meet and discuss their research.

Numerous members of staff regularly work with overseas colleagues where occasional face to face communication is essential to maintain these research relationships. Face to face meetings are supported mainly via funded conference attendance but also visiting scholar invitations and invitations to present in the weekly seminar series. Examples of such collaboration are: Kumbhakar, from SUNY with Badunenko, Gil-Alana from the University of Navarra with Caporale, Conrad from the University of Heidelberg with Karanasos, González from the University of Castilla with Skinner and Wendner from the University of Graz with Ghosh.

### Creating and Supporting Global Partnerships

Global Partnerships are formed and supported via the Department’s flexible working practice strategy that empowers staff members to travel for periods of time provided teaching and administrative duties are effectively covered. Therefore, Fidrmuc helped establish the ISA for the Slovak Republic in 2016 leading to an impact case study. Fidrmuc engaged in recruiting 9 full-time members of staff for the ISA and as is mentioned in section 1., this was to examine the regional effects of national and EU policies. Fidrmuc then helped lead this unit and investigate the effects of EU transfers and assess regional development programme outcomes. This has led to publications in the EJPE (2019) and an ISA Discussion Paper series.

Davis’s work on pensions referred to in section 1., is another Global Partnership supported by our flexible working practice strategy. This enabled him to visit the Caribbean numerous times including Trinidad (2002), Suriname (2016) and Jamaica (2016). This facilitated him to develop his research and disseminate it to researchers from the IMF, the Association of British Insurers and NIESR. Since 2000 Davis has studied the systematic analysis of risk factors, including income tax policy, that can lead to pension fund failure. The framework established by Davis has now been adopted by five countries: Jamaica, Bahamas, Barbados, Guyana and Suriname. Members of the research team now working on this include Lastra from Queen Mary University, and Armstrong and Ebell from NIESR. Outputs from this research include chapters in

“Recreating Sustainable Retirement: Resilience, Solvency, and Tail Risk” (2014) and “The Home: Multidisciplinary Reflections” (2018).

### **Outreach Encouragement and Support**

Outreach activities that lead to contributions to the economics profession are valued by Brunel as they enhance the Department’s reputation, encourages the development of the profession and provide impact. One method of accomplishing this goal is the annual PDR in which staff can highlight in addition to their research, teaching and administrative accomplishments, their impact on the wider research database via journal editorships, advisory and society board memberships, grant award panels and external examining.

The Department’s impact on the research base is led by the senior members of staff who typically serve on the editorial board of many prominent journals in the field of Economics and Finance and are relied upon by journals and grant endowing authorities alike to select articles for publication and projects for funding. Caporale is an associate editor of the International Review of Economics and Finance (IREF) and serves on the editorial board of IE and JIMF. He serves as an ad hoc reviewer for many grant authorities including ESRC, Leverhulme, Social Sciences and Humanities Research Council of Canada and the Czech Science Foundation. Similarly, Hashimzade serves as a reviewer of grant proposals for the British Council, ESRC, NORFACE, Croatian Science Foundation, Swiss National Science Foundation and serves as a panel member for the British Council Newton Fund and as the Managing Editor of the Journal of Tax Administration. Skinner serves as associate editor of the IRFA and of Financial Letters and served on the Portugal National Research Council in 2016.

Another source of outreach is through advisory board memberships, consulting, society membership and affiliations. Davis serves as an advisor and consultant for the IMF. Liu is an affiliated member of the Association of Chartered Certified Accountants and Karim is a visiting researcher at the NIESR and Skinner served as the Vice President (Membership) for the Multinational Finance Society from 2010 until June 2019.

Moreover, senior members of staff are active in externally examining PhD candidates. Since 2014 Skinner examined at Birkbeck, Surrey and UCL, Ghosh for the universities of Birmingham, Cardiff and Manchester. Meanwhile, Caporale examined 24 PhD candidates for 16 different universities including Bath, Birkbeck and Cambridge in the UK and Padova, Paris and Western Sydney. Karanasos examined 16 candidates mostly from UK universities such as Birkbeck, Essex and Queen Mary.