

<b>Institution:</b> University of Sussex
<b>Unit of Assessment:</b> 16 Economics and Econometrics
<p><b>1. Unit context and structure, research and impact strategy</b></p> <p><b>a. Context</b></p> <p>The <a href="#">Department of Economics</a> at Sussex is a medium-sized unit within the <a href="#">University of Sussex Business School</a>, which enjoys an international reputation for outstanding applied research at the frontiers of knowledge and analysis, particularly in the fields of development economics, labour and behavioural economics, and international trade. We are distinct in offering deep knowledge of and solutions to real world global policy challenges in these areas. Our research is well grounded in academic rigour drawing on state-of-the-art advances in applied economics, experimental methods, and economic theory. The quality of our output submissions - with over 12% in top five journals (<i>Econometrica</i>, <i>Quarterly Journal of Economics</i>, <i>Journal of Political Economy</i> and <i>Review of Economic Studies</i>) and a vast majority of the others in the <i>American Economic Journals</i>, <i>Review of Economics and Statistics</i>, <i>Economic Journal</i> and top field journals (<i>Journal of Economic Theory</i>, <i>Journal of International Economics</i>, <i>Journal of Development Economics</i>, and <i>Journal of Economic History</i>) - manifests commitment to method and rigour. Our long-standing expertise in applied economics allows us to adapt to current policy agendas and external demands to provide rigorous, creative research and analysis in times of major change or need. For example, our research has contributed to debates on national minimum wages, post-Brexit trade policy, wellbeing and happiness, the Ofsted inspection regime for schools, pensions and total rewards, legal fees and police reforms, and the <a href="#">Mahatma Gandhi National Rural Employment Guarantee Act</a> (MGNREGA). Our success in establishing a sustainable and influential department full of vitality was showcased in successful hosting of the Royal Economic Society (RES) annual conferences of 2016 and 2018.</p> <p>In addition to our success with output quality, the department has exploited its core strengths and developed a highly active impact strategy, as reflected in the impact case studies on the minimum wage and international trade. On the former, <i>Dickens'</i> research has paved the way to the introduction of the National Living Wage (NLW) in 2016, raising the earnings of over 1.6 million workers in the UK, around 7% of all workers. As an independent member of the Low Pay Commission, <i>Dickens'</i> research has directly influenced the body's recommendations to the government, resulting in policy commitments to <i>lowering age eligibility for the NLW to 21 and faster NLW increases for 220,000 people aged 21-24 from April 2020</i>. <i>Dickens'</i> research also informed a report published by HM Treasury, which influenced the government decision in 2020 to increase the NLW from 60% to two-thirds of median pay by 2024, affecting 4.7 million workers. <i>Dickens'</i> research also influenced South Africa's introduction of a national minimum wage.</p> <p>In trade, our strength is evidenced through two impact case studies. First, the <a href="#">UK Trade Policy Observatory</a> (UKTPO), created in June 2016 and led by <i>Winters</i> (2016-20) and <i>Gasiorek</i> (2020-), has rapidly become a leading independent interdisciplinary research group analysing international trade and investment. Its research-based insights have helped to ground the debate around UK trade policy after Brexit in robust data and realistic scenarios. This has influenced discussions in Parliament and the work of government departments. Several policy approaches have been either guided or subsequently modified following UKTPO analysis and its research has directly influenced government, devolved administration, and opposition trade policy. Second, through a university spin-off (InterAnalysis) led by <i>Gasiorek</i>, faculty have developed software tools for diagnostic data analysis and simulation modelling of trade policy in multiple nations and regional associations, notably in Pakistan, India, Ukraine, the Economic Community of the West African States (ECOWAS), the UK and Northern Ireland.</p> <p><b>b. Structure of the unit</b></p>

The department experienced rapid expansion in the period leading up to REF2014, which enabled it to attain the critical mass required to achieve the strategic objectives at that time (see below on REF2014 Strategy & Performance, p. 5). Over the REF2021 census period, average category A faculty headcount and FTE in the department have been stable at approximately 26 and 26.5 respectively. To respond to usual departures and retirements, we have implemented a strategic programme of targeted recruitment aimed at intensifying the quality and depth of our established research strengths in *development economics, international trade, labour and education and quantitative economic history* and also established new research clusters in *economic theory, behavioural and experimental economics, and environment and energy*. In doing so we have re-invigorated the department with some of the brightest and best early career economists, a dynamic group of mid-career economists and a strong core of experienced and respected senior academics providing research experience, leadership and improved research output.

Our recruitment strategy has been actively supported by the university's retention and growth plan, which recognised the department's research strengths and international reputation in applied economics. The support is in the form of significant central investment, including the establishment of the new University of Sussex Business School (UoSBS) in 2018. The financial strength of the school underpins continued support for our recruitment plans with a vision to place Sussex among the top economics departments in the UK. Covid-19 temporarily disrupted the execution of the department's expansion plans but the university and the business school remain committed to sustainable growth of the department once the pandemic subsides.

Over the REF2021 period, Category A faculty numbers in the clusters have been: *Trade* (4); *Development* (12); *Labour and Education* (10); *Quantitative Economic History* (6); *Economic Theory* (4); *Behavioural and Experimental* (5); and *Environment and Energy* (3). Note that there is no exclusive allocation of a Category A faculty to a cluster and some of them have departed Sussex. The clusters are led by at least one senior professor and consist of a varying mix of early and mid-career researchers and more established faculty. The clusters are flexible with a collaborative culture that stimulates new and sustainable research ventures and the joint supervision of PGR students. Structurally, it is the development of a critical mass of academics, who engage with each other through seminars, research programmes and more broadly with Research Mobilisation Groups (see below), that enables innovative high-quality research output and deep and extensive impact and engagement activity. For example, the Trade cluster regularly holds seminars and interdisciplinary discussion groups with colleagues from Law, International Relations and Business Studies. Similar activities are also held by the Development and Behavioural and Experimental clusters.

The research clusters are aided by Research Mobilisation Groups organised around research themes such as *conflict and development, sustainability and energy policy, migration and development, international trade, and economic behaviour and social wellbeing* at the business school level to facilitate interdisciplinary research, grant capture, collaboration, and other activities. Any faculty member could become a member of a Research Mobilisation Group and participate in its meetings, workshops, seminars and other activities. This strategy has delivered results with higher grant income, new interdisciplinary research and international recognition of research quality in the areas of our strength. For instance, *development economics*' work along with the School of Global Studies and the Institute of Development Studies (IDS) contributed strongly to Sussex's topping the *Quacquarelli Symonds (QS) World University Rankings in international development* in 2015, 2017, and 2018.

The *international trade* cluster is the heart of the *UK Trade Policy Observatory (UKTPO)*, established in 2016 with colleagues in Law, International Relations and Business Studies as an interdisciplinary research centre to address the UK's post-Brexit trade policy challenges. It has been a story of outstanding success in producing high-impact research and generating research income. Sections 3 and 4 offer more details.

### **c. Research and impact strategy**

***Our research strategy***

During the REF2021 period, we have generated a substantial cultural and reputational shift towards becoming an internationally excellent, research-prevalent economics department with a clear sense of our research strengths and priorities and a focus on our impact on policy and people. We delivered a three-part strategy for achieving a culture of sustainable research excellence and impact in our seven research clusters. First, through the maintenance and in some cases expansion of a critical mass of research faculty in each of the research clusters. Second, through the development of a supportive and academically challenging organisational environment that rewards excellence. This includes appropriate recognition of research, impact and outreach activities in the staff workload model and rewarding excellence through discretionary pay awards. Third, through creating a dynamic organisational structure to encourage industry engagement in order to deliver economic and social impact. This includes establishing the interdisciplinary research centre UKTPO within the international trade research cluster. In addition, allowing faculty flexible contractual arrangements to engage with non-academic institutions. *Dickens'* engagement with the LPC, *Hussain's* engagement with Ofsted, *Dolton's* with the [National Institute of Economic and Social Research](#) (NIESR) and [Office of Manpower Economics](#) have produced high-impact research.

In particular, the following Research and Impact (R&I) Strategy has been adopted by the department as part of the R&I Strategy of the UoSBS.

1. Rewarding excellence in publications, grant capture, and impact activities through promotion and financial rewards.
2. Supporting R&I activities through the workload allocation model.
3. Establishing UKTPO to generate high-impact research on trade policy issues (see below).
4. Establishing the UoSBS Research Impact, Communications and Engagement (RICE) team to provide administrative support for impact generation.

The R&I Strategy and the RICE team supported our three impact case studies and other impact activities (see section 4). It also demonstrated the ability to respond promptly to urgent national concerns such as Brexit through the establishment of UKTPO in 2016. The UoSBS and other parts of the university supported the effort with funds and staff (outreach specialists, the Press Office, an administrative assistant).

Overall, the department and the UoSBS recognise that the promotion of research to a wide and diverse non-academic audience is an important component of external engagement and is a step on the pathway to impact. It has made strategic investments in UKTPO and RICE to that end. Furthermore, faculty regularly contribute columns to VoxEU and The Conversation, participate in UK parliamentary briefings, and advise other governments as they are a strong pathway to wider impact for economists. These activities not only empower research to influence debates, policy and practice, they also encourage collaboration, recruitment and the creation of new funding and income opportunities. The UKTPO epitomises the success of this approach and is a best practice example of using deep academic expertise to contribute to debates that are crucial for the UK.

The departmental strategic aims are in line with the university's research strategy including the initiative on open research and the [Sussex 2025 Strategic Framework](#). In particular, they align with the Sussex 2025 Strategic Framework '*research with impact*' and '*engage for change*'. For example, we can confidently claim that *Dickens'* research on UK minimum wages, UKTPO and TradeSift's research on trade policy, and *Hussain's* research on Ofsted inspection regime has fulfilled the strategic aims of the department and brought about tangible social change. The department's strategic aims also speak to the UKRI Strategy and Vision document May 2018 of '*fostering world-leading research that delivers economic impact and enhances productivity through partnership and collaboration between academia, industry and other stakeholders*'. Our three impact case studies and other research projects (see section 4) demonstrate the department's success in that direction.

**(i) Creating and maintaining a critical mass of research faculty**

We implemented a targeted recruitment drive aimed at combining promising early career economists with a strong core of experienced senior academics. At the junior level, we have exploited our close links with academic economists in London, Oxford and Cambridge to recruit talented researchers (see below). As we have built an increasingly research-focused department, our ability to attract high calibre researchers has gone from strength to strength and we have been successful in recruiting excellent researchers from the North American market (*Chari*, PhD Yale; *Pathania*, PhD Berkley; *Maertens*, PhD Cornell; and *Embrey*, PhD NYU).

At the senior level, changes have included the recruitment of *Manzini*, to build the economic theory cluster; and the recruitment of *Mion*, to strengthen the international trade cluster. We have also secured part-time appointments of *Disney*, *Hayes* and *Crafts* (though *Hayes* departed in 2020). The senior part time appointments arrived with a strong track record in policy advice, which provided additional research leadership to the core areas of labour and education, environment, and quantitative economic history respectively. This expansion has allowed senior faculty to take on additional leadership roles in the guidance and mentoring of junior faculty and PGR students. The prior existence of a strong team spirit within the department facilitated the integration of new staff into a cohesive research group.

**Junior and senior faculty recruited 2014 to 2020**

Our junior recruitment began prior to REF2014 with the appointments of *Masella* in labour, *Bhattacharyya*, *Pathania*, *Chari*, *Fagernas* and *Maertens* in development economics, *Borchert* in international trade, *MacKerron* in environment and energy, and *Moradi* in quantitative economic history. This trend has continued during the REF2021 period with the appointments of *Walther* and *Marden* in development, *Embrey* and *Potoms* in behavioural and experimental, and *Dziewulski* in theory. The significant senior appointments of *Manzini* in theory, *Mion* in trade, *Crafts* in economic history and *Hayes* in environment reinforced the junior appointments. *Hayes* departed in 2020 but we will be looking to replace him.

In addition, we have been very mindful of the need to promote talented and research-active staff in order to maintain critical mass in all the clusters. Timely promotion facilitates retention in a highly competitive labour market of professional economists and retention is a key component of our strategy of sustaining critical mass in the research clusters. In order to reduce process time, the business school and the university have implemented substantial reforms and decentralisation to address the challenge of talent retention. The process also recognises the role of market supplement in attracting and retaining talents. See below for a summary of faculty promotion during the REF2021 period. Also, see p. 5 on publication quality.

**Faculty promotions 2014 to 2020**

*Masella's* outstanding publication performance was recognised by his promotion to a Readership in 2015. This was followed by *Bhattacharyya's* promotion to Readership in 2016 and *Moradi*, *Pathania*, *Chari* and *Telhaj's* promotion to Readerships in 2017. *Fagernas*, *Maertens*, *Borchert*, *MacKerron*, and *Embrey* were also promoted to Senior Lecturer during the REF2021 period. *Newell* was promoted to a Professorship during the REF2021 period. *Gasiorek* was promoted to a Professorship in 2019 in recognition of his leadership of UKTPO, high-impact research and learning.

**(ii) Developing a supportive and academically challenging environment**

The successful recruitment drive has been complemented by the creation of a supportive environment and organisation to foster research excellence. We have invested heavily in a new experimental lab. We have also created an attractive working environment through closer proximity and greater visibility in the Jubilee Building, which has been instrumental in facilitating greater research interactions among faculty and PhD students, and more attractive space for seminars and social exchanges. The department is able to offer faculty competitive teaching commitments, regular study leave opportunities, generous financial support for research and a strong team ethos to which all faculty contribute. Alongside this, we have strengthened provision

for our PGR students including the introduction of a coursework requirement and sizeable studentships.

### **The success of our research strategy**

These changes have been positive for the department in terms of its research activity, publication quality and knowledge exchange and have been instrumental in attracting the high calibre faculty and PGR students to Sussex who will maintain and enhance our vision of research excellence (See below for examples of output quality).

#### **Publication quality**

Indicators of quality include outputs in *Econometrica* (ECMA; *Manzini*), *Quarterly Journal of Economics* (QJE; *Embrey, Mion*), *Journal of Political Economy* (JPE; *Mion*), *Review of Economic Studies* (REStud; *Chari, Embrey, Pathania*), *Review of Economics and Statistics* (REStat; *Masella, Moradi*), *Economic Journal* (EJ; *Crafts, Manzini, Marden, Moradi, MacKerron*), *American Economic Journal: Applied Economics* (AEJ: Applied; *Hayes, Masella*), *American Economic Journal: Economic Policy* (AEJ: Policy; *Moradi*), *Journal of Economic Theory* (JET; *Dziewulski, Manzini, Potoms*), *Journal of Development Economics* (JDE; *Bhattacharyya, Chari, Maertens, Moradi, Walther*), *Journal of International Economics* (JIE; *Mion*), *Journal of Economic History* (JEH; *Crafts, Moradi, Newell*), *European Economic Review* (EER; *Borchert, Winters*), *Journal of Human Resources* (JHR; *Pelkonen, Fagernas, Winters*).

### **The strategy in REF2014 and subsequent performance**

In 2014 the department set out a research strategy governing the subsequent five years. We believe we have exceeded all these objectives and make our case below:

<p><b>Develop a mature, influential and sustainable research environment</b></p>	<p>The earlier section on recruitment points to our successful recruitment of staff at all levels. Although inevitably there have been some departures, we have managed to promote and retain over 80% of our junior recruits (See the above on promotions and Table 1 on retentions). In addition, we have managed to maintain and improve on our success in publications, grant capture, PhD student numbers, completion rates, and employment (See Tables 1, 2 and REF4b/c for details). We have secured approximately £5 million plus in research grant and consultancy funding. Our success in creating a sustainable and influential department was showcased in successful hosting of the RES annual conferences of 2016 and 2018.</p>
<p><b>Investment in complementary research skills</b></p>	<p>We have fully delivered on this commitment through strategic hiring in the complementary research areas of economic theory and behavioural and experimental economics. We have hired <i>Manzini</i> (Professor), <i>Dziewulski</i> (Lecturer) and <i>Potoms</i> (Lecturer) to build the theory group. We have also hired <i>Embrey</i> (Lecturer) to start the complementary behavioural and experimental group. This has led to very high dividends in terms of high quality publications in <i>Econometrica</i>, QJE, REStud, and JET. Embrey was subsequently promoted to a Senior Lectureship. See above on 'recruitment and promotions' and 'publication quality' for details.</p>

### **Strategic aims for the next five years**

An emphasis on economic theory and applied policy is the driving force underpinning our research strategy for the future and the changes implemented so far place Economics at Sussex at the frontier of such research. Our aim is to become one of the leading economics departments in the UK over the next five years. Building on our rapid expansion since RAE2008 and consolidation since REF2014, we shall continue to invest in our research capability. Our key

aims will be: (i) to add new research clusters while maintaining our core strengths in applied economics, and (ii) to continue to invest in areas where we have performed well in terms of delivering high-impact research.

The aims are fully in line with the UKRI Strategy of investing in research wisely in a challenging environment. We will foster high quality research in partnership with academia, industry and other stakeholders that delivers economic impact and productivity growth.

***(i) Maintain a mature and sustainable research environment***

We will seek to achieve this with a further strengthening of leadership through recruitment in our core areas and the continued investment in talented early career researchers. This plan is fully supported by the university's growth ambitions. While our medium-term objective is for further modest recruitment, our most immediate objective is to make appointments of two to three junior posts in 2021/22. In the medium term, senior positions will provide further research leadership in our existing fields of expertise and accelerate the development of our early career faculty into more mature researchers, while the recruitment of promising early career researchers will provide even more opportunities for interaction, innovation and collaboration, offering an increasingly attractive research environment within the department. See section 2 under 'A Research Excellence Culture' for examples of new areas of collaborative work that have already emerged among faculty as a result of the above-mentioned strategy.

We continue the consolidation of our research-led culture through an active promotion strategy that rewards success and provides strong incentives for excellence in research. We have implemented a proactive staffing strategy, supported at the university level, whereby faculty are assisted by a managed transition into greater leadership roles. For example, *Gasiorek* and *Borchert* have transitioned into leadership roles in UKTPO while *Bhattacharyya* and *Fagernas* have taken leadership roles within the department in the form of research directorship and PhD convenorship. Given that a number of our junior faculty had attained significant research achievements prior to joining Sussex, we anticipate swift promotion as they develop leadership skills that support other faculty and PGR students. The real possibility to move into senior positions within the department creates a progressive and aspirational environment where junior faculty identify with more advanced role models and see clear paths for career progression.

***(ii) Continue investment in complementary research skills***

While we currently have very clear strengths in applied policy analysis, we are aiming to evolve into a department with a broader range and enhanced balance of complementary research skills. As a first priority, we intend to build on the appointments of *Manzini*, *Dziewulski* and *Potoms* and appoint further expertise in economic theory. The appointment of *Embrey* and the establishment of the experimental lab will be reinforced further by appointments in experimental economics. We will also seek to make appointments in the areas of macroeconomics and development macroeconomics to complement the earlier appointment of *Bhattacharyya* in these areas. We have made a 0.3FTE professorial appointment in quantitative economic history in the form of *Crafts* during the current REF cycle. We would seek to strengthen this cluster through further junior appointments to join *Fagernas* and *Crafts*. We will strengthen new areas of applied research techniques in the form of machine learning and econometrics and as a priority will seek to appoint additional expertise in micro-econometrics and trade.

***(iii) Continue investment in high-impact research***

Given our very clear strengths in applied policy analysis, especially in the fields of development economics, international trade and labour economics, research impact is central to our strategic aims. University, school and department level investments in UKTPO have already delivered outstanding results in terms of increasing research income and shaping policy. We will continue our investments in this direction by further strengthening UKTPO. UKTPO brings together a healthy mix of early career research fellows working closely with established faculty from the department. The department and the school would be looking to support these externally funded fixed-term appointments with competitive matched funding. Currently the department and the school are supporting UKTPO's ESRC Centre for Excellence bid.

**Monitoring research strategy**

The senior academics and the Director of Research and Knowledge Exchange oversee research strategy within the department but the identification of new avenues of research originates from the ground up. Senior faculty meet every month to monitor progress both overall and within the core research clusters and scrutinise progress of strategy through a number of processes such as active mentoring, a business school-level evaluation of research plans and oversight of income targets and PGR progress, and a business school-level Research Committee. More details of these processes are shown below.

**2. People****Staffing strategy and staff development****Recruitment strategy**

We have been very successful in achieving our objective of attracting high quality research-active faculty at both the junior and senior levels. We have accomplished this through a judicious use of recruitment networks such as the RES job market meetings and current personal research contacts, an intensive and rigorous appointment process, and, perhaps most importantly, through being able to offer potential candidates an exciting vision of continuing growth and excellence. This is evidenced by our high staff retention rates (see Table 1) although there is a drop in 2020-21 FTE due to retirement, Covid-19 induced reduced hours and departures.

**A culture of research excellence**

Through professional development and staff management practices we are continuing to generate a strong team ethos which fosters collaboration and supports research performance. For example, there is a clear expectation that faculty should be present in the department a majority of the time and they are actively encouraged to provide discussion and critique of each other's outputs and funding applications. Weekly internal and external seminars as well as a weekly PhD seminar are very well supported. Seminar speakers ranged from high profile international scholars to promising early career researchers. The department website presents a full list of seminar speakers. The head of department leads an annual research 'away-day' designed to catalyse research linkages and to facilitate knowledge exchange among faculty. In addition, faculty interact in interdisciplinary platforms such as the research mobilisation groups and the UKTPO. The collaborations between *Bhattacharyya* and *Moradi* on natural resources and development (JDE publication); *Dolton* and *Pathania* on the NHS (JHE publication); and *Borchert*, *Gasiorek*, and *Winters* on Brexit and trade policy are success stories emerging out of these interactions (ESRC grant and impact cases).

**Professional development**

The department offers support for professional development in a variety of ways, with an emphasis on early career researchers. For example, we provide generous financial support for attendance at high quality conferences (see below). We encourage research collaborations within and outside Sussex through a mixture of financial support and relief from other contractual arrangements such as teaching and administration. In addition, the Department and the Business School offers paid study leave after 3 continuous years of service and contribution to citizenship. We also support attendance at specialist training courses to boost skills, for example econometrics, software, data usage. Departmental funds are used to attract a regular flow of high class visitors who are encouraged to interact with faculty and PGR students, e.g. Mark Rosenzweig (Brown), Asim Khwaja (Harvard) and Dan Hamermesh (UT Austin), Guillaume Frechette (NYU), Bram de Rock (ECARES, Brussels).

**Conference support**

Sussex has been well represented by faculty at high profile conferences throughout the REF2021 period particularly in the areas of our core strength. Faculty presented their work every year at the AEA conferences, Econometric Society meetings, EEA meetings, NBER

summer workshops, Society of Labor Economists meetings, IZA/World Bank workshops, G-TAP meetings, NEUDC meetings, and Royal Economic Society (RES) conferences.

### ***Mentoring***

We have an active mentoring process whereby faculty are assigned to a senior member of staff who oversees progress and supports each mentee in setting and achieving high personal research goals. Regular meetings establish agreed research targets across a range of outputs including publications, research income and PGR supervision. Concerns raised by faculty are dealt with quickly so as to remove any obstacles to research productivity. This is reinforced at the department level by faculty completing an annual research plan that is discussed with a senior professor. Junior faculty also have frequent probation meetings with the Heads of Department. In addition, mentoring also takes place through the UKTPO and the research mobilisation groups especially with regards to research grant writing and impact. For example, the successful mentoring relationship between mid-career and senior faculty is demonstrated by our research income success in section 3 and the impact case studies.

### ***Leadership and involvement***

A regular flow of information between junior faculty and senior professoriate occurs through a range of formal and informal channels including department meetings, informal lunch meetings, research mobilisation groups, UKTPO and regular seminars. The senior leadership meet frequently to assemble the ideas that arise from these interactions and to ensure that the overall research strategy remains responsive and capitalises on the energy of the early career researchers.

### ***Equality and diversity***

Backed by the university, the department is active in working towards equality and diversity in both recruitment and staff management. We do so not only in recognition of individual staff needs but also in accordance with our long-term aims, which support the diversity that we want to achieve. We recognise that equality and diversity increases people's commitment to the university and contributes to the longer-term productivity and success of the department. To address equality and diversity related issues, the department operates a 'Diversity in Economics' committee. The committee aims to make the department more inclusive with regard to race, gender, sexual orientation, ability and religion. The committee focuses on issues related to the treatment of academics, students, professional services staff and prospective students. It also aims to make teaching and research in economics more inclusive. Note that the university and the school have formal procedures and mechanisms in place to combat discrimination and promote diversity. This departmental committee restricts itself to informal solutions to subtler forms of discrimination. Faculty have recently taken periods of leave for maternity (three cases), paternity (two cases) and parental leave (one case), and to cover periods of long-term illness (two cases). Through a competitive, transparent and merit-based recruitment process we have managed to improve diversity among faculty especially in the dimensions of gender and ethnicity. Currently among category A faculty,

- 22.2% FTEs are female (all full time)
- 14.8% FTEs are BAME (all full time)
- 74.1% FTEs are Full Time
- 96.3% FTEs are Permanent
- 55.6% FTEs are of the age group 30-50
- 44.4% FTEs are of the age group 50+
- 3.6% FTEs are of the age group <30

We have also taken equality and diversity into account in our REF output selection process. All eligible outputs were reviewed by a committee of six faculty members of which three are of BAME background.

This diversity has delivered results not just in terms of improved research quality but also in terms of research power (see table 1 for a summary of research outputs). Our aim is to continue improvements in this direction and make the Department even more diverse.



## Research students

We provide a first-rate doctoral training programme focused on providing high quality supervision, facilities and training to nurture excellent research economists. As a result, we have a strong track record in our PhD employment and completion rates (see Tables 1 and 2). Our programme is governed by the university's document 'Principles to Govern Doctoral Studies', which aims to train and develop diverse, pioneering and courageous doctoral researchers who will have a lasting impact within and outside the academy. The key governing principles are: *to celebrate the nature of doctoral research, promote excellence and quality, enhance doctoral researcher experience, promote research integrity, enhance employability and researcher development, facilitate connectivity, deliver world leading supervision, provide world leading doctoral research environment.*

The doctoral programme is supported by excellent department and business school level support structure. Students are required to attend the Advanced Research Methods in Economics (ARME) programme during the first year of their candidacy. ARME includes a series of workshops on non-parametric econometrics, Stata, Advanced Stata, impact evaluation methods, discontinuity regressions, spatial econometrics, field experiments, Latex, Matlab, journal refereeing, survey design, and PhD job market strategy. By the end of their first year the doctoral students are required to present their thesis outline, which is evaluated by the outline committee. The outline committee comprises four faculty members including the two supervisors. The expectation is quite high at this stage as the students are expected to submit a complete manuscript of professional quality. The outline committee offers advice on the submitted draft. In addition, the students are subject to annual reviews of their candidacy. This is typically based on their research presentation in internal seminars in front of other students and the faculty. Students are also required to meet their doctoral supervisors at least once a month.

The award to Sussex of the ESRC-DTC in 2010 and the introduction of generous PhD studentships has been instrumental in attracting outstanding PGR students over the REF2021 census period (see Table 1). The programme is attractive to students, enabling high entry standards to be set. In addition to ESRC funding (e.g. Mamo, Schmidt) many students bring prestigious scholarships (Currently three Commonwealth scholarships, one EU scholarship). Candidates originate from a wide range of countries across Europe, Africa, Asia and Central/South/North America, to form a lively, mutually supportive and diverse community that is an integral part of the Department.

Despite this wide-ranging support, Table 1 shows a recent decline in our doctoral student numbers. This reflects the current funding challenges faced by the UK HE sector as a whole and has restricted our ability to offer funding to students. Our response has been to focus even more heavily on quality, as reflected in student completion rate and employment. We have put forward a robust long-term strategy which should be able to take us beyond the current challenges. Academic staff are now actively encouraged to assist prospective students with their external PhD funding applications. We also run a rigorous doctoral recruitment process based on applications and interviews. We believe that these steps will place us in a good position to expand further in future while maintaining quality.

### **Excellence in publications and employment of PGR students**

A number of our former PGR students are in academic positions (e.g., University of Chicago, J-PAL (MIT), CEP (LSE); See tables 1 and 2 for details). Others hold posts in national and international organizations (e.g. World Bank, IFAD, FAO, UNICEF, UK TREASURY etc.). Our PhD students also publish in leading journals (eg., Journal of Development Economics, Economic Development and Cultural Change, Labour Economics, Journal of Law and Economics, WBER, AER P&P, World Development, Journal of Development Studies). Overall, our PGR students have **published 45 journal articles** over the REF2021 period.

In addition to formal supervision arrangements, which generally comprise a senior and junior faculty member, PGR students are also assigned a mentor, often an advanced PGR candidate. A taught component in year 1 focuses on advanced econometrics and research skills and includes generic academic and employability skills (e.g. presentation techniques, refereeing process). This is delivered by current research faculty and occasionally supplemented with external expertise. Additionally, PhD students also receive support to attend specialist training, e.g., CEMMAP (Xiao, Sandi), EUI Summer Schools (Keller), IZA Summer Schools (Salardi, Leone), Barcelona GSE Summer School (Egger, Salardi). The PGR convenor arranges a regular forum for PGR students to voice concerns and PGR representatives provide formal input through department meetings.

#### Conference support for doctoral students

Examples of conference support are as follows. Abouaziza and Tafesse have been supported to present at the Annual Conference of the European Society for Population Economics, 2016, Mazutti at SOLE and NEUDC in 2015, Egger at 28<sup>th</sup> Annual Conference of the European Association of Labour Economists, Sandi and Schoch at Celsfo conference on Political Economy, 2015, Keller, Mamo and Sam at CSAE (Oxford), Poggi and Hambrados at DIAL 2015 and 2017 respectively.

We fund attendance for PGR students to present their work at a minimum of one national and one international conference and provide support for fieldwork activities. Students nearing completion present at our annual PhD conference, supported by all faculty, PGR students and an external academic (Recent examples include Guy Michaels (LSE), and Jan Willem Gunning (Amsterdam)). For those entering the job market this provides excellent preparation for the next phase of their career. The PhD convenor acts as placement officer in a number of ways; students appear on Department web pages and the PGR alumni network assists current students' career planning and research visits to other institutions.

**Table 1: Performance Summary: People**

	2014-15	2015-16	2016-17	2017-18	2018-19	2019-21	Total (2014-20)
<b>Panel A: Teaching and Research Staff</b>							
Teaching and Research FTE (Category A Staff)	26.2	28.9	27.7	26.9	26	22.6	-
Staff FTE as a share of the census period average 26.5	98.8%	109.1%	104.5%	101.5%	98.1%	85.3%	-
Publication (Books and Chapters)	4	5	7	5	2	7	30
Publication (Journal Articles)	48	39	42	39	41	68	277
<b>Panel B: PGR Students</b>							
PGR Applications	115	172	150	105	103	129	774
PGR Offers	22	27	21	20	22	27	139
PGR Student Headcount	53	52	52	51	38	35	-
% Submitted within 4 years Max	40%	38%	46%	83%	83%	84%	-
PGR Employment (Academic)	3	5	2	4	8	5	27
PGR Employment (Policy/Government)	3	-	4	6	7	10	30
PGR Employment (Private Sector)	-	1	-	1	-	1	3

**Note:** 2019-21 figure for publications include published and accepted.

**Table 2: PGR Student Employers and Position Type by Sectors**

Academic	Policy/Government	Private Sector
<b>Employers</b>		
Centre for Health Economics, University of York; Urban Labs, University of Chicago; J-PAL, MIT; Queens University, Belfast; LSE (Department of Social Policy, CEP); University of Sterling; Arkansas State University (Mexico); Queen Mary University of London (QMUL); Imperial College London; University of Sussex (Global Studies, Economics, Finance and Accounting); ESRI (Dublin); American University in Cairo; El Colegio de la Frontera Norte (Mexico); IDS; University of Brighton; Universiti Brunei Darussalam	National Planning Department (DNP), Government of Colombia; Centre for Global Development (CGD); FAO; The World Bank (Washington DC, Vietnam, Development Research Group, Poverty and Equity Global Practice); IFAD; UNICEF (Innocenti); UK Treasury; IFPRI; ODI; Ethiopian Development Research Institute; Agence Française de Développement (AFD); Central Bank of Sri Lanka; Inter-American Development Bank; NIESR; Turing Institute	<a href="#">Jadwa Investment Bank, Saudi Arabia</a> Macroconsult.
<b>Position Type/ Title</b>		
Research Fellow, Postdoctoral Research Fellow, Professor of Economics, Lecturer in Economics, Teaching Fellow, Lecturer in Business Administration	Economist, Senior Research Associate, Postdoctoral Fellow, Consultant, Research Economist, Senior Assistant Director, Senior Research Fellow	Economist

**3. Income, infrastructure and facilities****(i) Research income**

The department has an impressive record of research income generation over the REF2021 census period that has enabled it to produce high quality outputs, generate research impact and contribute to the wider research base. Since 2014, total external research grant and consultancy award accruing to the department is £4.8 million plus. A REF document (REF4b/c) submitted by the University provides detailed data on the grant income of each submitting unit including UoA 16. The research income is spread over a number of different research projects and sources and has facilitated high quality research outputs, non-academic impact and PGR support. Trade related research projects have been led by faculty who are UKTPO Fellows while faculty has also received substantial grants in development, labour, economic theory, economic history, and climate change. Some notable examples are:

- *Borchert, Di Ubaldo, Gasiorek and Winters*' ESRC-ICSSR-funded 'potential for future India-UK trade and development'
- *Chari, Telhaj and Winters*' ESRC-funded 'privatisation and productivity growth'
- *Chari, Disney, Hussain and McKay*'s ESRC-funded 'female labour supply and poverty'
- *Dickens*' ESRC-funded 'Digital Futures at Work'
- *Gasiorek, Di Ubaldo and Reilly*'s ESRC-funded 'the consequences of Brexit uncertainty and the Northern Ireland Protocol on the Northern Irish firms'
- *Newell*'s ESRC-funded 'global inequality'
- *Bhattacharyya and Tol*'s EU FP7-funded 'climate mitigation systems for a low carbon economy'
- *Manzini*'s Leverhulme Trust-funded 'Economic Choices and Cognitive Diversity'
- *Borchert and Winters*' ESRC, FCO and DIT-funded 'UK trade policy'.
- *Bhattacharyya, Di Ubaldo, and Konara*'s 'Foreign Direct Disinvestment'

We fully expect research income to increase further with more successful bids from our faculty. For example, UKTPO has submitted a large ESRC Centre for Excellence bid and other individual bids are also under review with the British Academy, Leverhulme Trust, British Council and others.

The Department and the School actively encourage faculty to generate research income. Senior faculty provide guidance and support to the ECRs at various stages of a research grant application. In addition, an expert from within 'Research and Contracts' sits within the School to provide on-hand support. Income generation is encouraged through the creation of *Research Incentive* accounts for faculty, which provide an annual contribution of £2,000 plus 10% of any research overheads to be used for personal research expenses. Faculty also have the facility to use research income to replace teaching and administrative duties.

#### (ii) Infrastructure and facilities

As outlined above, the University's investment in the Department in terms of new faculty has been complemented with an associated investment in infrastructure and facilities. Faculty are provided with modern offices and PGR students with individual workspace. Both are largely co-located on one corridor with the goal of promoting interaction among faculty and PGR students. Faculty and PGR students are all provided with high quality facilities: pc/laptop, excellent IT and printing facilities, the requisite software packages and electronic subscriptions to all mainstream economics journals. The state of equipment such as laptops or PCs is reviewed every three years and replaced if there is a request from the staff. This investment in new infrastructure has made Sussex an attractive and supportive place to work which is invaluable in enabling us to attract and retain highly motivated researchers.

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

#### Collaboration and contribution to the research base

Through strategic recruitment and encouragement of external projects we have been able to extend our collaborative links with academic economists in top national and international institutions and contribute to the global research base. We have particularly strong external links with London. For example:

- *Pathania* has collaboration with Paravisini (LSE) leading to output in the REStud;
- *Manzini* has long standing collaborations with Mariotti (QMUL) leading to outputs in *Econometrica*, EJ and JET;
- *Disney and Telhaj* has long standing collaborations with academics from IFS and CEP;

Faculty also have significant international collaborations:

- *Bhattacharyya* with Williamson (Harvard), Arezki (IMF) and Resosudarmo (ANU);
- *Borchert* with Anderson (Boston);
- *Embrey* with Fréchette (NYU);

- *Moradi* with Jedwab (Georgetown);
- *Mion* with Behrens (Montreal);
- *Pathania* with Dobbie (Harvard Kennedy School) and Liberman (NYU);
- *Potoms* with de Rock (Leuven);
- and *Winters* with Busch (Georgetown) and Hoekman (EUI)

These have led to top quality outputs in the QJE, JPE, REStud, REStat, AEJ: Economic Policy, JET, EJ, JDE, EER, and others.

*Mion's* contribution to research base in international trade was recognised by the Brazilian Association of Graduate Programs in Economics (ANPEC) Prêmio Haralambos Simeonidis award in 2016 for the article "Institutions and Export Dynamics".

The developing research culture has enabled a greater contribution to the wider research base than ever before. *Newell's* ESRC project will deposit three previously misplaced expenditure surveys along with a host of other historical data from Europe and Asia with the UK Data Archive (UKDA). *Moradi* deposited unique historical data collected on colonial army recruits in Africa with the UKDA. *Borchert* contributed to the development of the Global Services Trade Restrictions Database, which has become an important tool for trade researchers.

Faculty also make contributions to the research base through journal editorship; e.g. *Journal of the European Economic Association* (Manzini), *The World Trade Review* (Winters), *Energy Economics* (Tol), *Economics Systems* (Newell); through editorial boards; e.g. *Journal of Economic Theory* (Manzini), *Journal of Economic Behavior and Organization* (Maertens); *Environmental Science and Policy* (Tol), *Climate Change Economics* (Tol), *Journal of Mathematical Economics* (Manzini), *Review of Development Economics* (Bhattacharyya), *World Development* (Winters), *The World Economy* (Winters), *Cliometrica* (Crafts), *European Review of Economic History* (Crafts), *Economic History Review* (Crafts).

### Contribution to economy and society

The department has made important contributions to the economy and society, often through close links with policymakers. Faculty have acted as advisors; e.g. Low Pay Commission (*Dickens* – see Impact Case), NHS Pay Review Body (*Disney*), Senior Salary Review Body (*Disney*), Winsor's Review of the Police (*Disney*), Armed Forces Pay Review Body (*Dolton*), Ofsted (*Hussain*), Department for International Trade (DIT) (*Borchert*, *Gasiorek*, *Winters* – see impact cases), Ministry of Education of the Government of Albania (*Telhaj*) and the US Environmental Protection Agency (*Tol*).

### Evidence of high esteem

*Crafts* received a CBE in the Queen's Birthday Honours list in 2014 for services to economics. He has been a Fellow of the British Academy throughout the REF2021 period. He was also elected a Fellow of the Cliometric Society in 2015 and a Fellow of the Economic History Association in 2020. He is the President-Elect of the Royal Economic Society for 2022/23. He received an Honorary Degree from University Carlos III in Madrid in 2020. He was appointed as the Chair of the Council of Management of the National Institute of Economic and Social Research (NIESR) in 2020.

*Dickens* was appointed an independent Low Pay Commissioner of the UK on 1 May 2014 for a term ending 31 May 2021.

*Disney* was appointed a member of the Council of Economic Advisers to the UK Chancellor of the Exchequer 2018-2019.

*Dolton* received the ONS Peer Excellence Award in 2019 for his innovative use of data for the public good. He also received a special commendation for the Future Impact of his research paper 'Total Reward and Pension Evaluation by Occupation in the Public Sector'.

*Winters* was appointed a member and Research Committee Chair of the Council of the UK's Economic and Social Research Council (ESRC) 2015-18 and a member of the UKRI's Global Challenges Research Fund's Strategic Advisory Group, 2016-18 and the DIT's Trade and Economy Panel and Expert Trade Advisory Group on Trade and Development.

The department has made important contributions to the economic sciences and the professional community by hosting the prestigious RES annual conference twice over the REF2021 census period. The meetings were successfully held at the University of Sussex campus in 2016 and 2018. The department played a pivotal role in the successful organisation of the Programme Committee and the event overall.

Research on minimum wage by *Dickens* and his appointment as an independent member of the UK Low Pay Commission in 2014 continues to influence NMW and NLW policy in the UK (see *Dickens* Impact Case). His policy influence is backed by quality outputs in *Economica* and the *Journal of the Royal Statistical Society*. This has directly affected the wages of two to three million workers in the country. In addition, his research has informed the decision to introduce a NMW in South Africa.

Trade economists in the department and UKTPO led by *Winters* have made important contributions to the economy, society, and public policy. Contributions range from shaping attitudes, raising awareness and increasing understanding of trade policy issues. Research also guided and modified several UK government policy approaches, notably on Covid-19-related export restrictions, free ports and developing countries. Opposition policies on the need for a transition period and customs union have been directly influenced by UKTPO's research. Impact is evidenced by at least 25 parliamentary citations, notably on discussions related to the Trade Bill and customs arrangements (see *Winters* Impact Case).

*Gasiorek's* research on trade policy using TradeSift and TAPES software has made important contributions to policy effectiveness, capacity-building and the economy in Pakistan; India; Ukraine; ECOWAS; and the Scottish, Northern Irish and UK governments (see *Gasiorek* Impact Case).

*MacKerron's* research on happiness and wellbeing published in the *Economic Journal* in 2014 led to the development of *Mappiness* and *me@mybest* apps, which have contributed to the UK economy and society. The apps measure, analyse and intelligently provide tools to improve happiness, productivity, engagement, stress levels and corporate culture. The apps and associated research led by *MacKerron* have led to an increased understanding of wellbeing in public policy and enterprise. They have informed HR policy in the UK National Ecosystem Assessment, Arts Council England and the Airport Commission. A major commercial initiative, PSYT Ltd (founded by *MacKerron* and colleagues), emerged out of the two apps and related academic research. PSYT Ltd contributed to workplace wellbeing in six large commercial organisations including the Leeds Building Society and PwC. The other four commercial organisations operate within financial and construction sectors. PSYT Ltd raised over £1 million in investment and £500,000 in revenue. In the UK, PSYT has so far worked with 4,000 employees of the six large commercial organisations to identify ways to increase productivity.

*Dolton's* research on 'Pensions and Total Reward in the UK Public Sector' made the following contributions to the economy and society. The research involved proposing new methods of calculating the value of pay and pensions over a worker's lifetime and introducing the notion of Total Reward into the pension discourse. In subsequent ESRC and Office of Manpower Economics (OME) funded research, these methods were applied to appraise impact of the move from Final Salary (FS) to Career Average (CARE) pensions in the UK public sector. *Dolton* and co-authors calculated the precise financial impact of the FS to CARE move for each key public sector occupations. *Dolton's* contribution was recognised by the 'ONS Research Excellence Peer Award', which he received in 2019. He also received a 'Special Commendation' from the ONS for research impact in this area. The key research papers appeared in the journals *Labour*

*Economics and the National Institute Economic Review* in 2012 and 2016 respectively and an *OME Report* in 2019.

*Dolton and Pathania's* research on seven-day GP openings and its impact on A&E visits and ambulance calls contributed to the public policy debate on NHS reforms. Evaluating the UK government's pilot programme of seven-day GP openings, they found that the programme reduces weekend A&E visits by nearly 18% and ambulance calls by nearly 20%. It also delivers the best patient outcome, as GPs are far more experienced relative to A&E doctors who are typically junior. The study was published in the *Journal of Health Economics*. The findings were widely covered in the media including the *Daily Mail* and *Guardian*. It enriched the public policy debate between the then Health Secretary Jeremy Hunt and the BMA. The results supported the minister's plan to enable all patients to see their GPs seven days a week by 2020. The BMA, however, believed the plan to be unworkable due to funding cuts and chronic staff shortages.

*Hussain* contributed to the economy and society through his research on socio-economic implications of Ofsted policy. He is one of the very few UK economists to study Ofsted. He is also a member of the Ofsted Expert Panel on Inspection Methodology since 2015. In three separate studies published in the *Economic Journal*, *Economica* and the *Journal of Human Resources*, he established how the Ofsted inspection regime (especially its punitive elements) affects school performance, parent's school choice decisions and house prices. *Hussain's* membership of the Ofsted Expert Panel allows him to influence Ofsted policy in this area directly.

*Disney's* research on police funding reforms, legal fees reform, housing and pensions contributed to the UK economy and society. He served on several HMG review committees as an expert researcher on the abovementioned issues. In particular, *Disney* served as a member of Home Office's Senior Sector Review of Police Funding (2016-17); member of Lord Chief Justice's (LCJ) Fixed Cost Assessors Group examining legal fees under the chair of Lord Justice Jackson (2017). He also served as a member of the Council of Economic Advisers to the Chancellor of the Exchequer Phillip Hammond (February 2018 to August 2019) and informed HM Treasury policy particularly with regards to pensions and housing.

The contribution of the department's research on the economy and society is not limited to the UK. *Bhattacharyya's* research on the MGNREGA, agricultural wages, and infant mortality in India contributed to the economy and society in India. It shaped several chapters of the Ministry of Rural Development, Government of India report entitled "MGNREGA Sameeksha" and it was mentioned in the then Prime Minister of India Dr Manmohan Singh's parliamentary speech. It was also widely covered in the media including in the Hindu, Hindu Business Line, Indian Express and Business Standard. *Bhattacharyya's* research quantified the positive impact of the scheme on agricultural wages and demonstrated how the scheme could be used in boosting agricultural productivity through rural asset creation. The "Sameeksha" subsequently contributed to the development of the 2014 and 2016 MGNREGA Operational Guidelines. The Guidelines introduce a list of permissible projects in order to boost agricultural productivity. His research was published in the journals *World Development* and *Journal of Asian Economics* in 2009, 2011 and 2018.

Altmetric data on the department's research (restricted to 25.6 FTE Category A submitted staff only) over the REF2021 census period reveal 105 policy document mentions, 678 news mentions, 155 blog mentions, 4,511 social media (Twitter, Facebook, Reddit and Google+) mentions, and ten Wikipedia mentions across a wide range of countries. For example, the top ten countries with news mentions of the department's research are the United States, UK, India, Australia, Canada, France, Switzerland, Spain, Germany, and Russia. Figures 1a, b, and c present heat maps for the policy, news and social media mentions respectively. Note that the Altmetric data may not be exhaustive. Nevertheless, it offers useful information on the geographical reach of our research. It also offers indicative evidence that the department's research contributed to the economy and civil society of the countries concerned.

Figure 1a: Policy Document Mention Heat Map

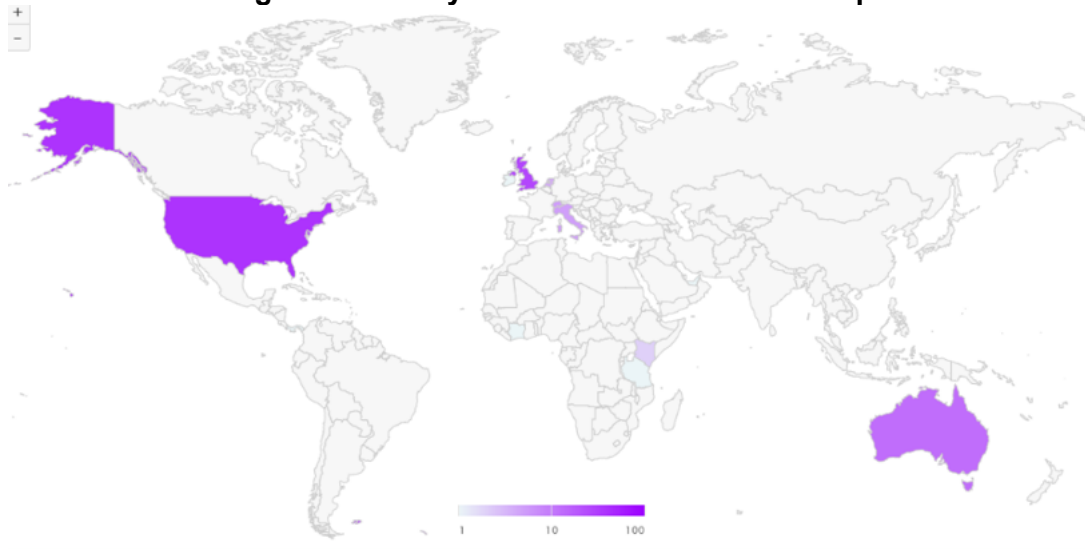


Figure 1b: News Mention Heat Map

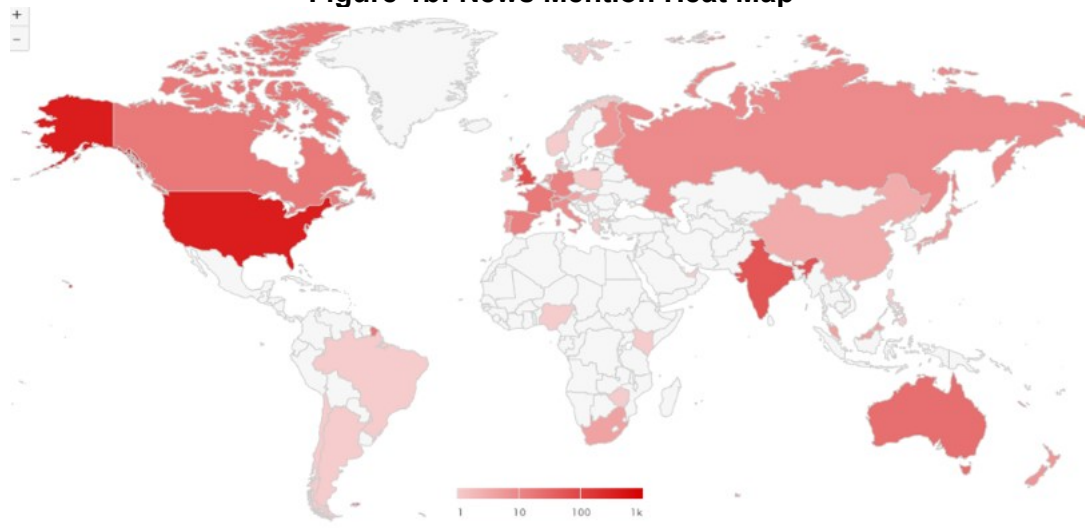
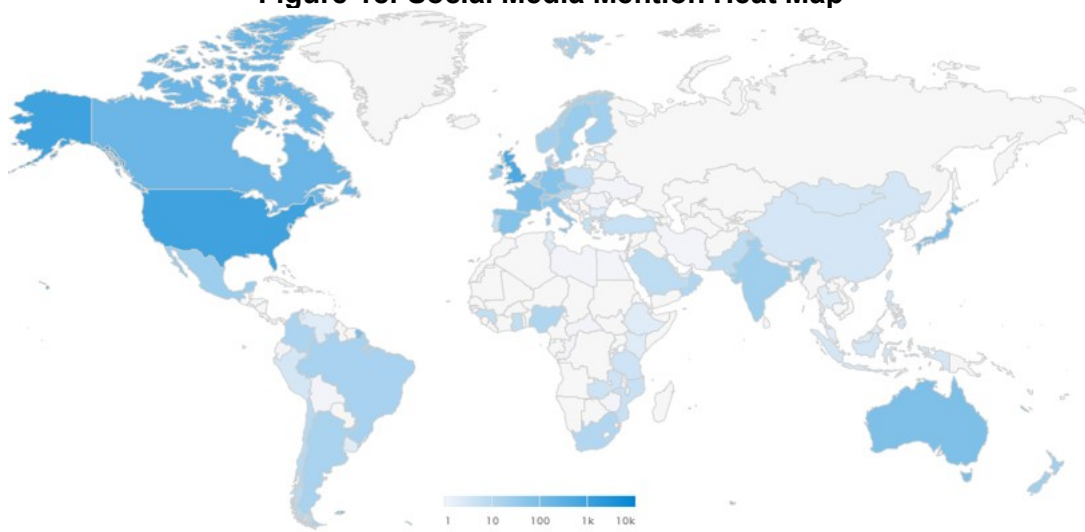


Figure 1c: Social Media Mention Heat Map



Source: Altmetric, 2020



**Concluding remarks**

The Department of Economics at Sussex has come a long way since REF2014. It underwent a remarkable transformation into a research-intensive department able to deliver high quality and high-impact research. In spite of the short-term challenges related to the pandemic, which are affecting the entire sector, the department expects to embark on expansion with a sense of purpose over the medium to long run. Notwithstanding the short-term financial challenges, Sussex is in a stronger financial position relative to its peers as is demonstrated by the IFS Briefing Note BN283 entitled [‘Drop in International Students would Imperil University Finances’](#) and the Parliamentary Briefing Paper 8893 entitled [‘Coronavirus: Implications for the Higher and Further Education Sectors in England’](#). Therefore, the department expects to receive strong backing from the university and the University of Sussex Business School for further expansion. We are confident that the continued momentum would place Sussex among one of the leading economics departments in the UK.