

<b>Institution:</b> University of East Anglia
<b>Unit of Assessment:</b> 17 (Business and Management Studies)
<p><b>1. Unit context and structure, research and impact strategy</b></p> <p><b>1. Strategy</b></p> <p><b>1.1 Mission, Goals and Achievements</b></p> <p>We contribute to the <b>three-fold mission of UEA</b> for excellence in research, teaching and civic impact (UEA achieved 17th place overall in REF2014 under Business and Management, top 200 globally in THES 2021 under Business and Management, and TEF Gold status). We aim to <b>enhance impact and world reputation</b> by increasing the reach, quality and volume of research across business and management disciplines, and related areas. We have made significant progress over the assessment period in achieving our strategic goals related to the <b>vitality (outputs, impact) and sustainability (capability, diversity) of the research environment</b>. We evaluate our performance annually using eleven key performance indicators (shown in Table 1) along with feedback from external reviews (e.g., Athena SWAN Award process, post-REF2014 strategy review in 2016) and from consultation with staff (e.g., via group meetings, School board, staff appraisals).</p> <p>Following on from the strategy for REF2014, we focused on <b>growing staff capability</b> (increase of 38.1% in Category A Eligible Staff headcount) while <b>advancing diversity</b> (e.g., approached gender balance in professors with 7 out of 15 being female; proportion of international staff increased to 74.1%) in Norwich Business School (NBS). We made significant improvements to <b>support for staff</b> (e.g., personal annual research budget increased by 40% to £3,500; NBS investment in research per capita increased by 28.5%) and for <b>doctoral students</b> (e.g., supervision time allocation increased by 25%; additional scholarships introduced worth £1.4M). As a result of the improvements we made, <b>volume of outputs</b> per staff member increased (18.26%) and <b>international recognition in terms of academic citations</b> per output have more than doubled (from 4.3 to 9.2) over the assessment period (UEA is ranked 39<sup>th</sup> globally in terms of citations for the subject area of Business and Management, THES 2021).</p> <p>We maintained our <b>established area of strategic strength in Business Regulation</b> through the UK's leading Centre of Competition Policy (CCP). CCP has forty-one faculty members from four UEA schools (producing 244 outputs since 2014), seventeen of which are from NBS (producing two impact case studies and 64 outputs). Since 2014, CCP brought in more than £1.6M of funding, with more than half of this generated by NBS staff through their involvement in funded projects worth £6.8M to UEA. We developed a <b>new area of strategic strength in Work and Wellbeing</b> with eighteen NBS staff members. Since 2014, they generated two impact case studies, 225 publications and were involved in funded projects worth £4.7M to UEA. Since 2015, they have led</p>

the £3.5M ESRC-funded Research Centre Evidence Programme for the What Works Centre for Wellbeing. We are playing **a leading role internationally** in these two areas of strategic strength through the contributions of staff in multinational funded projects, cross-country impact and the wider academic discipline.

**Table 1.** Research Environment Dashboard

Goal	Objective	Section	Key Performance Indicator (KPI)	REF2014	REF2021	%
VITALITY	Outputs	1	Outputs per year/capita*	1.15	1.36	18.26
			Interdisciplinary outputs (% total)*	47.6	55.1	15.8
	Impact	1, 4	Academic citations per output*	4.3	9.2	114.0
			NBS citations in news (Nexis)	243	533	119.3
			International conferences organised	6	10	66.7
SUSTAINABILITY	Capability	2, 3	Category A Eligible Staff	42	58	38.1
			PhDs awarded	23.4	49	109.4
			External Research Support (£M)**	1.8	4.6	155.6
			Staff Personal Research Budget (£)	2,500	3,500	40
	Diversity	2	Proportion Female Professors (%)***	41.7	46.7	12.0
			Proportion international staff (%)***	64.3	74.1	15.2

Related to 6-year periods: REF2014 (2008-2013) and REF2021 (2014-2019).

\* Output and citation data are drawn from the Scopus database. We count the number of citations for outputs published with an NBS affiliation only within each 6-year period. Interdisciplinarity of outputs is measured by the proportion of outputs that combine the subject area "Business, Management, and Accounting", or, "Economics, Econometrics and Finance", with another subject area.

\*\* Refers to research funding allocated to NBS.

\*\*\* The ratio of female/male Professors increased in NBS from 5/11.4 to 7/15 FTE. HESA data from the Advance HE Equality in higher education statistical report (2020), suggests that over 2018/2019 in the business and management subject studies area the proportion of female professors was 24.5%, while the proportion of International (non-UK) academic staff was 37.2%, respectively.

Staff published over half of their outputs in publications with a subject classification (by Scopus) that included Business and Management ("Business, Management, and Accounting", or, "Economics, Econometrics and Finance") in addition to other disciplines (for example, engineering, computer science, environmental sciences, energy, humanities). This is an increase of 15.8% compared to the previous period, thus contributing to a broader **interdisciplinary understanding**. We promote interdisciplinary research in our areas of strategic strength through two structures. The **Centre of Competition Policy (CCP)** established in 2001, is an interdisciplinary UEA research centre focused on business regulation, competition and consumer policy. It spans business, economics, law and political science. CCP brings together the expertise of researchers with external academics, professionals, industry partners and regulators. It supports impact across the social sciences, including two of the impact cases in this Unit. An example of work in this area is the £490,000 EPSRC/UKERC funded multidisciplinary research project in 2016 led by NBS Emeritus Professor Waddams that examined equity and justice in the

UK retail energy markets. The **Work and Wellbeing group** in NBS provides a platform for interdisciplinary research and knowledge exchange with policy and professional users at a national and international level. Much of this took place through the ESRC Work, Learning & Wellbeing Evidence Programme. NBS Professor Daniels led this from 2014-2021 as one of the foundational research programmes of the What Works Centre for Wellbeing. The Programme examines evidence across a range of subjects, including, psychology, sociology, economics, education, politics and health sciences. It works with stakeholders to develop evidence for policy makers and user groups on practical interventions, tools and processes that protect and enhance the wellbeing of workers, adult learners, and those seeking work.

We also support interdisciplinary research in other areas that build on strengths within NBS and wider strengths of UEA within funded projects and impact activity. A notable example is the €13.7M TILOS Horizon 2020 project. This is a collaboration between thirteen participating enterprises and institutes from seven European countries from 2015 to 2019 that blends engineering with social and environmental sciences to develop an innovative energy-storage system for an island in Greece. In addition to the principal investigator NBS Professor Chalvatzis, this involved ten NBS faculty members (four Professors, three Lecturers and three RAs) from disciplines that included energy, regulation, finance, accounting, innovation management and wellbeing. In the €8M ERDF funded Intelligent Community Energy project, an NBS team led by Chalvatzis collaborates with regional innovation authorities and engineering academic partners across the UK and France. The aim is to advance user engagement with sustainable energy technologies. The “Who Buys My Food” project, led by NBS Professor Fearne, is an action research project in its sixteenth year which has received funding from ESRC, BBRC and Invest NI. This brings together NBS faculty in supply chain, retail, regulation, marketing and accounting. Finally, the Ethics Forum is an interdisciplinary group running since 2015 that supports ethics-related research across UEA through a seminar series hosted and funded by NBS.

We enhanced **support for national and international impact of research** over the assessment period. Following an internal competitive process, we provided new impact related funding of over £360,000 from UEA (through ESRC IAA and HEIF) over the assessment period. Since 2016, sixteen staff members applied and received additional support in the form of 0.5 days per week for undertaking impact activity. This amounted to over 700 staff days over the assessment period worth £542,824 (in terms of Full Economic Cost). The five impact case studies in this submission all benefitted from this support. Impact is coordinated by two members of staff that act as Impact Champions (who receive 3% FTE each for this role since 2014). They facilitate communication, raise awareness on funding, organise training and oversee impact case writing workshops. Two of the impact cases in this submission have primarily international impact (Ormosi in the area of Business Regulation; Connolly in the area of Work and Wellbeing), two have national impact (Waddams in the area of Business Regulation; Daniels in the area of Work and Wellbeing) and

one has national and regional impact (led by Fearne in the area of Transformative Food Systems). Our support for impactful research beyond the REF benefits the economy and society, supports staff development and ensures the sustainability of impact activity in the future across all subject areas. For example, the research by NBS Professor Pataconi, in collaboration with faculty from Fuqua School of Business at Duke University, is having significant international impact in the area of science and innovation (this has received wide media attention and has been ranked 48<sup>th</sup> in the world in terms of Social Impact by the Financial Times, 2/2020).

Impact has benefited from the additional support we offered for **dissemination of research**. We provided all staff a 5% time allocation since 2016 that can be used for engaging with external stakeholders to disseminate research and develop impact. We improved communication through the publication of “Shine and Rise”, an annual review magazine that highlights research and other achievements of NBS staff. We published this annually since 2017 with a total cost of £67,000. We distributed the magazine in electronic form and as a hardcopy (2,500 copies per annual issue) to staff and external stakeholders (including 840 businesses, 35 MPs and MEPs, and 160 local schools). In 2014, we introduced the role of Media Coordinator to support research dissemination. The coordinator liaises with staff and the UEA Press Office once a paper is accepted for publication to produce and promote a press release. As a result, mentions of NBS in the media more than doubled over the assessment period with a significant element of international exposure.

Internally, we organise monthly school-wide **research seminars** for staff and PhD students. This further promotes interdisciplinarity. Presenters are high profile researchers from the UK and other European universities with a strong track record in publishing, often holding senior editorial positions. They typically discuss research with staff before the seminar in individual meetings and meet socially after. Shorter sessions are often organised specifically for PhD students and junior staff on publication strategies and techniques or on methodology. Along with the established CCP Annual international conference that has run since 2005, we supported four new **international conferences** that were co-organised by NBS staff since 2014: the Lisbon Accounting Conference (Professor Marques, 2019) and three deliveries of the International Symposium in Finance (Professor Markellos, Greece/2018, Greece/2019, online/2020). We provide financial and in-kind administration support to these new conferences.

## 1.2 Moving Forward

We will focus the strategy over the next five years less on expansion and more on consolidation and leveraging strengths of the Norwich Business School and the University. We will invest more resources in developing our **research areas of strategic strength**. For example, we supported Business Regulation since 2005 through staffing along with funding for an administrator and RA

in CCP. Since 2020, we have supported activities in the area of Work and Wellbeing through a 0.6 FTE research fellow and a 0.4 FTE research administrator. We will also support **two research areas of emerging strength** where there is growing interdisciplinary activity and significant achievements: **Sustainable Energy** (led by Chalvatzis) and **Transformative Food Systems** (led by Fearne). We will continue to invest in these areas through RA staffing on the basis of funded projects, impact support and investment in databases (e.g., the dunnhumby database of retail food preferences). We will focus our efforts on putting together funding bids in these areas that bring together staff from different disciplines within the school, especially in relation to our areas of strength.

We will **build stronger links outside the School**, as development in these areas builds on broader research strengths across UEA around climate and food research. For example, we supported the appointment of Chalvatzis by UEA in 2019 to lead on **ClimateUEA** and coordinate the activities across the Norwich Research Park (NRP). The first of a planned portfolio of major interdisciplinary research themes set by UEA with key local, national and global impacts. NBS staff are already actively participating in ClimateUEA activities including defining cross-campus research agendas and preparing multi-disciplinary research bids. Within the PGR programme, Chalvatzis is the Co-investigator in the UEA-wide £1.35M Leverhulme Doctoral Scholars programme (Critical Decade for Climate Change) that will fund fifteen PhD scholarships (with UEA funding a further five) starting from October 2021. The students will identify the drivers of environmental change and form a new generation of thought leaders for societal action against climate change. We will support research in Transformative Food Systems around the **Norwich Institute for Healthy Aging (NIHA)**. This is a multi-agency partnership across UEA that develops and implements effective strategies to promote sustained population behaviour change, in order to improve physical and mental wellbeing. It is particularly relevant to our researchers around food but also extends to well-being. NBS Professor Dobson is part of the NIHA Executive Group and is collaborating with other staff members in the school (Daniels, Fitzhugh, Fearne) and across the university in preparing research bids.

### 1.3 Research Structure

Research in the school is organised within **groups across five areas** (the first two are areas of strategic strength):

- i. Business Regulation
- ii. Work and Wellbeing
- iii. Strategy, Entrepreneurship and Marketing
- iv. Accounting and Finance
- v. Innovation, Technology and Operations



Groups provide valuable communities for social and academic interaction along with opportunities for personal development. To promote interdisciplinarity, we encourage staff to participate formally or informally in the activities of several groups. Groups communicate their activities using electronic newsletters. Group research seminars invite internal and external speakers to discuss their latest research findings. Regular group meetings provide an opportunity to exchange ideas and inform on achievements and research plans. Groups also provide informal internal peer review for developing papers, revisions and grant applications. Each year groups allocate seed-corn funds for pilot research projects. Evaluation criteria are weighted towards income generation, impact, publications and involvement of early career researchers in the proposed project. Groups support the development of PhD students by cultivating a friendly and welcoming environment. They are invited to attend group meetings and present their work at group seminars (up to 50% of seminars are delivered by research students). The School has an annual budget of £35,000 to cover costs for group seminars and seed-corn funding.

The configuration and membership of the five research areas (as of July 2020), with some examples of the research undertaken, are as follows:

#### i. **Business Regulation**

There are nine research staff members working within this area (Category A eligible staff: Bowen, Burlinson, Cuomo, Dobson, Fairbrass, Lam, Ormosi, Vasilakos; SRA funded by NBS: Deller). There is a strong focus on impact in the group and providing practical, research-informed, answers to policy questions around regulation, competition and business responsibility. Most of the impact activities occur via CCP (discussed in section 3) with the support of three key group members: Professor Ennis and Professor Fletcher (non-category A eligible NBS staff with a focus on impact and funding) along with Emeritus Professor Waddams (retired from NBS in 2018 but remaining an active member of the CCP community, playing a vital mentoring role). Two impact cases for REF2021 are led by group members (Ormosi, Waddams). CCP has a central role with the group providing in effect a core constituency. Research on Business regulation is supported by CCP members from other areas in NBS (Chalvatzis, Klusak, Korfiatis, Markellos, Tian).

Research by Professor Bowen analyses the drivers and consequences of **symbolic corporate environmentalism**. This has been funded by three multi-year research grants totalling £500,000 awarded by the Social Sciences and Humanities Research Council of Canada (SSHRC) and the Canadian federal government. Her Cambridge University Press monograph (2014) and publication in Strategic Management Journal (2018) have become a standard reference within corporate environmental strategy, primarily for their original integration of both traditional and critical perspectives on greenwashing. The monograph's scope and impact has been recognised

internationally by the award of runner up for Best Book Award in two Divisions of the (US) Academy of Management (ONE in 2015 and SIM in 2016).

Research by Professor Dobson examines **retail pricing behaviour** by food and alcohol vendors (supported by projects funded from ESRC and MRC) and how this may be used to steer consumers into overbuying. His Journal of Monetary Economics (2015) paper tests for obfuscation in price setting by the UK's leading retailers to show that large numbers of small price falls were used to disguise large basket price rises. This research links to problems on overeating and waste with significant social and economic implications. Through extensive media coverage and oral evidence to UK parliament, the research by Dobson has informed and influenced the public policy debate for government-led public health measures that encourage vendors and grocery retailers to price responsibly with an evidence base for sugar taxes and alcohol minimum unit pricing.

## ii. Work and Wellbeing

There are eighteen members of research staff within this area, doubling in size since 2014 (Category A eligible staff: Baric, Connolly, Daniels, Fida, Game, Martinaitye, Michaelides, Nayani, Vergel, Skovgaard-Smith, Tregaskis, Unger, Watson; RAs/SRAs funded by the ESRC and other externally sources: Fitzhugh, Graham, Patey, Thushel, Woodard) and fifteen PhD students.

Professor Daniels has led as PI two major research projects over the assessment period: the ESRC funded 'Work, Learning and Well-being Evidence Programme' (2015-21), and 'Practices and Combinations of practices for wellbeing and productivity' (2019-2021). The former brought together twenty collaborators from five departments at UEA, four separate universities, and the What Works Centres for Wellbeing (WWCW) and for Children's Social Care. The latter involves a collaboration with the policy research institution RAND Europe. Systematic review, analyses of large-scale data sets and longitudinal case studies, has provided a robust evidence base for policy change. Daniels worked with WWCW to develop a wellbeing assessment tool which embeds a wider set of indicators of employment practices than were previously included in traditional risk assessment approaches.

Professor Vergel, who joined NBS as a Lecturer in 2013 and was promoted to Professor in 2017, uses innovative diary designs, measuring the experiences of dual-earner couples as well as dyads of colleagues over a working week or over several weeks. Her research examines the interplay between the work and the home domain in order to increase the wellbeing of employees and their families. Her work has received extensive media coverage, particularly around how family problems and work conflicts lead to stress and confrontation, and the psychological effects of the COVID lockdown.

Research by Professor Tregaskis examines the dynamics of learning and skills systems and how these influence individual wellbeing and organisational outcomes. Working within large interdisciplinary, inter-faculty and cross-institution research teams (attracting in excess of £7M from ESRC, SSHRC and the EU), her work provides core insight on organisational actors as system architects and implementers. Her work tackles applied problems including how UK multinationals redesign their people capabilities to compete as global leaders (ESRC funded Globalizing Actors Project), how organisations design for productive and happy workplaces (ESRC Wellbeing Practices Project), and how organisations are building environmental mindsets (CAST – ESRC Research Centre for Climate and Social Transformations). Beyond academic publications, this research has collectively led to the creation of open access practice tools and publications designed for policy groups, organisations and individuals published through the WWCW, the CRIMT International Partnership on Institutional Experimentation for Better Work. This brings together an international network of 150 researchers and 20 leading-edge partner centres in 12 countries specialized on issues of work and employment.

### iii. Strategy, Entrepreneurship and Marketing

There are fifteen Category A eligible staff working within two groups in this area: Strategy and entrepreneurship (Bika, Botelho, Filippaios, Karakas, Pandit, Patacconi, Xia, Wang), and Marketing (Aroean, Assadinia, Meunier-Fitzhugh, Yip, Tian, Usrey, Zeriti).

Professor Patacconi, who joined NBS as a Lecturer in 2013 and was promoted to Professor in 2017, focuses on **corporate governance and science and innovation**. He explores innovation ecosystems and corporate decision-making through recent publications in Management Science (2020), Harvard Business Review (2019), Nature (2017, 2019) and Strategic Management Journal (2016, 2018, 2019). The Financial Times (24 February 2020) listed his Strategic Management Journal publication (2018) among the most significant global 100 “Business School Research with Social Impact” during the period 2015-2020. The Economist, the New York Times, the Washington Post, the Financial Times and Fortune magazine have also featured his research. His work has attracted interest by policy makers, including U.S. Senator Chris Coons, Co-chair, Senate Competitiveness Caucus (Washington, June 6, 2017).

Research led by Associate Professor Bika explores **rural and family entrepreneurship along with social innovation** (funded by the ESRC and a five-year £10.3M Interreg programme involving eleven partners in France and the UK). Her interdisciplinary study published in Human Relations (2020) shows how family-like behaviours motivated by shared ethics and affects influence family business in Scotland. Two other related research papers have won respectively the ‘Best Family Business Paper Award’ at the 2018 US Academy of Management Meeting and the 2020 US Family Firm Institute ‘Best Unpublished Research Paper Award’. Her social



innovation work has been submitted as written evidence to a UK Parliamentary Group Inquiry, has won the 2020 UEA Engagement Award, and was nominated for the 2020 UEA Innovation and Impact Award.

#### iv. Accounting and Finance

This area consists of eleven Category A eligible staff working in two groups: Finance (Klusak, Kourtis, Markellos, Scherrer, Stancu, Tsvetanov, Uymaz, Yang) and Accounting (Guyen-Uslu, Marques, Santana).

**Empirical asset pricing and methodology** are areas of particular strength in the Finance group. Research by Associate Professor Tsvetanov in *Journal of Financial and Quantitative Analysis* (2019) identifies the best performing stock pricing models with important implications for investment valuation and management. Associate Professor Stancu shows in *Journal of Financial and Quantitative Analysis* (2019) how investors can extract information by the options market in a novel way in order to predict stock market returns. Research co-authored by Associate Professor Kourtis and Professor Markellos in *Journal of Banking and Finance* (2018) exhibits for the first time which is the best covariance forecasting model for portfolio management. Another area of strength is **corporate governance and disclosure**, led by Professor Marques and Professorial Fellow Mallin (retired from NBS in 2015) through their publications and editorial appointments. Of particular importance is the 6<sup>th</sup> edition of the Oxford University Press (2018) by Mallin on *Corporate Governance*. This provides an extended coverage of CSR, culture, board diversity and executive remuneration, including organizations' new responsibilities and directions for change.

Marques co-organizes the **Lisbon Accounting Conference** (a partnership between Nova SBE and Catolica) since 2015. This brings together leading accounting researchers in an informal setting for a one-day conference of high-quality academic papers in financial accounting. Presenters in 2019 included Mary Barth (Stanford), Luzi Hail (Wharton) and Rodrigo Verdi (MIT). Markellos founded and co-organised the **International Symposium in Finance (ISF)** since 2017 in partnership with several academic institutions (including NBS with total funding of £5,000 p.a.) and sponsors (including the Bank of Greece). This has involved several prestigious keynote and plenary speakers (including Bart Lambrecht, Xi Li, Ian Tonks, Geoffrey Wood, Anna Pavlova, Kathy Yuan, Dimitri Vayanos, Emre Ozdenoren, Kevin Aretz, Marie Dutordoir) and nearly 300 delegates in total. Markellos has co-organised professional development workshops and tracks within the British Academy of Management (BAM) conference since 2018 (35 papers presented at the BAM2020 conference). He led as co-chair the development within BAM of a new Financial Management Special Interest Group (SIG) in 2021 as an interdisciplinary meeting platform for finance and management scholars (30 academics across the UK have already committed to this).

**v. Innovation, Technology and Operations**

There are thirteen research staff members working within one group in this area (Category A eligible: Bhattacharya, Chalvatzis, Fearn, Harrington, Karatzas, Korfiatis, Lettice, McKenna, Zisis, Gao; RAs/SRAs: Ioannidis, Stephanides, Tsitsiou). Much of the work involves action research around funded projects in Sustainable Energy and Transformative Food Systems. This is highly interdisciplinary and involves researchers across the school and university. Other research in the group looks at Digital Technologies, Data Analytics, Social Media and Digital Transformation. Research uses both qualitative and quantitative methods, but draws in particular on specific expertise in business analytics and a variety of modelling and data driven decision support and optimisation techniques. A range of sectors are addressed, but there is a particular focus on food systems, pharmaceuticals, digital tourism and the experience economy.

As Professor of **Sustainable Energy** Business, Chalvatzis focuses on energy policy, energy supply security and innovation in the energy sector including smart grid and storage. He completed his PhD at UEA and then joined NBS as a Lecturer in 2010, promoted to Professor in 2017. He has been involved in projects that have received funding of €27M from sources that include EU Commission, Newton Fund and British Council. The recently completed TILOS project won two awards in the EU Commission Sustainable Energy Week 2017: the prestigious EU Energy Island Award and the Citizens' Award. His industrial engagement and research involves organisations such as OECD, FIAMM, SMA, Systems Sunlight, Schleswig-Holstein Netz, SAFT, OpenEnergi, AEG, Wipro and Younicos. He also advises civil society organisations such as WWF and BananaLink.

Fearn leads multi-disciplinary and cross-functional research on **Transformative Food Systems** across all stages of the supply chain. His main areas of research are consumer behaviour, inter-organisational relationships and value chain analysis. He is the founding editor of the International Journal of Supply Chain Management. Over the past sixteen years he has conducted research mining the most comprehensive supermarket panel data in the world in collaboration with Dunnhumby and Tesco. As part of the "Who Buys My Food" project, insights from analysing this data are shared with farmers and small food producers to support the development of sustainable business models and marketing strategies. This forms the basis of one of the impact cases submitted to REF2021.

**2. People**

We are committed to helping staff achieve their full research potential. We foster a research environment that supports wellbeing and enables career progression through merit-based recognition of the achievements of individuals. We provide a number of support mechanisms that include:

- **Personal Research Funding:** We increased by 40% in 2015 the annual research funding provision available to each staff member from £2,500 to £3,500. Following requests by staff, we also made this funding more flexible so it can be used, for example, to attend conferences (without necessarily presenting), travel to meet collaborators, undertake research training, purchase data and obtain RA support. We can provide additional research funding and support if required through applications to the Head of School. For example, Pataconni has received additional support on three occasions to travel to the US and meet research collaborators for periods of up to four months.
- **Research Time Allocation:** We provide research staff with a 40% time allocation for research. We manage this through the School Work Allocation Model, which records the use of time across research, teaching, administration and other activities. We provide an additional 5% time allocation since 2016 for engaging with external stakeholders for the purpose of research dissemination and impact. We provide new staff under probation an extra time allowance of 18.5% in their first year and 6% for the following four years. In late 2020, we had fourteen probationers that received this support, with three of them in their first year of service. Staff can also use external funding to expand the time allocation for research through buy-out. Research buy-outs, impact and PhD supervision are included as separate headings in the workload allocation, in addition to 40% for research. We ensure that teaching is concentrated around two semesters within the academic year, so that staff have at least one semester to focus on research.
- **Study Leave:** We offer the opportunity to research staff to apply for study leave every third semester of service. Seventeen NBS staff members took study leave since 2014, over which they submitted 34 outputs for publication, published 18 outputs and submitted bids worth over £3.5M. Staff also used the time to work on impact and conduct research visits and collaborations. For example, the work by Connolly and Daniels during their study leave significantly progressed their impact case studies in terms of dissemination of research and engagement with stakeholders.
- **Office and IT facilities:** We provide a single occupancy office with computer facilities and a suite of research and other software covered by a UEA-wide licence. Offices are located in one of the two buildings occupied by NBS on the UEA campus. Staff surveys indicate that this is considered a valuable resource. Staff can request a computer with higher performance and specialised software, if this is required for their research. Examples of such software includes Eviews, Qualtrics and MPlus. We can provide access to High Performance Computing through the UEA ADA Unix platform along with relevant training. Research staff and doctoral students in the area of finance routinely use this facility for simulations, data intensive econometric estimations and text analytics.

We are flexible in the support we offer to researchers and **adapt to changing circumstances**. For example, during the COVID19 pandemic, we retained the minimum allocation of 40% time for research along with additional time allocations in relation to funded projects, PhD supervision and impact. We accommodated requests by international staff to work remotely outside the country to provide support to their families. Personal research funding was reduced, as travel for conferences was not possible. We continued financial support by considering individual requests, with examples including data acquisition, editorial support and journal submission fees. We encouraged staff to attend online conferences to promote visibility. We continued to support conferences organised by NBS staff that moved online (such as the CCP conference, International Symposium in Finance, PGR Colloquium) along with School and group seminars. We supported staff in getting IT equipment and furniture from their office for use in their working environment at home. Although offices remained closed over some periods of time, we provided special permission so that researchers could use their office if access to specialised resources was necessary (e.g. computing and databases), or if working from home was not possible. With respect to Brexit, beyond specialised advice and support to staff, we covered the financial cost for settled status of research staff in three cases.

## 2.1 Staffing Strategy

We have followed a growth strategy since 2014 that aims at developing a sustainable research capability and ensuring diversity through recruitment and promotion. Through our supportive research environment and people strategies, we have increased staff in a very competitive labour market. Specifically, we grew by 38.1% from 42 to 58 members of Category A eligible staff (41.4 FTE to 57.8 FTE). We have carefully managed this expansion so that it was coupled by improvements in terms of output quantity, quality, impact and external research income over the assessment period. Over this period, student to staff ratios (SSR) decreased by 6.3% from 17.92 (2013/14) to 16.79 (2019/20).

Through recruitment and promotion, we increased the number of Associate Professors, which doubled from 12 to 24 (increase in proportions from 28.6% to 41.4% of total staff). This provides a sustainable feeder into professorial appointments in the future to expand current numbers and/or replace those that leave or retire. At the time of REF2014, we had a relatively high proportion of early career researchers relative to more senior staff, which stretched the resources for mentoring support and PhD supervision. The situation has improved over the assessment period with the proportion of Assistant Professors decreasing from 43.5% to 32.8%. We use a mix of recruitment methods, including professional academic employment agencies and internal search committees comprised by senior NBS academics. We mostly attract good fields of applicants from standard advertising.

## 2.2 Staff Development

We consider organic growth through staff development as a key aspect of our sustainable growth strategy. The main structures for staff development are the following:

- **Induction:** We begin support for development even before new joiners arrive on campus. The induction process includes meetings with key School members about UEA/NBS goals, work processes and support, including staff development. With the increase of staff arriving at NBS from abroad, feedback indicated that information about local amenities was especially valued, and is now included as standard. Evidence from staff surveys suggests that new recruits highly value our approach to induction.
- **Appraisal:** We support career planning and professional development through the annual appraisal process. Staff Appraisal training is mandatory for appraisers and recommended for appraisees. Following a review of the process, since 2017, we provide a checklist for appraisers to ensure that all key points are covered. We also started providing a summary of school performance expectations to appraisers. 86% of respondents in a recent staff survey reported that their last appraisal was useful.
- **Mentoring:** We offer mentoring to all new research staff and probationers. Since 2016, following feedback from staff, upon request we have provided senior staff mentoring. Going forward, we will be developing formal mentoring for mid-career staff, especially to support more women to apply for promotion to senior positions.
- **Research Activity Plan (RAP).** The Director of Research and Head of School use the RAP to review research performance. This is a developmental rather than a performance management tool as the focus is on providing advice and identifying how to best support staff. Each year, staff complete plans for publications, funding and impact. Research achievements (drawn from the PURE database) and RAPs are evaluated to provide staff with feedback.
- **Training:** We encourage all staff to undertake at least 2 days personal/professional development per year. Needs and resources are often identified through the appraisal, mentoring or RAP processes. The Centre for Staff and Educational Development (CSED) provides a wide range of training programmes within UEA. Staff can use their personal research funding of £3,500 to undertake external training in areas that are not covered by CSED. We also organise bespoke training as needs are identified. For example, following requests by several staff members, we organised a voice coaching course to improve communication skills and training on statistical packages such as Stata and MPlus. We will cover the costs for training and development of staff assuming or considering senior leadership positions. Recent examples, include Away Days organised by BAM and AMBA, and the Deans Directors Development Programme (3DP). We have supported at least three women through the Aurora leadership programme organised by Advance HE, following which one became a

Member of UEA Council. In 2016, we introduced an annual Staff Development Day for all academic staff dedicated to training and policy updates.

### 2.3 PGR Student Training and Supervision

We recognise that sustainability of the research environment, school reputation and impact on the wider academic community, depend on the ability to attract and develop the next generation of researchers. We met our PGR strategy objectives of increasing the scale, financial support and diversity of the programme, while improving outcomes in terms of student satisfaction and employability. In terms of inputs, we have strong demand with around 200 applications received per year. We keep acceptance rates low to avoid compromising quality and over-stretching resources. We followed a managed growth strategy since 2013/14 that has increased the full-time student headcount by 119.4% by 2019/20 (79 students). On a per capita increase, the number of PhD students grew by 58.1% from 0.86 to 1.36 per Category A Eligible staff member. We also improved the diversity of the programme as the proportion of International to Home/EU students increased over the assessment period (from 55.1% to 66.3%). Finally, we realised a large increase in the number of overseas government-funded students (from 3 to 21).

**Table 2.** PhD and Professional Doctorate (PD) Awards in NBS

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	Total
<b>PhD</b>	4	10	4	8	8	6	9	49
<b>PD</b>	0	0	0	0	0	0	0	0
<b>Total</b>	4	10	4	8	8	6	9	49

The 2019 UEA Postgraduate Research Experience Survey (PRES) results show an overall satisfaction level in Business and Management Studies that exceeds the average for the sector. We improved completion rates and graduating students have made significant achievements (PRES results on “Confidence to complete within expected timescale” for sector/UEA: 81/89). As noted in Tables 1 and 2, PhD degrees awarded increased significantly to 49 from 23 in the previous assessment period. We do not accommodate professional doctorates in the school, so there are no such awards. Recent graduates from the PGR Programme have published in prestigious journals such as Corporate Governance: An International Review, Economics Letters, European Journal of Finance, European Journal of Operations Research, Harvard Business Review, Human Relations, Human Resource Management, International Journal of Forecasting, International Journal of Human Resource Management, Quantitative Finance, Journal of Banking and Finance, Journal of Management, Journal of Occupational Health Psychology, Journal of Production and Operation Management, and Tourism Management. The doctoral programme has had success in terms of employability (PRES results on “Professional Development” for sector/UEA were 81/89). Recent graduates secured academic posts in, Banking Academy of



Vietnam, Bemidji State University/US, Brunel University, Cardiff University, Royal Guard of Oman Pension Fund, University of Cambridge, UEA, University of Edinburgh (2 students), University of Exeter, University of Leeds (2 students), University of Sussex and University of Swansea (2 students). Three of our doctoral graduates have been employed by UEA (currently holding positions of Professor, Assistant Professor and RA, respectively). The support mechanisms we offer to the doctoral programme include:

- **Graduate Training Assistantship (GTA) Programme:** In 2016, we established the GTA as a way to attract high quality PhD students through an attractive package of financial (fees and stipend) and professional (teacher training and experience) support. As a result, there has been a more than threefold increase in the number of UEA-funded students in the School from 8 in 2013/14 to 28 in 2019/20. The first students are currently graduating from the programme, with two already employed under RA contracts (UEA and University of Cambridge).
- **Scholarships from funded projects.** We encourage staff to make provisions in funding bids for PhD scholarships. For example, the ESRC CAST project generated investment in two PhD scholarships, one funded by NBS and one funded by the Faculty of Social Sciences. The Work and Wellbeing ESRC funded research, generated three PhD scholarships.
- **Supervision:** Since 2015 the annual time allocation for PhD supervisors has been 100 hours per year for each student (an increase of 25%). All research students are supervised by at least two staff members. A third supervisor is often added as a means of making the team more diverse or allowing opportunities for early career staff to gain supervising experience. We require that supervisors complete supervisory training provided by the Graduate School every three years.
- **Doctoral facilities:** Since 2014, we have developed two bespoke PGR rooms in the two main NBS buildings with 29 hotdesking working stations/computers in total. We also provide an additional open plan hotdesking area in the NBS building with 30 stations that are available for PGR students. Printers and refreshment facilities are available as well as secure storage and lockers. These facilities are accessible at all hours and additionally our students have access to the PGR area in the library, which is open 24/7 and 365 days a year.
- **ESRC SeNSS Doctoral Training Partnership:** We are a member of the ESRC-sponsored South East Network of Social Sciences (SeNSS) doctoral training partnership. This is a consortium of 10 leading UK universities funded by the ESRC since 2016 as a Doctoral Training Partnership (the largest one of the 14 DTPs in the UK). NBS Professor Filippaios is Deputy Director of SeNSS with responsibility for Training, Employability and Development of doctoral students, while NBS Professor Bowen is Chair of the Strategy Board. We participate in the Business and Management Studies pathway offered by SeNSS. This offers world-class opportunities for social science research, training and collaboration. Fully funded doctoral studentships, post-doctoral fellowships and placements are available. It also provides

opportunities for a wide range of subject-specific, generic and advanced training tailored to individual needs, as well as opportunities for overseas visits and fieldwork. It has a strong focus on the interdisciplinarity, in particular via joint supervision and research methods training.

- **Doctoral Colloquium:** Since 2001, we have supported an annual colloquium where PhD students organise a multi-disciplinary academic event, are exposed to research from other disciplines, present their work and receive feedback from their peers and staff. External collaboration and speakers are included on the programme as well as input from local businesses and charities.
- **Training:** Following a needs analysis, supervisors and students design their training programme which includes bespoke sessions organised by the group or school. Regular training sessions exist at the faculty and university level, while students have access to training from CSED. Students have a budget of £1,500, which they can use for their personal development through external training and attending and presenting at conferences.

## 2.4 Equality and Diversity

We recognise **equality, diversity and inclusion** as a source of competitive strength for our research environment. We have made significant improvement in this area over the assessment period as a result of systematic work led by the Equality and Diversity Director. We are proud of our efforts towards becoming one of the most diverse business schools in the UK. Whilst the proportion of female research staff has remained similar to 2014, with 4 females per 10 staff in 2020, NBS has achieved gender balance in the professors, a key metric of diversity, increasing the proportion from 41.7 in REF2014 to 46.7% in REF2021. As shown in Table 1, our proportion of female professors is significantly higher than the 24.5% average in the business and management subject area (Advance HE Equality in higher education statistical report, 2020). We have also achieved better international diversity with over seven out of ten staff being international (REF2014: 64.3%, REF2021: 74.1%). The number of FT PGR female students has also grown over the assessment period.

**Diversity extends to senior leadership roles**, with NBS Professor Lettice as UEA Pro-Vice Chancellor for Research and Innovation, and NBS Professor Bowen as Pro-Vice Chancellor for Social Sciences. Diversity extends to initiatives that the school is involved in. For example, the International Symposium in Finance (ISF) organised since 2018 by Markellos has a strong diversity agenda. This has been developed with the support of several leading scholars, including Professor Renée Adams who co-founded AFFECT, the American Finance Association's 'Academic Female Finance Committee'. As part of this agenda, ISF retains a gender balance in the keynote speakers and scientific committee. Also, it has a family friendly policy, where delegates are encouraged to bring young families with them in order to support the participation

of parents. A number of activities and support mechanisms are organised for young children during the symposium and children are allowed in rooms during presentations.

In 2018, we achieved the **Athena SWAN Bronze Award** and became one of 21 Athena SWAN Business Schools in the UK. We treated this as a valuable opportunity to scrutinise holistically all the strategies, policies and procedures related to the recruitment, support and development of research staff and PhD students. We analysed annual data between 2009 and 2017 and collected evidence from staff surveys, student focus groups, committee discussions, and working groups. Although the focus was equality and diversity, we used the process to build a better understanding of all people-related issues.

In **recruiting staff and PGR students**, we adopt neutral language, minimise 'Essential' criteria and provide information about UEA's Nursery and flexible/family friendly policies. We ensure shortlisting and recruitment emphasises equality and diversity via training, and female representation on all shortlisting and recruitment panels. We also improved transparency of the promotions process through presentations at School Board and workshops for staff. Post-application, evidence suggests that women across all levels are generally equally likely to receive offers and accept a position. We are reviewing recruitment materials to attract more female applicants at all levels. Examples of changes we are considering include changes in imagery and testimonials on the NBS website, 'further particulars' emphasising NBS commitment to equality and diversity, and placement of job adverts. While some variation in the proportions of female and male leavers is evident from year to year, there is little indication of a systematic trend.

Building on this generally positive picture, we recognise that there is more to do. We have recently put in place measures to support RA career development and progression. We are also developing actions to strengthen appraisal, mentoring systems, promotion transparency and support. For example, we have put in place a specific induction process for RAs, as done with other staff, including meetings with the RA co-ordinator, Research and Staff Development Directors about possible career paths. In relation to appraisals, the Staff Development Director organises briefings with the NBS Faculty to emphasize the developmental aspect of the appraisal meeting and explain the responsibilities of the appraisers and appraisees. We organise additional briefings on promotions where staff can ask questions about the process and the Staff Development Director explains the main existing mechanisms of support. Staff members can prepare a career plan with the help of their mentor/appraiser and the Staff Development Director. While benefitting all, these actions are especially advantageous for female staff in supporting their career progression. A key challenge for inclusivity is the growth of the School, necessitating division into groups dispersed between two buildings. To facilitate informal cross-disciplinary interaction and create a 'whole School' community, we are not allocating offices according to research areas and groups. We plan

to revise our people strategies as part of the completion of the self-assessment process towards the Athena SWAN Silver Award in 2022.

We recognise that a focus on **gender does not capture the whole picture** of staff and students. The Athena SWAN Charter also recognises that all individuals have identities shaped by several different factors. We commit to considering the intersection of gender and other factors wherever possible. All staff and students are part of the community with their own identities and voices. We recognise the importance of all staff feeling a sense of belonging but also in being able to connect with like-minded individuals and role models. We routinely share information (e.g., during induction, via emails and through the school newsletter) about the different networks that UEA supports, such as the staff pride network and the BAME staff and student networks. In 2020, the NBS Equality and Diversity Director in conjunction with a group of dedicated PhD students, started a BAME student network in the school. The student and staff body at NBS is very diverse, coming from many different countries. It reflects many different cultures and in the words of the PhD student body, this intercultural exchange is a source of inspiration and celebration. Research students were prompted by the recent events of “black lives matter” to engage with NBS staff members and were met by understanding allies. Following this, “decolonising research” was the theme of the annual PhD colloquium in October 2020, where students arranged for a panel of academics and Lord Hastings of Scarisbrick gave an inspiring keynote talk.

We continue to look for ways to work in partnership with our student and staff body to promote a sense of belonging. We recognize that most of the actions in our current Athena Swan action plan are aimed at achieving gender balance in terms of committee representation and equal opportunities for promotions. But we are also taking steps to introduce the debate of inclusivity in our day-to-day academic life. For example, the application of the UEA Unconscious Bias Tool is promoted in the school (e.g. in staff development days, school board presentations and training). This collates documentation and audio-visual material addressing diversity, which is not only based on gender but also includes ethnicity, religion, age and sexual orientation.

### 3. Income, infrastructure and facilities

#### 3.1 Income

The income strategy over the assessment period had two objectives. First, we aimed to diversify our income sources so that we can expand funding opportunities and smooth income streams. We met this objective by reducing the share of funding from UK research councils to 46.7% compared to 72.6% in the previous period whilst still increasing our research income. Over 80 staff members (including RAs and junior staff) were successful individually or in teams in raising external funding. The second objective was to expand income, especially by developing collaborative bids for larger grants around our four areas of strategic focus. We made significant

progress as external funding increased by 155.6% (85.1% on per capita basis) compared to the last REF period, exceeding in total £4.6M. We provide an overview below of the main grants secured:

- Business Regulation:** The CCP has been highly productive and brought in £1.5M from 45 contracts since 2014, with more than half of this funding generated by NBS faculty. CCP secured £491,469 in 2016 from EPSRC/UKERC for a multidisciplinary research project led by Waddams as PI. This was part of the UKERC programme comprising of 7 work packages on equity and justice in the UK retail energy markets. The funding over the assessment period builds on £7.75M of funding received from the ESRC between 2004 and 2014.
- Work and Wellbeing:** The main funding is related to the Work, Learning & Wellbeing Evidence programme led by Daniels (ESRC, 2015-2021, UEA part £923,531). This was extended twice, receiving in total funding of £1.1M. Connolly and Daniels are CoIs in the ESRC funded Productivity outcomes of workplace practice, engagement and learning (ProPEL) hub (2019-2022, £1.58M). This collaboration with seven other universities and partnership with the CIPD aims to support the growth of better, more productive, workplaces by sharing insights based on the latest research on health, wellbeing and productivity with employers and other key stakeholders. Globalizing Actors was a multi-agency funded project with £199K ESRC funding, \$380K from the University of Montreal and £54K from Seoul National University. Tregaskis (CoI) collaborated to investigate how norms within organizations are created, disseminated across borders, and adapted over time. Another large grant in this theme involves the Increase Valorisation Sociale project led by Bika (2017-2021, funding by Interreg/ERDF, UEA part £328,145). This will develop a new cross-border training programme to help social housing residents set up their own micro-businesses or achieve other forms of employment. Additional funding in related topics have been provided by British Academy, British Academy of Management, Institute of Occupational Safety and Health, European Association of Work and Organisational Psychology, European Institute for Gender Equality, Innovate UK, Italian Institute for Insurance Against Accidents, and the Society for Occupational Medicine.
- Sustainable Energy:** The TILOS project developed an off-grid energy supply system complete with innovative batteries, solar and wind energy production, and smart demand side management. The system has been installed and is still commercially operational on the Greek Island of Tilos. The project solved the longstanding problem of polluting and unreliable power generation faced by many islands internationally. Capitalising on TILOS' success the ICE project aims to design and implement innovative smart energy solutions for isolated regions in the France Channel England area. Another recent project in this area was CIRCLE that was funded by EU INTERREG FCE. This aims to develop and test a new type of sustainable concrete based on circular economy principles and have it applied in real demonstration cases within the France Channel England region (timeline: October 2020-March 2023, total funding: £4.88M, NBS funding: £579,000). Tregaskis is leading for UEA as Co-I in the ESRC £955K

Centre for Climate Change Transformations (CAST) project. This is a consortium of five universities and the charity Climate Outreach, explores how we can live differently – and better – in ways that rapidly reduce warming emissions.

- **Transformative Food Systems:** the main funding has been provided for the project “Sourcing, interpretation and presentation of market intelligence to food producers in Northern Ireland” (2016-2019, N. Ireland Department of Enterprise, Trade and Investment, UEA value £483,479) and activities around the “Who Buys My Food” project involving funding from Safe Food, EPSRC, BBSRC, Invest NI, Oxfam and the Agriculture and Horticulture Development Board. These are led by Andrew Fearne and aim at providing farmers and small food and drink producers with actionable insight derived from the analysis of retail data, to facilitate evidence-based decision-making and planning.

**Table 3.** NBS Internal Investment Budget for Research

Item	2014-2020	Proportion
Research workload time allowance (40%)*	£21,551,404	55.1%
Probation time allowance (6% - 18.5%)*	£601,253	1.5%
Engagement time allowance (5%)*	£2,370,654	6.1%
Impact case study time allowance*	£542,824	1.4%
Impact funding	£361,515	0.9%
Study Leave budget*	£5,229,000	13.4%
Personal research funding	£1,183,000	3.0%
Group funding for seminars/seed corn scheme	£210,000	0.5%
School Research seminars	£36,500	0.1%
Conference support	£22,000	0.1%
GTA scholarships	£1,420,500	3.6%
PhD supervision time allowance*	£3,756,292	9.6%
PhD training financial support	£603,750	1.5%
Director roles (Research, PGR, Impact, CCP)*	£1,227,150	3.1%
<b>Total</b>	<b>£39,115,842</b>	<b>100%</b>

\* Cost estimates have been made on the basis of Full Economic Costs (FEC) for time of staff involved.

As discussed in previous sections, we have increased investment in research in order to support researchers in publishing, raising income, achieving impact and training. A breakdown of this investment since 2014 is presented in Table 3 with the total investment being £39.1M or £780K per capita. **Comparing the years 2020 and 2014, investment in research has increased by 77.5% or 28.5% on a per capita basis.**



### 3.2 Infrastructure and Facilities

The **Centre for Competition Policy (CCP)** is a UEA research centre established in 2001 and partially funded by NBS. NBS Professor Ennis leads the centre as the Director (since January 2019). CCP currently employs five research and administrative staff, and has a further forty-one faculty members and twenty-four PhD student members. CCP staff explore competition policy and incentive regulation from the perspectives of business and management, economics, law, and political science. They engage in interdisciplinary research that is academically rigorous, independent and policy relevant.

CCP practices and allocation of resources (including financial support, buy-outs and research assistance) facilitate the interactions that enable policy-relevant research and help develop the next generation of researchers of competition and regulatory policy. The Centre has paying subscription members that include The Department for Business, Energy and Industrial Strategy, Ofgem and The Competition and Markets Authority. These members regularly use the opportunity to test emerging ideas with the Centre during workshops hosted at CCP. In addition to acting as a national hub for research, CCP organises a weekly seminar series (around 32 p.a.), supports funding bids, publishes a working paper series (10 papers p.a.), organises PhD workshops and supports members in responding to regulator/government consultations. The CCP Annual conference is a widely recognised event since 2005 that fosters exchanges between professionals, policymakers and academic researchers. For example, in 2019 it was organised in London with 160 participants, while in 2020 it was organised online with 600 registrations (more than half of which were international).

**Three large infrastructure investments** over the assessment period have supported research in NBS. First, in 2014 CCP was rehomed in part of Earlham Hall, a beautiful Grade II\* listed 16th century building located in a parkland setting adjoining historic courtyard buildings and walls, as a result of a major £8M refurbishment of the property. This provided CCP with an open-plan office, capable of hosting eight researchers, two private offices, one guest office for academic visitors and social space. Second, in January 2019, we moved some of our staff into 3,250m<sup>2</sup> of new space in the Elizabeth Fry Building. This complements the 4,000m<sup>2</sup> of existing space in the Thomas Paine Building, which since 2010 was the home of NBS. These investments have supported the growth of the School and meant that research staff have access to single offices, social space and meeting rooms. The expansion also provided the necessary space for the growth of the PGR programme over the assessment period. Third, the opening of the £11.6M UEA Enterprise Centre (TEC) in 2015 provided a thriving and supportive hub for 150 start-ups and small and medium size enterprises. NBS staff use the space to organise conferences and events that support impact. For example, in 2017 NBS staff organised at TEC the inaugural conference for Norwich's Financial Services Cluster of firms as part of a research impact project.

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

We incentivise research staff through appraisal and promotion criteria to contribute to the wider academic profession, society and the economy.

**4.1 Research**

We use appraisal and the work allocation model to support staff members in contributing to their discipline internationally through editorial positions in academic journals and membership of academic boards. Staff currently hold **45 editorial appointments across all research areas** in the school. We encourage all staff on taking on such roles, for example 71.7% of roles are held by women, 8.7% of roles are held by Assistant Professors and 30.4% are held by Associate Professors.

We make a particularly strong **contribution to the discipline of Work and Wellbeing** with 22 appointments in a number of prominent academic journals that include:

- Applied Psychology, Unger, Editorial Consultant and Vergel, Associate Editor
- British Journal of Management, Daniels, Associate Editor and Game, Editorial Board
- European Journal of Work and Organizational Psychology, Daniels, Editor and Nayani, Editorial Board
- Human Relations, Daniels, Editorial Board and Tregaskis, Associate Editor
- Human Resource Management Journal, Tregaskis, Editorial Board
- Journal of Occupational Health Psychology, Vergel, Editorial Board
- Journal of Occupational and Organizational Psychology, Daniels, Editorial Board
- Journal of Managerial Psychology, Tregaskis, Editorial Board
- Work and Stress, Vergel, Associate Editor

Staff in this area make a significant contribution also through membership of academic boards that include: British Psychological Society (Daniels, Fellow), Academy of Social Sciences (Daniels, Fellow), ESRC Grant Awarding Panel (Connolly, Member, 2013-16), ESRC Peer Review College (Tregaskis, Member) and REF2021 Sub-panel for UoA17 (Tregaskis, Member).

We also make a **strong discipline contribution in the area of Business Regulation** through 11 editorial appointments and memberships that include: Taskforce for Business Schools and the

Public Good (Bowen, Advisory Board Member), Academy of Social Sciences (Bowen, Fellow), ESRC Peer Review College (Dobson, Member), International Accounting Section of the American Accounting Association (Marques, Member and Country Liaison for UK). The work of Fletcher in this area is recognised by her appointment as Council Member for the Royal Economic Society. She was also appointed Officer of the Order of the British Empire (OBE) in the 2014 New Year Honours list for services to competition and consumer economics, and Commander of the Order of the British Empire (CBE) in the 2020 Birthday Honours for services to the economy.

## 4.2 Economy and Society

As signatories of the UN Principles for Responsible Management Education (PRME) and the European Education Initiative for Sustainable Finance (EEI), we review our achievements and benchmark the School against key targets. This provides the foundation for a number of NBS-led initiatives and activities. The Norwich Good Economy Commission (funded by the UEA, ESRC, LEP and local government) is a partnership led by Waddams since 2019 that strives to ensure that Norwich has an inclusive and sustainable economy. MoneyHack (funded from NBS, UEA and local firms) is an initiative Markellos launched in 2018 to help schoolchildren learn about fintech with a focus on employability, diversity and widening participation. The contribution of NBS researchers beyond academia across different areas of research is summarised below:

- Business Regulation:** An influential line of work has been led by NBS Professor Fletcher through a major report commissioned by Which? (The Role of Demand-Side Remedies in Driving Effective Competition, 2016) and her contribution to a report by HM Treasury (Unlocking Digital Competition, 2019). On the basis of a comprehensive review of over 55 demand-side remedies, Fletcher concluded that many interventions have not been as effective as expected and some have even been detrimental for consumers. This work has led to more regulatory focus on the effective design of demand-side interventions and a shift away from disclosure requirements towards interventions that facilitate consumer choice. Group members have also served on boards of public entities (Ofwat for Waddams and FCA and CMA for Fletcher). They have also served as academic advisors to UKRN (Waddams), CMA (Ormosi) and advisors for particular projects to BEIS (Ennis, Lam, Fletcher), European Union (Ennis, Ormosi) and OECD (Ennis, Fletcher, Ormosi). Since 2015, CCP has worked on four contracts with the European Commission (DG Comp), World Bank and UNCTAD, securing £240,000 in tender work, including as part of a consortium researching a large EU State Aid Project on renewable energy schemes. The Centre was extremely active in responding to the Competition and Market Authority's (CMA) investigation into failings in the UK's energy market, being widely cited by the CMA at all stages of the consultation process and attending roundtable events. During the course of the REF period, CCP staff have responded to sixty-four public consultations, many of which brought together members of CCP/RB with a wide

variety of public and private sector organisations (including BEIS, HMT, House of Lords, CMA, Ofcom, Ofgem, Ofwat, FCA).

- Work and Wellbeing:** The group organises an annual open (public) event from an external, practitioner speaker (external speakers include those involved in Bromley-by-Bow community wellbeing projects, the managing director and human resources director of a regional professional service firm who won national awards for their workplace wellbeing programme, occupational health practitioners, and the director of people and culture from brewery Adnams plc). The group organised a practice-oriented conference in January 2016, with speakers from Department of Work and Pensions, Health and Safety Executive, East of England Co-Op and British Telecom in addition to research presentations from the group. In January 2020, the group organised a workshop on 'Wellbeing and the Productivity Puzzle' in Cambridge. This was part of on-going ESRC-funded research, with attendees from DWP, local government as well as occupational health/wellbeing practitioners. Staff in this area engage in a variety of engagement activities outside academia. In 2017 and 2018, Fida organised a series of twelve workshops on wellbeing topics for non-academics in public spaces in Norwich (Café Conversations). Practitioner outputs through the ESRC-funded What Works Centre for Wellbeing included seventeen research briefings and reports, three interactive tools, including video case studies and an interactive calculator. Group members produced numerous supporting blogs and more recently briefings disseminated through the £1.58M ESRC-funded PROPEL hub (Connolly, Daniels and Fitzhugh, NBS received £149K). This initiative aimed to help businesses boost productivity and wellbeing by providing practical lessons, ideas and tool-kits, all informed by the very latest research and evidence. Connolly also contributed to the debate on parental leave policies across the EU (based on two studies funded by the European Institute for Gender Equality). Connolly, Daniels, Fitzhugh and Michaelides worked with the College of Policing under a Knowledge Transfer Partnership (KTP) to examine the resilience and wellbeing of more than a thousand police officers and staff. This culminated in a free online mindfulness package and a plain English evidence pack on what makes a good supervisor in policing. Researchers in this area have a strong impact agenda and lead two out of five of the REF2021 impact cases in NBS (Daniels, Connolly). As part of this activity members have delivered since 2015 over fifty presentations at practitioner conferences and workshops, including seminars for civil servants at the UK Government Social Impact Taskforce (twice, Connolly, Daniels), OFSTED (Daniels), DFID (Daniels), DWP (several involving Connolly, Daniels and a PhD student from the group) as well as regional and national conference presentations for CIPD (Daniels, Tregaskis) and Learning and Work Institute (Connolly, Daniels, Tregaskis, Watson). Other dissemination activities relate to chairing the British Psychological Society track at the leading national occupational health industry

conference (Daniels since 2019) with 5,000 delegates and leading as part of the organising committee in 2019 the CIPD Applied Research Conference (Tregaskis).

- **Sustainable Energy:** TILOS, awarded by the EU Commission in 2014, had a significant economic and social impact on the island of Tilos in Greece between 2015 and 2019. This island became the first in the Mediterranean that was capable of being powered by wind and solar energy alone. The project also made significant contributions in changing the legal framework for autonomously powered islands in Greece. Its success triggered subsequent moves by the Greek State to seek tenders for commercial deployment of similar solutions in dozens of other Greek Islands, many of which are now underway. This project fostered strong links with the islands of Pellworm (DE), La Graciosa (ES) and Corsica (FR), creating a platform for technological and societal engagement with sustainable energy. Chalvatzis, who led the UEA team, has used the early TILOS findings and won ERDF funding for the Intelligent Community Energy project. This aims at advancing the use of low carbon, off-grid energy innovations at remote locations with case studies at the French Island Ushant and the UEA campus. Within the broader sustainable energy domain, Burlinson and Waddams have worked on research that analysed aspects of energy poverty and the impacts of energy billing and literacy on consumers. Vasilakos has published on the determinants of innovation for sustainable energy and used advanced techniques to evaluate climate services for stakeholders such as electricity suppliers and energy network operators (project SECLI-FIRM, EU Horizon 2020, led by ENV).
- **Transformative Food Systems:** A key project in this area is the “Who Buys My Food” project (led by Fearne) that provides farmers and small food and drink producers with actionable insight derived from the analysis of retail (epos and loyalty card) data. It has been running for over sixteen years and has assisted over 700 small food and drink businesses across the UK. A report (led by Fearne, Kourtis and Markellos) commissioned by the Agriculture and Horticulture Development Board (AHDB) in October 2018, investigated ways and tools to mitigate risk and building resilience in the GB red meat supply chain.
- **Productivity East:** UEA’s £7.4M, state-of-the-art Productivity East is a new regional hub for engineering, technology and management and involves collaboration between three UEA Schools (Computing, Engineering, NBS). It enables businesses in our region to work alongside our world-class researchers and students to discover practical solutions to current and future challenges. Lettice led the development of the bid, supported by Harrington, that secured the funding from New Anglia LEP, and Lettice is part of the Productivity East Advisory Board and has the role of aligning the strategy of UEA with that of broader stakeholders. Daniels is on Productivity East’s academic board and professional development group. Markellos and Pandit have undertaken three projects that aim at enhancing productivity in the region and

internationally through a cluster-based approach. First, they have taken a leading role since 2019 in designing the way that UEA researchers and students will engage with the advanced engineering and manufacturing cluster in Norfolk and Suffolk. This project funded by the LEP and UEA, developed the strategic and action plan for the NAAME (New Anglia Advanced Manufacturing and Engineering) trade association. Second, since 2016 they have designed several evidence-based interventions (UEA funded) that have transformed interaction, collective action and strategy in the Norwich financial services cluster thereby affecting 66,000 employees producing GVA of £5bn. Third, in 2020 they undertook a project funded by Luoyang National University Science Park in China that supported the development of a regional business cluster and interaction with NAAME.