

<p>Institution: City University London</p>
<p>Unit of Assessment: 19 Business and Management Studies</p>
<p>a. Overview</p> <p>The Sir John Cass Business School (generally known as Cass Business School) has one of the largest concentrations of top quality research activity in the discipline in Britain. The School, part of City University London, generates sustained world class output in journals and other academic media, delivers significant and valuable impact to professions and the wider community and attracts staff, visiting scholars, business partners and graduate research students from across the globe.</p> <p>Since RAE 2008, the School's research environment has been transformed by extensive investment in new staff in targeted areas at both junior and senior levels, the strengthening of the PhD programme and instituting a more sophisticated approach to achieving impact through collaboration with business including the creation of a new executive campus. We have also improved our internal processes leading to greater Research Council grant capture, increased the number of major research collaborations with business and the professions and fostered improved interdisciplinary links.</p> <p>The School is structured into three large discipline-based faculties: Management, Finance and Actuarial Science & Insurance. Each has its own research seminar series, discussion groups, workshops, postdoctoral staff, doctoral students and MRes route. Faculty Associate Deans lead on the recruitment and mentoring of the academic staff in their faculty and facilitate their research activities, assisted by the Associate Dean (Research & Enterprise) and subject group leaders. There is extensive and effective research collaboration within and across faculties, both informally in research initiatives and more formally through research centres.</p> <p>As a result of our investment in people and our activities to support our staff and promote positive methods of working, Cass academics conduct research that is rigorous to the highest international standards, multidisciplinary and relevant in the broad areas of: organisational behaviour and Human Resource Management (HRM); marketing and operations management; strategy, entrepreneurship and innovation; actuarial science and insurance; asset pricing and financial econometrics; and corporate finance, accounting and banking. A description of the outputs, achievements and impact is given in the relevant sections below.</p>
<p>b. Research strategy</p> <p>The ambition of Cass Business School is to be a top five European research school, producing research of the highest quality for the academic community and generating valuable impact on business, the professions and the wider community. This ambition is largely unchanged since RAE 2008 and we believe we have made considerable progress. We first talk of our achievements and then discuss our ambitions.</p> <p>In the REF assessment period we have:</p> <ul style="list-style-type: none"> • More than trebled the number of research-excellent staff operating at a truly international level through both academic recruitment and internal development (both of which are discussed below). In this way, we have created one of the largest top quality business schools in Europe. • Published 270 papers in 4* journals as listed in the <i>Association of Business Schools Journal Quality List</i>; 200 in the <i>Financial Times</i> ranking of the top 45 journals used in business school research rankings; 40 in the three leading finance journals; 18 in the top three marketing journals; 14 in the top two entrepreneurship journals; and 21 in the Academy of Management suite of journals. Thirteen staff from across the three Faculties appear in the latest <i>Web of Knowledge Essential Science Indicators</i>© which ranks the 1400 most influential scholars in business and economics by citation score from around the globe. • Created, or substantially developed, new subject groups in corporate social responsibility and ethics, innovation and technology, supply chain management, corporate finance and international finance.

- Improved our research income from levels judged by RAE 2008 to be those of a “median business school” by gaining more research grants from UK and EU government sources. Staff won UK Research Council grants totalling £3M. These included: £900,000 for the ESRC Centre for Charitable Giving and Philanthropy; £500,000 from the EPSRC to study financial and organisational innovation in UK biotechnology companies; £200,000 from the ESRC for a project on the dynamics of leadership in professional service firms; £350,000 from the ESRC on the innovation lessons for low carbon energy technology from demonstration projects and trials; £200,000 from the EPSRC to study the concept of ‘digital originals’ as applied to fine art; £100,000 from the ESRC on the economic cycle, recessions and philanthropy; and £100,000 on understanding exchange rate fluctuations. We are also a partner on the £12M EPSRC Inclusion through the Digital Economy project and have two further £1M EPSRC Digital Economy projects beginning in late 2013. We have hosted six Marie Curie Fellowships and won other EU funds valued at a further £ 500,000.
- Strengthened the PhD programme, which was already judged by the RAE 2008 panel to be ‘internationally excellent’, seeing this as fundamental to achieving our academic and reputational goals. We did this by lengthening the programme to four years, emphasising theory and methods training and increasing investment in studentships.
- Further extended the delivery of research of significant impact for business and the wider economy (judged in 2008 to be in part of a ‘world leading’ standard). The impact of our research has ranged across economics, commerce and business and it has included the development of new financial products, new strategies for wealth creation in the investment management community, improved workplace practices, better conduct of life insurance claims in courts and elsewhere, better business models in the shipping industry, better training for financial analysts and opportunities to improve the national census (all documented in REF3).
- Launched ‘Cass Knowledge’, an online research portal that communicates these contributions and other examples of best practice research to business and the professions. Supported by HEIF funding, we have uploaded 700 research papers and the site has received over 80,000 unique visits since its launch in 2010.
- Supported all of the above with investment to improve internal school processes and procedures (judged by the RAE 2008 panel to be “well developed” and with “at least half of international standard”) to ensure that the School has motivated staff who are engaged in academic research at a world class level, as elaborated in the section on people below.

Independently produced evaluations show that our research strategy is working. Our actuarial research is ranked 2nd in the world¹, our finance research ranked 2nd in Europe² and we are ranked the second best in Europe for banking research³. In addition, the *Financial Times* ranked the School 7th in the UK for research and 12th in Europe among business schools offering MBAs – a ranking that includes both finance and management.

As noted above, our long-term ambition is to be a top five European research school, producing research of the highest quality for the academic community and generating valuable impact on business, the professions and the wider community. To achieve this, over the next five years we will:

- Continue to examine and evaluate how to achieve ever greater effect in our priority areas of research. This will be possible given that we now have a critical mass of outstanding research leaders across several disciplines, all of whom have extensive experience in producing research that is academically excellent, with the potential to deliver significant policy impact.
- Explore and probe important emerging issues that cut across all areas of business and society including: corporate responsibility and philanthropy (*organisational behaviour and HRM group*); firm ownership and corporate governance (*strategy, entrepreneurship and innovation group*); enterprise risk management (*actuarial science and insurance group*); business models for the digital era (*strategy, entrepreneurship and innovation group*); digital consumer behaviour

¹ Genest, C. and Carabarin-Aguirre, A. 2013, A Digital Picture of the Actuarial Research Community, *North American Actuarial Journal*, Vol. 17, 3-12

² Chan, K. C., Chang, C. H. and Chen, C. R. (2011) Financial Research in the European Region: a Long-Term Assessment, *European Financial Management*, Volume 17, 391-411

³ RePEc (2013) Top 10% Institutions and Economists in the Field of Banking, as of September 2013, Research Division of the Federal Reserve Bank of St. Louis

(*marketing and operations management group*); actuarial insights in economics and finance (*actuarial science and insurance group*); high-frequency share trading (*asset pricing and financial econometrics group*); financial crises and stability (*corporate finance, accounting and banking group*); international currency markets (*asset pricing and financial econometrics group*); and leadership in professional service organisations (*organisational behaviour and HRM group*). To this end, we have already raised significant sums (e.g., £2M from the EPSRC for work on business models and £8M from industry and philanthropic sources to support work on shipping finance).

- Further develop our eco-system to ensure our best research achieves greatest impact by continuing to invest in Cass Knowledge; other infrastructure elements such as our new 'executive campus' building designed for executive education; and activities for the benefit of business, professions and the wider community. We highlight the example of our International Executive PhD (formed as a joint venture with the TiasNimbas Business School, Tilburg University, Netherlands). The Executive PhD emphasises the production of research with impact, normally on the organisation within which the candidate is working and where the research is grounded.
- Continue to encourage staff to publish their work in the best journals, so receiving exposure to the highest standards of peer review and maximising their chances of influencing other top scholars. We have created our own ranking of top journals, benchmarked against other evaluations such as those of the *Financial Times* and the *Association of Business Schools*. Staff already receive a reward for publishing in journals listed in the *Financial Times* list of 45 elite journals. We monitor success by numerically tracking our academic publications.
- Grow research income from UK Research Councils and the EU and explore corporate sources of income, especially in research areas and disciplines that resonate with sponsors. New funding plans are in place for research for shipping finance (leveraging the already strong reputation of the Costas Grammenos Centre for Shipping, Trade and Finance within the School); pensions (Pensions Institute); insurance and healthcare; leadership; asset management; and the 'digital economy'. Our ESRC Centre for Charitable Giving and Philanthropy is seeking further growth funding and other research centres continue to evolve including: the Centre for Econometric Analysis and the Centre for the Management of Professional Services Firms. Core funding from corporate donors (e.g., for the Mergers and Acquisitions Research Centre) will ensure a stronger resource base, continuity and impact.

Executing our research strategy will continue to be the joint responsibility of the Dean and the Associate Dean (Research and Enterprise) working with Faculty Associate Deans, the School Research Committee and Research Centre Directors. In the relevant sections below we outline the incentives, supporting processes and procedures in place to ensure that we have the culture to support our ambition. Since 2008 we have engaged in a process of continuous improvement in this area and in the coming years we are committed to further rapid improvement.

With increasingly high standards and competition in the academic employment market, we have placed great emphasis on creating an optimal environment for PhD students. We now provide more formal research training in-house, with our best academic and research staff taking responsibility for this aspect of PhD student development. We have redesigned the doctoral programme to emphasise theory development through the extensive use of top journal papers in reading lists; built a sense of an intellectual community through thematic doctoral workshops that cluster students into smaller sub-groups; applied collective student supervision by whole subject groups; and strengthened the role of the student's annual review. Please see section c.ii for further information.

c. People, including:

i. Staffing strategy and staff development

Since 2008, Cass Business School has undergone a transformational change. We have undertaken a significant recruitment campaign to hire accomplished academic and research staff and those with clear potential from the UK, Europe and beyond, to undertake leading-edge research in areas relevant to our ambition. Existing staff are supported: there have been fewer leavers during this assessment period than the last and 40% of staff returned in RAE 2008 are

included in REF 2014, most having significantly improved their research performance in the intervening period.

Our staffing strategy is to hire and keep the very best. With University investment of several million pounds, we have grown by 28 FTE in the REF period, including nine new professors. Our approach to recruitment is threefold: we exploit existing staff networks to make appointments in areas close to the research interests of existing staff, thereby reinforcing these areas; we make fast-track appointments in any area with the aim of promoting new vigour into the School; and we make strategic investments to build research capacity in new areas.

We have been able to attract outstanding academic and research staff at senior levels from top institutions worldwide, including: Bacon (University of Nottingham), Bardhi (Northeastern University, USA), Banerjee (University of Western Sydney, Australia), Beber (University of Amsterdam, Netherlands), Beck (Tilburg University, Netherlands), Fleming (Queen Mary, University of London), Gond (University of Montreal, Canada), Goodall (Institute for the Study of Labour, Germany), Haefliger (ETH Zurich, Switzerland), Hill (LSE), Jarzabkowski (Aston University), Neuberger (University of Warwick), Peydro (Pompeu Fabra University, Spain), Ravasi (Bocconi University, Italy), Schmeling (University of Hannover, Germany), Schroth (University of Amsterdam, Netherlands), Shane (Case Western Reserve University, USA), Siu (Macquarie University, Australia), Spicer (University of Warwick), Volpin (London Business School).

Research achievement and potential are the key criteria for hiring junior academic staff; the inclusion of ten early career researchers in this submission is evidence of the success of this policy. Junior academic staff that have received outstanding training and development have been recruited from the world's top business schools or economics departments (Aston University; Bocconi University, Italy; Maastricht University, Netherlands; University of Manchester; University of St Andrews; Tilburg University, Netherlands; University of Toronto, Canada; University of Toulouse, France; and Yale University, USA). We have also developed talent internally, as evidenced by the submission of eighteen staff who obtained their doctorates from the School.

Developing research in the wider UK community is also part of our goal. Since 2008, several staff who were nurtured at the School have left for research leadership positions elsewhere in the UK (Menachof, Milne, Tunaru, Hope-Hailey, Balogun, Livne as professors and Scheck and Isidro with significant academic promotions). During this period 14 staff have received internal promotions in recognition of research and impact achievements.

We encourage our research and academic staff and research students to engage in career planning. We expect individuals to take responsibility for their own professional development by thinking strategically about their skills, immediate objectives and their longer-term career aspirations.

Research sustainability has been supported by the recruitment of world-leading part-time professors in selected areas (Alvesson, Amir, Brandt, Hennig-Thurau, Nicolaou, Pedersen, de Ruyter). They support and work with full-time staff and doctoral students by sharing their valuable experience, engaging in collaborative research projects, contributing to the shaping of research agendas in subject groups and presenting and organising seminars, workshops, methodology classes, software demonstrations, doctoral 'master classes', paper-writing and journal submission clinics.

Because of the School's unique position in the City of London we are able to attract high calibre visiting professors and fellows from industry, advisory bodies and government departments. These visiting scholars make a significant contribution to our research agenda and culture by bringing an external, practice-oriented research perspective. Currently, Cass has over one hundred visiting colleagues working with academics. These links are particularly strong in the fields of regulation, corporate governance and professional standards setting.

Staff have held, or hold, prestigious/competitive personal research fellowships: Jarzabkowski is an outgoing Marie Curie Fellow at Cornell University, USA; Novelli holds an ESRC Future Leaders Award; Rowley was AIM International Fellow and is a Distinguished Scholar at National Sun Yat-Sen University, Taiwan; Ferriani is Research Fellow at the Centre for Technology Management, University of Cambridge and an AIM Fellow; Martinez-Miranda is an incoming Marie Curie Fellow and Dimitrova was an RCUK Academic Fellow. These fellowships allow staff to develop valuable

international networks, giving them time to invest in their research while raising the research profile of the School as a whole and increasing global awareness of its ambitions and achievements.

To support our recruitment of good people and to deliver exemplary research and impact, we continue to develop our environment, judged by the RAE 2008 panel as excellent. Faculty Associate Deans operate a vigorous appraisal process, set targets and identify development needs. They have given particular attention to supporting early career researchers and other staff who can reach greater levels of achievement through varied methods, including a 25% time allocation to research regardless of publication success; sabbaticals of up to 1 year in 7 to reinvigorate research (16 beneficiaries since 2008 across all faculties); short-term relief from teaching duties and teaching assistant support; and special mentoring by senior staff to help junior staff develop their publications. In addition, all academic staff have access to a research pump-priming fund (£100,000 at School level, plus £80,000 at University level and a further £100,000 from HEIF for projects with business) and an annual conference allowance of £2,500 per annum per head. Junior staff and those newly appointed or returning to research receive preferential treatment in the pump-priming schemes.

Top journals have low acceptance rates. We expect our staff to have setbacks, yet require them to keep aiming high. We reward them when they succeed and support them when they do not. Performance evaluation is by cumulative assessment over five years. Junior staff have an opportunity to discuss their research at paper development workshops where they can obtain feedback before a journal submission or at revision stage. Similarly, major grant requests undergo rigorous internal review by the Associate Dean (Research & Enterprise) and academic peers.

An important part of our culture for sustaining research and impact comes from the clear and established workload system. It is based on an annual research performance exercise conducted by the School Research Committee. This uses the REF scale descriptors, calibrated to the School's strategic aims relating to research and enterprise. For the best-performing staff, teaching load is reduced considerably in order to allow them the time to continue publishing in the top journals.

Subject group leaders support Faculty Associate Deans in promotion and recruitment decisions, provide academic leadership and mentor junior academic staff. Research performance is the major criterion for promotion, with proven ability to publish in the top journals the key criterion for promotion to professorship. Quality standards and fairness are maintained by the Dean or Deputy Deans who sit on all senior promotion panels. All staff are given formal induction in the School's research goals and processes and clear guidance on expected performance in education and research. The School organises a research induction event at which new staff meet the Pro-Vice Chancellor (Research & Enterprise), the Dean of the School, the Associate Dean (Research & Enterprise) and research support staff.

The School returns a large proportion of research grants to Principal Investigators, enabling them to provide bridging salaries to research staff, equivalent to one year for every three years' employment. This ensures continuity in research activity and improved career security for research staff. Research ethics are monitored by the School Ethics Panel, overseen by the University's Senate Ethics Committee and specialist advice is available on the ethical implications of research proposals. To increase ethics awareness, provide strategic direction and oversight and ensure that principles of ethical behaviour are incorporated in all research and enterprise projects, Cass has established the role of Associate Dean for Business Ethics during the current REF period. Equal opportunities and support for diversity are taken seriously by the School. The proportion of female research and academic staff submitted in REF 2014 is 25% compared to 19% in RAE 2008 and the research of this cohort has been of a significantly higher quality during this REF period. There is gender balance in marketing and operations management, while corporate finance, accounting and banking is nearly in balance. In addition, research on equality and diversity is a feature of our publications in entrepreneurship, corporate governance, professional service firms and organisational behaviour. This is important as staff research filters into teaching and School committee processes. Part-time staff and those on fixed-term contracts enjoy equal access to facilities, staff appraisal and training opportunities and conference attendance budgets.

City gained the European Commission HR Excellence in Research Award in 2012, demonstrating our commitment to good practice in relation to the recruitment, management and career

development of our research staff through the implementation of the Concordat to Support the Career Development of Researchers. Continuing contracts are now the norm for research staff from appointment, with the terms and conditions of employment equivalent to those of academic staff. We have made significant investment in research staff and postdoctoral career development in the REF period: a total of £1M of School funding for postdoctoral research, together with the retention of three early career researchers via the University Research Fellowship scheme and external funding for five Marie Curie Fellowships and three RCUK Academic Fellowships.

The University runs an extensive researcher development programme covering research management, funding strategies, career development, professional conduct, academic writing skills and media training. In addition, Cass runs methodology workshops and 'taster sessions' including case-based research, qualitative analysis using Atlas.ti and structural equation modelling. The Centre for Econometric Analysis, with Timberlake Consultants, hosts regular advanced workshops including the annual Oxmetrics User Conference attended by selected Cass students free of charge. Early career researchers and doctoral students are funded to attend workshops run by the Advanced Institute of Management and the British Academy of Management on journal publishing, reviewing literature and grant writing.

We continually celebrate research activity and achievements. This includes widely publicised events and prizes, such as: annual research days to promulgate our successes, discuss School-wide issues and encourage strategic thinking about research; annual prizes for research publications, grant successes and external reputation and impact, awarded to both 'rising stars' and senior academics; fortnightly series of research seminars, one each in Management and Actuarial Science & Insurance and two in Finance, to present our own and visitors' research and provide a continuing stimulus to new thinking; and prizes for publishing in the *Financial Times* list of top journals.

ii. Research students

The vision for the PhD Programme is to produce excellent researchers who will be ready to take up academic positions in leading business schools or in prestigious roles outside of academia. This is achieved by emphasising student resourcing and mobility. The programme is an important engine for our research in all faculties and there is high integration between doctoral students and staff members. This is manifested in our REF 2014 submission, with 15 of the submitted publications co-authored by PhD students at the School. A strong doctoral programme is also valuable in attracting new staff, since it indicates that the School invests seriously in research.

The PhD programme has consistently been in the world's top 40 in the *Financial Times* global business school rankings; in 2012 it was 26th. From around 450 applicants, 15-20 students are selected annually to maintain the research student body of 90-100 students. The current male to female ratio is 60:40. 89 PhDs have been awarded since 2008.

We measure the success of the programme by the number of graduates establishing themselves in appropriate careers. Around 60% take up senior, often research and analyst, positions, particularly at finance and insurance companies. Others have secured employment in business schools and management departments at leading institutions such as: University of Bath; Birkbeck, University of London; Bocconi University, Italy; Cass Business School; Cologne Business School, Germany; Durham University; ESC Toulouse Business School, France; ESCP-Europe Business School, France; University of Essex; ETH Zurich, Switzerland; University of Exeter; University of Newcastle; Lahore University of Management Sciences, Pakistan; University of Leeds; University of Nicosia, Cyprus; Norwegian School of Management, Norway; Queen's University Belfast; University of Swansea; Tilburg University, Netherlands and University of Venice, Italy.

The provision of scholarships is an important factor in attracting top calibre students. With a clear strategy and generous support from the School and the University, investment of £0.5M per annum enables us to offer 15 fully-funded places each year. In the REF period, the ESRC have provided eight scholarships and the EPSRC three, with a further five provided by corporate sponsorship. 90% of students get an RCUK-level scholarship, up from 25% at RAE 2008.

We select our students on the basis of several factors: proximity to the research themes of the School (with special emphasis on those that fit with Research Centres), qualifications (including a

quality Masters degree) and fit with staff capacity and interest in supervisions. Successful applicants are assigned at least two supervisors, one of whom must have published in good peer-reviewed journals in recent years. We limit the number of students per staff to two. New supervisors are obliged to take the core modules from the University's MA in Academic Practice.

In their first year, students follow a comprehensive training programme for the MRes degree, taught mostly by senior Cass academic staff with leading scholars from top academic institutions around the world, who expose students to critical reading of journal articles and advanced theory. The MRes involves 240 hours of lectures and seminars per year, making it more comprehensive than comparative courses at other institutions. All students are expected to attend the research seminars. Students also have access to University training for transferable skills, including those offered by the Enterprise Office and the staff training programme. On successful completion of the MRes, students progress initially to MPhil status. At the end of their second year, they prepare a dissertation for evaluation by a transfer panel consisting of their supervisors and two senior academic staff to determine progression to PhD status. Subsequent progress is monitored through an annual report by the main supervisor and through an on-line 'Research and Progress' system. From their second year, students attend advanced training courses and doctoral symposia and present papers at international conferences for which a training and conference budget of £1,000 per annum is provided. A major event each July is the PhD Research Conference at which second and third year students present selected papers to staff and their peers, with prizes of up to £1,000. First year students display posters describing their research, with prizes of £750. We recognise the need for students to develop all-round academic skills and encourage second and third year students to engage in limited teaching activities, after attending a four-day training programme, or to take up short research assistantships which expose them to the day-to-day research work of academic staff.

We have increased the ratio of full-time students to part-time students to strengthen the School's research community. We have also tightened up monitoring progress. Annual reports on students' progress are monitored by the Programme Directors and the Research Committee. Completion rates are monitored at the School's Board of Studies and through the University's online monitoring system. The Cass doctoral programme works in close collaboration with the University's Graduate School which monitors quality assurance and student progression.

The School provides students with dedicated state-of-the-art quiet study office space and communal areas to facilitate integration, mutual support and interdisciplinary awareness. The PhD Programme Office has an open door policy, offering pastoral and administrative support to students and guiding them through their tasks and targets.

In January 2014 we will be launching an *International Executive Doctorate* in a joint venture with TiasNimbas of Tilburg University, Netherlands, a well-established business school with an international reputation. The Executive Doctorate concept is innovative in its emphasis on the criteria of originality and publishability of research that underpin the traditional PhD, but are often absent from the DBA. The impact of research will be of particular importance in the Executive PhD, with impact normally generated on the organisation within which the candidate is working and where the research is grounded. As such, the Executive PhD concept is highly relevant to the new UK research environment where research impact is increasingly important.

d. Income, infrastructure and facilities

The School is located in a purpose-built £40M building next to the City of London, London's main financial district. We have also expanded our research environment into a second building, an 'executive campus' for the new executive doctorate programme and for enabling engaged scholarship with and for the benefit of business and the professions. Both buildings are designed to promote high-quality social science research and opportunities for informal contact. They have superb facilities including electronic and IT infrastructure, several lecture/seminar rooms and a large auditorium. The School has been at the forefront of the application of information technology to education and research and has twice been selected by the ESRC to run training workshops for other business schools in the effective use of IT and by the European Foundation for Management Development to run a similar workshop for European business schools.

The School's proximity to the City of London allows academic and research staff to be accessible

to the marketplace and to work in close association with commerce and industry. Many of our visiting lecturers, guest speakers, executive clients and research partners in a wide variety of business disciplines come from the large City financial services corporations. As one of the oldest UK business schools (established in 1966), we have an impressive range of *alumni*, located across the world, who remain an important part of the School's community. We also have an extremely diverse international body of staff, advisory board members and students. This fosters a stimulating environment for our student body and our academic and research staff.

We have a world-class business library with leading collections in finance and actuarial science, maintained by an annual budget of £1.5M. The library is a partner in the research process through the expansion of its collections, in the training it offers in literature searches and its work to make scholarly work accessible. About half of annual expenditure is on research materials such as journals and databases, which is especially relevant to quantitative analysis within the fields of finance, econometrics and accounting. Our portfolio of over 50 databases provides a vital source of information and expert analysis and includes Dealogic, Dealreporter, Mergermarket, Wealthmonitor, Debtwire, Real Deals and Valuation Catalyst. With the valuable assistance of corporate sponsors we have worked hard to provide high-quality, high-technology learning resources. We have a dealing room which enables staff and students to experience simulated trading. Thomson Reuters provide six Datastream and sixteen Reuters 3000Xtra terminals and Bloomberg donated thirteen terminals to the dealing room. Since RAE 2008, we have appointed a business research support librarian, expanded our academic journal coverage of current and archived literature, introduced more regular liaison with supervisors to ensure that the library needs of PhD students are met and contributed to the University's digital repository, City Research Online, which underpins our open access strategy.

The research culture of the School has emerged from two distinct traditions. While finance research is largely oriented towards secondary data analysis and theory, management research is more inclined towards field-based research. The former fosters a culture based on doctoral research, while the latter is more dependent on research income. The incorporation of Actuarial Science & Insurance into the School in 2003 helped to bridge these two cultures through its high level of theoretical, mathematically-based research and its engagement with policy issues of relevance to government and business. This is reflected in its breadth of research income from the UK Research Councils, the profession, industry and government. External research income to the School averages over £1M per year but has significantly broadened both in terms of the income base and the number of staff pursuing funding, especially for team-based projects and in collaboration with outside partners.

As indicated in the Research Strategy section, we plan to substantially increase income from external sources. More specifically, in keeping with our 'intellectual hub' aspirations we have excellent long-term partnerships with corporate supporters through our Corporate Partnership Scheme. This scheme not only provides financial support for research but also helps to define new research direction. Current partners include AXA Private Equity, BNY Mellon, Credit Suisse, Czarnikow, EY, Santander and Threadneedle Investments. We plan to widen our partnerships to generate extra income and for our research to have a wider impact on non-academic stakeholders.

Academic and research staff are supported by full-time research development staff at the School and staff in the University Research Office, who help them produce grant proposals that meet all funder or partner requirements. A professional Press Office, a Knowledge Transfer Manager, a 'Cass Knowledge' Editor and visible research centres work together to promote research to user communities.

e. Collaboration and contribution to the discipline or research base

During the assessment period, the **Organisational Behaviour and HRM group** has raised its profile considerably in terms of size, breadth of research range and quality of outputs. What differentiates this community of scholars at Cass is the use of broader social science disciplines as a heuristic lens to investigate and explain the interaction between people, groups, decision-making and HR practices. It includes the study of leadership in scientific and highly technical organisations (Goodall); and professional service firms (Empson, Spicer); models of servant leadership and the psychological contract (Henderson); flexible working, high involvement and organisational

performance (de Menezes); international and comparative HRM (Rowley); power, identity and resistance (Alvesson, Spicer, Fleming); critical discourse analysis and organisational theorising (Alvesson, Oswick, Fleming). A new area for strategic development within this group is related to business ethics and CSR processes, frameworks and reporting (Banerjee, Gond, Spicer). The establishment of ETHOS in 2013, a new research centre for cutting-edge thinking about responsible enterprise, created a research platform which frequently engages Cass academics with a range of policy-makers, businesses and NGOs. For example, the City Values Forum is a collaborative research project set up following the success of the Lord Mayor's Initiative 'Restoring Trust in the City'. The group's research is supported by significant collaborations with colleagues at other institutions in the UK and abroad, including projects of Goodall with Kahn (Cornell University, USA), Rowley with Ulrich (University of Michigan, USA), Oswick with Cornelissen (University of Amsterdam, Netherlands). Some group members are also involved in the International Centre for Research in Organizational Discourse, Strategy and Change that includes 15 HEIs from across the world. The Centre links international researchers who share an interest in developing and applying discourse methods in the study of organisations. These collaborative initiatives have resulted in publications in leading management journals, including *Academy of Management Journal* (2), *Academy of Management Review* (3), *Journal of Business Ethics* (10), *Journal of Management Studies* (10), *Organization Science* (4) and many others. Research achievements are also related to its members' success in attracting external funding, often with external collaborators. For example, Spicer received a British Academy grant to carry out work on sustainable reporting and Banerjee received over \$300,000 AUD for his work on climate change strategies from the Australian Research Council and Academy of the Social Sciences. The ESRC-funded Centre for Charitable Giving and Philanthropy is an example of academic networking and partnership with external users, including the third sector. It was established with co-funding from Carnegie Trust (UK) and National Centre for Voluntary Organizations. The high research standing and experience of Cass academics in this group is reflected in their active involvement in managing scholarly journals. The following are past or present journal editors: Bacon, *Industrial Relations Journal* (2003-2008); Ravasi and Spicer, *Journal of Management Studies*; Rowley, *Asia Pacific Business Review*. Banerjee is an associate editor of *Organization Studies*.

The **Marketing and Operations Management** group is one of the largest research communities in Cass. Marketing research is concentrated around marketing science (Balabanis), consumer behaviour (de Ruyter, Mitchell, Feiereisen, Wiertz) and marketing strategy (Bardhi, MacDonnell). The strong reputation of established academics has been further enhanced through the recent appointment of four additional high-calibre staff. Marketing scholars develop their annual research plans through regular research away-days. They are involved in extensive collaborative links with research centres outside the UK. For example, Hennig-Thurau is a Fellow of the DeSantis Center for Motion Picture Industry Studies (Florida Atlantic University, USA); Mitchell is a visiting professor at Vienna University of Economics and Business, Austria and Paris Dauphine University, France. Staff members in this group have published in leading academic journals in the area, such as *Journal of Marketing* (8), *Journal of Marketing Research* (1), *Journal of Consumer Research* (4) and *Journal of Retailing* (3), as well as top-tier journals in other management fields. Awards for the academic staff in Marketing include: Balabanis' best paper award at the 2012 Global Marketing Conference and Mitchell's *Financial Times* Higher Education Book of the Year Award 2009 for *Marketing: Real People, Real Decisions*. Hennig-Thurau has won more than 10 international awards for his work, including the Mallen/UCLA Lifetime Achievement Award 2010 and the Journal of Service Research 2011 Award for research excellence. A testimony of the wide influence of Cass academics to the marketing discipline is their high-level involvement in professional associations and learned societies: Hennig-Thurau has been a member of the American Marketing Association's Academic Council (the first ever non-US academic). Mitchell is a Fellow of Chartered Institute of Marketing and the Marketing Society and was Associate Editor of the *International Journal of Management Reviews* (2005-2010).

Academic staff in Operations and Supply Chain Management are engaged in interdisciplinary empirical and methodological analyses across all functional areas of business, including modern management practices and interface of Operations Management (OM) and HRM (De Menezes; Glass), innovation and the development of strategic buyer-supplier relationships (Roden) and modelling and empirical work in supply chain risk (Sodhi, Formentini). While their work in supply

chain issues is distinctive, Cass academics also break new ground through research on electricity markets, flexible working arrangements, forecasting, risk management and sustainability. They have established an active research environment and collaborations with University College London and UCLA, USA, which underpin several top-quality research outputs submitted by the School. Formentini is a Marie Curie Fellow. Glass' interdisciplinary work on an interface between OM and HRM including applications of OM techniques in call centre and hospital staff rosters, aircraft departures and microbiology laboratories was funded by an EPSRC grant while her work on internet/remote sensor/mobile telephone message routing was funded by EPSRC and Ofcom grants. Sodhi chaired the first Production & Operations Management Society International Conference in India and is Associate Editor of *Production and Operations Management*.

The **Strategy, Entrepreneurship and Innovation** group, already notable in RAE 2008, is one of the strongest in Europe with substantial international visibility, collaborations and success in academic and practice circles. The primary focus of our research in strategy is on strategic dynamics in high growth sectors, including hedge funds and biotechnology (Ferriani, Haefliger); conceptualisation of business models (Baden-Fuller); strategy as practice (Jarzabkowski, Cabantous); strategy as creativity (Lampel, Haefliger, Ferriani); and corporate governance, stakeholders and strategy (Filatotchev, Pedersen; Ravasi). The research of this group was ranked in the Global Top 10 by the *Financial Times* survey of business schools in 2009 and 2011. They have established a cluster of research on new business models which involves collaborative links among academics from the Universities of Cambridge, Sussex, Bologna (Italy) and Grenoble (France). The cluster organises annual strategy workshops to showcase its research to wider academic and practitioner audiences. This collaboration has led to several research grants including a £750,000 EPSRC grant held by Baden-Fuller jointly with the SPRU, University of Sussex, to research financial and organisational innovations in biotechnology and a £1.1M EPSRC & ESRC grant to research new business models for the digital economy. Closely related to strategy is research on innovation and technology management that includes innovation through design competitions (Lampel); global innovation strategies (Bhalla, Pedersen); idea creation, creativity and knowledge re-use (Haefliger, Cacciore). In the field of entrepreneurship, Shane's work on university technology, spin-offs and technology transfer is widely cited and complements Souitaris' work on academic entrepreneurship. Interdisciplinary research is strongly encouraged within the group. For example, Novelli's work lies at the interface of strategy and technology studies and focuses on the strategic management of knowledge, technology and innovation. Li's work on new business models for the digital economy combines research on digital technologies (ICTs) with strategic innovation analysis. Shane and Nicolaou's work integrates genetics with entrepreneurship research and has helped to bring business relevance to human genetics testing. Much of the interdisciplinary research is supported and showcased through the Centre for New Technologies, Innovation and Entrepreneurship, directed by Baden-Fuller. Group members have established extensive collaborative links with external organisations, including prestigious visiting fellowships held by Baden-Fuller at Wharton School, USA; Filatotchev at Vienna University of Economics and Business, Austria; Jarzabkowski at Cornell University, USA; Bhalla at Indian School of Business, India. Collaborative links extend beyond academia and involve industry, investors and other end-users. For example, Shane is a member of the North Coast Angel Network, USA. Li's research involves large network of private sector firms such as Limbs Alive Ltd. and Business & Decisions Ltd. and charitable organisations such as Age Concern.

The group's extensive academic networks and collaborative links have resulted in a substantial number of publications in top strategy and entrepreneurship journals, including *Academy of Management Journal* (3), *Academy of Management Review* (5), *Strategic Management Journal* (6) and *Journal of Business Venturing* (7). The group's achievements have also been recognised with a variety of external funding. For example, Li is an investigator on large collaborative projects totalling over £10M from the Research Councils, the Technology Strategy Board and the Wellcome Trust. Another sign of the group's contribution to the discipline is membership in prestigious learned societies and awards. Filatotchev is a Council Member of the Society of Advanced Management Studies, Baden-Fuller is a Fellow of the Strategic Management Society and Pedersen is a Fellow of the Academy of International Business. Shane's awards include the 2009 Global Entrepreneurship Research Reward, the Swedish Foundation for Small Business Research and the 2008 Greif Research Impact Award. Jarzabkowski is a winner of the ESRC 2013 Impact

Prize Competition. In 2011, Souitaris was recognised as one of the top 40 business school professors under 40 years old by the business education magazine *Poets and Quants* and Shane recently won Paper of the Decade award for his seminal contribution in *Academy of Management Review*. Group members are involved in editing top academic journals, including Baden-Fuller, *Long Range Planning* (1999-2010) and Pedersen, *Global Strategy Journal*. Associate editorships include Lanzolla and Haefliger, *Long Range Planning* and Filatotchev, *Corporate Governance: An International Review*.

Cass is unique among UK business schools in having a major **Actuarial Science & Insurance** faculty and group. The group has built an outstanding international reputation for fundamental analysis with practical applications to business problems and social issues, using finance, statistics and economics including: general insurance (Verrall, Nielsen, Martinez-Miranda, Tsanakas); life insurance (Haberman, Kaishev, Dimitrova); pensions (Haberman, Blake, Butt); health and long-term care (Mayhew); risk management and investment (Tsanakas, Siu); optimisation algorithms (Glass); Bayesian networks and their applications (Cowell). Group members have developed extensive collaborative links with academics in other institutions in the UK and elsewhere, as well as research collaborations with non-academic users. These links underpin a significant number of high quality research outputs: Cowell has a prize winning book and several papers with Lauritzen (University of Oxford); the work of Blake and Timmermann (UC San Diego) produced a *Journal of Finance* paper; Haberman worked with Denuit (Catholic University of Louvain), Olivieri (University of Parma) and Pitacco (University of Trieste) to produce a highly cited research monograph investigating the effect of longevity risk on pensions and annuities; Verrall collaborates with Wüthrich (ETH Zurich) on stochastic claims reserving for general insurance. The group also has extensive research partnerships with business, government and the actuarial profession. For example, a novel methodology for competing risks modelling has been developed by Kaishev, Haberman and Dimitrova with funding from Swiss Re and the Actuarial Profession. It has been successfully applied in modelling the interaction between critical diseases, such as cancer, diabetes and heart disease. Members of staff have carried out research into mortality rates for many years. A new variable knots spline regression methodology, called GeD spline regression, has been developed (Kaishev, Dimitrova, Haberman) and successfully applied in smoothing mortality data for the needs of the Government Actuary's Department, the Office of National Statistics, Statistics Canada and the Irish Central Statistics Office. The group conducted comparative study of assumptions used in pensions calculations in the EU which was funded by Towers Watson and the Actuarial Profession. With funding from the ESRC and the Actuarial Profession, Verrall and Haberman have made a significant contribution to the field in their study of expected time lost to sickness, disablement and unemployment over a working lifetime, which has been used to update the Ogden tables for determining damages from loss of earnings. These collaborative links with industry, government and the professions have enriched the research environment in the group by shaping the research agenda and providing opportunities to apply and test research in solving real-life problems. For example, Kaishev and Dimitrova's research on an Economic Scenario Generator was initially suggested by the reinsurance intermediary Aon-Benfield Ltd and subsequently applied for internal use. Mayhew and Rickayzen's work on public and private funding of long-term care was influenced by policy thinking within the Treasury, the Department of Health and the Dilnot Commission, who subsequently took on board many findings of their research.

The high academic standing and visibility of group members underpins their contribution to advisory bodies and professional associations. Haberman has advised Swiss Re, Deutsche Bank and the FSA, amongst many others. He was a member of the FRC Board for Actuarial Standards from 2006-2012 and is a member of Legal & General's Longevity Science Advisory Panel. Blake was involved in the 2009 World Economic Forum's Financing Demographic Shifts Project and was Expert Group Member for World Economic Forum Report Transforming Pensions and Healthcare in a Rapidly Ageing World. He is Co-Founder with JP Morgan and Towers Watson of the LifeMetrics Indices. Tsanakas was awarded the Lloyd's Science of Risk prize for his work in 2011. In 2013, Blake was selected as one of "The Ten Most Influential Academics in Institutional Investing" by aiCIO. In 2011, he won the Robert I. Mehr award from the American Risk and Insurance Association for his seminal paper on mortality risk transfers. The paper is credited with developing a new global capital market in mortality risk transfers between pension funds, life

assurers and capital market investors, leading to the world's successful first longevity swap in 2007. In 2013, *North American Actuarial Journal* ranked the group 2nd among 867 actuarial research centres around the world. By combining actuarial expertise with modern mathematical statistics and finance research, the group has developed a disciplinary initiative that has influenced actuarial researchers working in the fields of general insurance and solvency both nationally and globally. Members of the group hold key editorial roles. Haberman is editor of *Journal of Pension Economics and Finance*. Associate editorships include: Verrall and Tsanakas, *Insurance: Mathematics and Economics* and Blake, *Journal of Risk and Insurance*.

The **Asset Pricing and Financial Econometrics** group is the largest research community within the Faculty of Finance. The group is particularly strong on empirical international finance (Sarno, Brandt, Schmeling, Beber); capital markets in emerging economies (Phylaktis); market microstructure (Cespa); financial econometrics and mathematical finance (Cerny, Urga, Neuberger); and shipping finance (Grammenos, Nomikos, Papapostolou). Group members are involved in collaborative research with external academic, policy-making and practitioner organizations. Sarno has extensive research links with the International Monetary Fund, the European Central Bank, the Federal Reserve Bank and the Bank for International Settlements, among other institutions. He is recognised as a world authority on empirical international finance and his work with Schmeling has made major contributions to the understanding of exchange rate movements. Beber's work with Marco Pagano (University of Naples Federico II, Italy), 'Short Selling Bans Around the World: Evidence from the 2007-09 Crisis', recently published in the *Journal of Finance*, is an example of successful collaborative research that is relevant to the wider world. This paper was also a winner of Institute for Quantitative Investment Research 2011/12 prize for excellence. Group members have also developed wide networks of research collaboration through research centres at Cass. For example, the Centre for Econometric Analysis, directed by Urga, has rapidly established itself as a major research community through hosting international conferences at Cass in 2008, 2010 and 2012 (with the participation of Nobel Prize Winners Granger and Engle) and an active network of associate staff from the Universities of Cambridge and Oxford; University of Chicago, USA; LSE; New York University, USA; University of St Gallen, Switzerland; Syracuse University, USA; and Texas A&M, USA. This was facilitated by an ESRC research seminar series grant for the period 2008-10 and the funding was extended to 2012 with support from the Bank of England. The Centre has hosted the OxMetrics Users Conference series since 2003 and promotes its research via seminars and workshops. The Emerging Markets Group Seminar Series directed by Phylaktis uses ESRC support to promote collaborative work on capital markets in emerging economies. Research on shipping finance represents a developmental disciplinary initiative that has helped to establish a world-wide community of academics that conduct work on modelling risk in international shipping, energy and commodity markets. Since 1983, research has been based within the world-renowned Costas Grammenos Centre for Shipping, Trade and Finance. This is currently the focus of an £8M fundraising campaign, chaired by the Lord Mayor of the City of London, with £5.8M already secured. The research generated in this group and centre is widely disseminated to industry, academia and government through major international conferences. These include the annual Piraeus International Meeting with business leaders from the world's shipping centres; the prestigious City of London biennial conferences at the International Maritime Organisation, attended by over 500 senior figures from world financial institutions and governments; and the annual Energy Risk Management Seminar. The 2009 *Handbook of Maritime Economics and Business* edited by Grammenos, with chapters from 50 leading academics worldwide, has established itself as the industry 'maritime bible' according to Lloyd's List.

The success of the group can be gauged in terms of its large number of highly cited publications in top journals; numerous prizes for best papers and research grants from the Department for Business, Innovation and Skills (formerly the Department of Trade and Industry), ESRC, German Research Foundation, BNY Mellon, Barclays Wealth, Investment Management Association, INQUIRE UK and the EU. A comparative analysis shows that the asset pricing subject area ranks in the top ten in terms of number of publications in the three leading finance journals: *Journal of Finance* (6), *Journal of Financial Economics* (5) and *Review of Financial Studies* (9). Sarno is the only European to have received the Western Finance Association prize. Beber won the Goldman Sachs Asset Management Award and Brandt was a recipient of 2010 Swiss Finance Institute

Outstanding Paper Award and 2009 Goldman Sachs Asset Management Quant Prize. He was involved as an Associate Editor in *Journal of Finance* (2003-2012); *Journal of Econometrics* (2005-2009) and *Management Science*. Other associate editorships include: Phylaktis, *Journal of International Money and Finance* (2002-2013), *International Journal of Financial Analysis*, *Emerging Markets Review*; Beck, *Journal of Financial Intermediation*; and Urga, *Empirical Economics*.

The **Corporate Finance, Accounting and Banking** group analyses and promotes practical applications of research on the behaviour of firms and financial institutions, including their relationship with capital markets. In the field of corporate finance, Volpin and Goh cover wide-ranging topics in corporate governance, capital structure and theory of organisations. World-class research has been conducted in the area of mergers and acquisitions (Custodio, Golubov, Schroth and Tran). Other colleagues (Cestone, Fabbri and Falconieri) focus on more theoretical aspects of corporate finance, in areas such as trade financing, Initial Public Offerings, takeovers and the financing side of public-private partnerships. Closely related to corporate finance is accounting research (Amir, Gietzmann, Raonic, Bilinski). Research on banking is driven by staff interest in central banking; credit risk and banking; interest rate transmission; financial innovation; and SME finance (Bruche, Casu, Fabbri, Peydro-Alcalde). Beck's research has made substantial contributions to financial intermediation and the impact of financial development on growth and he has become a leading authority in this field. Casu has also contributed to interdisciplinary literature in Law and Finance by investigating how differences in the degree of creditor protection affect the ability of firms and households to access bank financing. Research collaborations within the UK and globally are facilitated by active research centres. For example, the Mergers and Acquisitions Research Centre (MARC), the first UK research centre focused on the global M&A industry, has corporations, regulators and professional services firms among its members and has obtained £1M of financial support from AXA Private Equity, Credit Suisse, EY, Mergermarket and Towers Watson since 2008. This support is used to fund collaborative research projects and forums involving academics and practitioners that are designed to disseminate research outputs. The Centre for Banking Research has extensive links with the International Monetary Fund, the European Central Bank, the Bank of England, the Financial Conduct Authority (FCA, formerly the FSA), HM Treasury, the Board of Governors of the Federal Reserve System and the Federal Deposit Insurance Corporation. The Mais and Henry Thornton lecture series continues to demonstrate the group's high standing, with speakers over the assessment period including Axel Weber, Charles Calomiris, Paul Volcker and Jim Bullard. The group's contribution to the discipline lies in the strength of its published work which appears in the leading academic journals, including *Journal of Finance* (4), *Journal of Financial Economics* (8), *Review of Financial Studies* (5) and *Review of Finance* (5). Compared to other similar communities, the Cass accounting team is one of the very few groups capable of publishing in the leading financial accounting journals, such as *Accounting Review* (1) and *Review of Accounting Studies* (4). The group's success is also reflected in awards and honours received: Volpin is the Director of the European Finance Association (EFA) and received best overall paper award at the European Finance Conference in 2009 and best paper on corporate finance at the same conference in 2010; Schroth received best overall conference paper award at the EFA Annual Meeting in 2009. Associate editorships include: Volpin, *Review of Finance* and Casu-Lukac, *European Journal of Finance*.

Finally, academics across all research groups hold over 200 positions on journal editorial boards including: *Academy of Management Journal*, *Academy of Management Perspectives*, *Academy of Management Review*, *Academy of Marketing Science Review*, *British Journal of Management*, *European Accounting Review*, *European Journal of Finance*, *Human Relations*, *Human Resource Management*, *Insurance: Mathematics and Economics*, *International Journal of Forecasting*, *International Business Review*, *International Journal of Human Resource Management*, *Journal of Banking and Finance*, *Journal of Business Finance and Accounting*, *Journal of Interactive Marketing*, *Journal of International Business Studies*, *Journal of Management Inquiry*, *Journal of Management Studies*, *Journal of Management*, *Journal of Marketing*, *Journal of Portfolio Management*, *Journal of Risk and Insurance*, *Journal of Service Research*, *Leadership*, *Long Range Planning*, *Management Learning*, *Organization Science*, *Organization*, *Organizational Research Methods*, *Production and Operations Management*, *Review of Derivatives Research*, *Strategic Management Journal*, *Strategic Organization*, *Work, Employment and Society*.