

<p>Institution: University of Central Lancashire</p> <p>Unit of Assessment: 19 Business and Management Studies</p> <p>a. Overview</p> <p>The Business and Management (B&M) Unit of Assessment (UoA) is primarily drawn from the university's Lancashire Business School (LBS), which facilitates the development and implementation of a focused research strategy. This strategy has three main elements, namely; (i) promoting research and dissemination impact through stakeholder engagement; (ii) clustering research and support through research institutes; and, (iii) establishing international collaborations to build a global dimension into activity.</p> <p>The UoA has a long and distinguished track record of producing applied economic research, with a view to delivering solutions to real world problems. Practical dissemination of research findings involves working with the local and regional business community, whether through knowledge exchange programmes, leadership development, supporting the creation of new businesses and enhancing the skills and strategic decision-making in potentially high growth firms. This activity has been supported from business sponsorship, European and/or research council funding. It has culminated in UCLan receiving awards for being an enterprising university. UCLan ranks in the top three, nationally, for the number of graduate start-ups, and first for the sustainability of these businesses, with around 77% still trading successfully after 3 years.</p> <p>Research is concentrated within LBS in five research institutes, reflecting niche international research excellence (http://www.uclan.ac.uk/schools/lancashire_business_school/research.php). The five institutes are: Institute for Research into Organisations, Work and Employment (iROWE), Lancashire Institute for Economic and Business Research (LIEBR), Institute of Global Finance and Development (IGFD), Institute for Innovation, Enterprise and Entrepreneurship (I₂E₂) and Institute of Logistics and Operations Management (ILOM). This research submission reflects the cutting edge nature of some of this work, together with the importance directed to the nurturing of new talent and capacity within the B&M subject area.</p> <p>International links have provided vital additional insight, alternative perspectives of thought and new sets of data to analyse. Examples of specific collaborative arrangements, and their deliverables, are provided below in sections (b) and (d). One additional aspect of the internationalisation strategy has been the establishment in 2012/13 of an overseas campus; UCLan Cyprus. This has provided new opportunities for research collaboration between academic staff from different cultures. In pursuance of these opportunities two of the business staff appointed by UCLan Cyprus (Vlittis and Kvasova) are contracted to UCLan and LBS for part of their time and provide an invaluable links between the two institutions. To date, three research degrees students have their supervisory teams drawn from both Preston and Cyprus campuses, whilst I₂E₂ has established a sister institute the Centre for Entrepreneurial Development and Research (CEDAR) to create a link with the Cypriot business community.</p> <p>b. Research strategy</p> <p>For UCLan, research is a fundamental aspect of university life. The university strategy states that, "to be a world class modern university we require a research active community working at the forefront of their respective disciplines." There is an emphasis placed upon the realisation of the notion of "research impact" in its widest sense, by encouraging research engagement that addresses real world problems. This strategy is operationalised within this UoA through the LBS Research Committee which includes the Professor/Director of the School's research institutes.</p> <p>The School accepts its responsibility to nurture talent and create sustainable research activity. The development of Early Career Researchers (ECRs) has been of particular importance – this topic is developed in more detail in section C(i). However, three additional aspects have sought to direct and encourage distinctive developments which have occurred during the REF census period. To a large extent, both are building upon the foundations established during the previous RAE2008 period, but the UoA has sought to accelerate the pace of development.</p> <p>External Stakeholders</p> <p>Within this UoA, one of the key drivers for research is to produce internationally excellent outputs which are employed subsequently to have a positive <i>impact outside of academia</i>; for example, improving the performance of organisations, creating superior policy frameworks, or promoting better quality of life for working people and local communities. This is achieved through</p>

strengthening relationships with external stakeholders (business community, policy makers, the local economic partnership, etc) on the basis of the university's long standing work in employability, entrepreneurship, business incubation initiatives (via the *Northern Lights* business support and business incubation programme), leadership and the provision of support intended to enhance business performance through the spread of best practice amongst the local business community.

Research Institutes

The second driver of the LBS research strategy has been to focus research strengths through the establishment of five institutes, and using these as the primary mechanisms to develop the research culture. Institutes act as a conduit for mentoring colleagues and creating viable research teams around a niche area of research in which the School has a particular strength. Led by a Professor or a Director, institutes bring together staff and research students with similar research interests and encourage collaborations, external bidding, public engagement, impact and maximising high quality outputs. Each institute has an active research seminar programme (combining internal and external invited speakers), alongside hosting workshops, conferences and open meetings for dissemination of research findings into the wider community. This extends the approach adopted during the previous RAE2008 period, in focusing resources (staffing and financial) into those areas where there is the greater potential return in the quality of work produced. They are as follows:

Institute for Research into Organisations, Work and Employment (iROWE): Founded in 2010, the institute has 15 academic and 11 doctoral student members. **Ashman** (Director), **Wibberley** and **Bennett** are included in the REF submission. Research areas include employee relations, resolving workplace conflict through mediation, lean HR practices, trade union learning and development leadership, internal communication, managing downsizing and redundancy. A key feature of iROWE activities has been the development of a network of more than 200 associate members, comprised of senior human resource practitioners and policymakers. It benefits from business engagement via an advisory panel includes HR specialists from leading employers, including BAE Systems and NHS trusts, together with representatives from the TUC, UNISON, ACAS and the Federation of Small Business. This stakeholder engagement facilitates knowledge exchange and provides a useful resource when developing future research projects intended to be of use (impact) to the business community. The development of such an extensive network, in such a relatively short period of time, is impressive. Business interaction is further strengthened by hosting workshops and seminars, aimed primarily at practitioner audiences. Institute members have been awarded circa £180K in external research funding, from sources including the ESRC ('Reframing Resolution: Managing Individual Workplace Conflict' Research Seminar Series), ACAS, TUC UnionLearn and the East Lancashire Primary Care Trust (ELPCT).

Lancashire Institute for Economic and Business Research (LIEBR): Established in 2011, the institute has 9 academic members and 9 doctoral associate members. **Whyman** (Director), **Kostov**, **Kuznetsov**, **Le Gallo** and **Petrescu** are included in the REF submission. LIEBR provides an interdisciplinary space for exchanging and developing ideas relating to the drivers, design, implementation and review of economic, corporate and public policy initiatives, together with their impact upon key stakeholders; primarily business, employees and the community. Research areas include European integration, labour market flexibility, SMEs and regional economic development, business history, co-operative enterprises and corporate citizenship. Along with Preston Council, LIEBR co-hosted an international workshop on co-operatives and local economic development, and it recently hosted the 2013 Association of Business Historians' International Conference. Members have been awarded circa £200K in external research funding, from ESRC (knowledge exchange for regional SMEs), commercial sources and European (including collaboration with the Law School reported in section (d)).

Institute of Global Finance and Development (IGFD): Established in 2010, the institute has 10 academic members and 9 doctoral associate members. **Arun** (Director), **Annim**, **Kostov**, **Raman** and **Vlittis** are included in the REF submission. It is an international centre of excellence for microfinance both in developed and developing economies. Other areas of research include: access to finance; savings; micro insurance; investment flows; financial institutions; cultural and behavioural aspects of finance; regulation and corporate governance; entrepreneurship; and quantitative economics and finance. In 2010, IGFD organised an international conference on "Sustainable Entrepreneurship and Inclusive Interventions: Global Perspectives" with presentations of key findings from the British Council - DeIPHI funded project on 'Women entrepreneurs and risk

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copied mechanisms' in India, Ghana and Tanzania. Furthermore IGFD has co-hosted international conferences related to financial inclusion (eg. Chandragupt Institute of Management, India, 2011), African development finance (eg. Stellenbosch Business School, South Africa, 2012) and Microfinance, gender and empowerment (eg. SCMS, Cochin, 2012). Members of IGFD have secured funding from a range of sources such as the ESRC, the British Council, the British Academy and the EU to the sum of circa £100K.

Institute for Innovation, Enterprise and Entrepreneurship (I₂E₂): Founded in 2007, the institute has 6 academic staff, 3 doctoral students and 4 members from the practitioner community. **Richie** (Director) and **Kvasova** are included in the REF submission. I₂E₂ impacts upon the practice of entrepreneurship and small business management/development, through the combination of high quality research, developing knowledge transfer, leading to effective application within practitioner and policy-making communities. The focus includes women entrepreneurship, ethnic minority enterprise, entrepreneurial learning, social enterprise, including specialist financing of high growth businesses. It has received funding from various agencies, including the ESRC, ERDF, ISBE and regional agencies, thereby facilitating in-depth research into the levels of engagement between the universities and the SME community, incorporating pilots of different mechanisms and their effectiveness in sustaining trusting relationships. It has played an active role in business engagement programmes, to encourage new business formation and work with high growth potential SMEs in a coaching role, to enhance performance. The latter received ERDF funding to facilitate the expansion of this programme (and is discussed in more detail in the impact template). I₂E₂ and LIEBR have introduced leadership development programmes, including NWDA-sponsored LEAD (leadership development, circa £200K), BEDP (Burnley Economic Development Programme), health care commissioning for community groups (£49K) to provide business skills. The necessity to place cutting edge research at the heart of these initiatives is what provides I₂E₂ with its leading role in these developments. I₂E₂ is facilitating the development of CEDAR, on UCLan's Cyprus campus, specialising in research related to SME and family businesses. To disseminate research findings, it has introduced the Panorama for Entrepreneurship Support Scheme, which seeks to extend knowledge exchange to local SMEs relating to new enterprise development.

Institute of Logistics and Operations Management (ILOM): Established in 2011, and the newest of LBS research institutes, ILOM has 6 academics and 15 doctoral associate members. **Yusuf** (Director), **Gunasekaran**, **Musa**, and **Ritchie** are included in the REF submission. It focuses upon work in the areas of logistics and supply chain management including supply chain risk management, operations management, RFID, e-business, cyber security and information systems. Members of the Institute have very strong profiles in Agile Manufacturing and performance measurement research and their work in these areas is well cited. An important new area of focus for us is energy and environment, particularly the sustainability of the Oil and Gas supply chains. In addition to monthly seminar series, with speakers drawn from within UCLan and other UK Universities as well as overseas institutions, in 2012 and 2013, members of the Institute, in partnership with others, organised international conferences on 'Software, Knowledge, Information Management and applications' at Chengdu University, China and on 'Oil and Gas Challenges and Opportunities' at Kwame Nkrumah University of Science and Technology, Ghana, respectively.

International Strategy

The third driver of the UoA research strategy relates to the development of a network of international research collaborations. The School encourages such links as they broaden the reach of specific projects, whilst drawing upon additional data, skillsets and techniques. Examples include the work undertaken between **Kuznetsov**, the National Research University Higher School of Economics (Moscow), and the Institute of World Economy and International Relations of the Russian Academy of Sciences (resulting in two of Kuznetsov's REF submissions). **Yusuf** is working with a colleague from the University of Bremen in relation to supply chain agility; two of his REF submissions derive from this link. **Arun** has a number of research partners, including the Sri Lankan central bank, the African Development Bank, University of Stellenbosch (South Africa) and University of Cape Coast (Ghana) and Indiana State University. One culminated in a joint paper relating to microfinance as a means of promoting growth in the U.S.A, and another produced a paper for the European Development Report 2010. These links are mentioned in more detail in an impact case study.

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Another approach has been to utilise European (FP7) funding to establish new partnerships, as evidenced by **Kuznetsov's** project on developing guidelines and codes on ethics for local research systems in Kenya and India, with collaboration drawn from the National Research Council (CNR, Italy), Maastricht University (Netherlands), Lunds University (Sweden) and the University of Hyderabad (India). **Yusuf** has a longstanding collaborative link with three Chinese universities (Shanghai Jiao Tong, Tsinghua and the Chinese Academy of Sciences), formed during an EPSRC project relating to global logistics and supply chain management in China, during the previous RAE cycle. The project resulted in a number of UK-China workshops, in both Shanghai and Beijing. Similarly, **Yusuf** and **Musa** developed a productive international collaboration, with Ahmadu Bello University (Zaria, Nigeria), relating to the sustainability of oil and gas supply chains, with two resulting papers in their REF submissions.

External visitors to the UoA have provided further opportunities for collaboration, as evidenced by hosting the 2010 International Association of Cross-Cultural Management conference, which led to an exchange visit to the JTO School of Management (Finland). Similarly, the 2013 Association of Business History conference established a relationship with the University of Wisconsin-Milwaukee (USA). iROWE's ESRC Seminar Series 'Managing Workplace Conflict' resulted in collaboration with Colvin (Cornell University, USA). Capitalising upon these developments, UCLan launched its Distinguished Visitors Programme, and McMillen (U. Of Illinois, USA) will be visiting LBS to develop his on-going work with **Kostov**, related to spatial and quantile analysis.

Furthermore LBS has awarded 3 visiting professorships; Julie Le Gallo (Université de Franche-Comté), Angappa Gunasekaran (University of Massachusetts) and Ravi Raman (Director, Institute for Applied Manpower Research, New Delhi). They provide crucial support for developing research in spatial economics, logistics and international finance, in addition to providing guest lectures. Le Gallo contributes towards the Jean Monnet Module programme awarded to the UoA.

Other Drivers

Beyond these three research drivers, the UoA is closely associated with the innovative undergraduate research internships, co-ordinated by UCLan's Centre for Research-informed Teaching. This remunerated scheme has been operating since 2008, enabling nearly 200 interns to work alongside research teams, during the summer vacation, enhancing their understanding of the research process (from project design to fieldwork and analysis). Colleagues from LBS have made considerable use of this, as it provides support for researchers, while having the potential to improve the research skills and experience of potential future research students. The most successful interns have presented posters at the American National Conference of Undergraduate Research. One of the REF submitted publications, by **Whyman** and **Petrescu**, derives from work originating from this programme.

Finally, LBS utilises a Working Paper Series, under the editorship of **Whyman**, as a means of disseminating research ideas in progress, but, more importantly, providing an alternative means of mentoring colleagues involved in publishing research findings. Informal, internal review of the work of colleagues is considered to be a helpful stimulus towards producing stronger papers.

Research Facilitation provided by the university

Strategic development, at school level, closely compliments and maps into the wider university strategy. This process is managed by the Research and Innovation Office (RIO). The University Research and Knowledge Transfer Committee determines policy and practice in relation to research governance. The University operates a robust e-Ethics Committee including external and service user representation to which all research projects must be submitted for review. Research funding applications are supported by the university Funding, Development & Support unit. This covers identifying possible external sources of funding and full costings. New applied research programmes with external partners are guided by the Innovation and Enterprise Unit, including contract development, revenue sharing agreements, protection of intellectual property and provision of legal advice.

c. People, including:

i. Staffing strategy and staff development

The staffing strategy for the UoA includes the expectation that all new employees will be research active or, in the case of current PhD students who have yet to publish, have the realistic probability of becoming independently research active within two years. Lectureship staff appointments are made to subject discipline areas to strengthen particular research capabilities. Research

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appointments (RA/RF) are made for the specific purpose of supporting either a particular research project or research institute. Given the importance of creating and developing additional research capacity, RAE2008 QR money to the value of circa £190K per annum has been invested in the provision of research support to facilitate the work of the various research institutes, and a number of current or former RA/RFs are included in the current submission. The University has an annual and interim appraisal process through which research active staff develop research plans with clear targets that are reviewed and monitored. Workload relief funding contributes to higher level outputs. Centrally administered, competitive research sabbaticals are awarded to provide the space necessary to develop new areas of research, and/or to facilitate external funding applications through furnishing time to develop the bid.

The School research strategy identifies Early Career Researchers (ECRs) as requiring particular assistance, because it is too easy for the demands and responsibilities imposed upon those new to the academic role to undermine research progression. The flexible range of supportive measures the School provides includes aspects of mentoring or 'buddy' approaches (typically via research institutes), a comprehensive statement of training options available, as well as reduced teaching requirements and no administration roles for a transition period of two years. Progress is facilitated through the appraisal system. The UoA is proud of the contribution that it is able to make towards the development of the future generation of academics, and thereby making a contribution to the sustainability and vitality of B&M research into the future.

LBS invests 0.1% of payroll costs into a personal and professional development fund (totalling circa £50K), which enables activities identified as enhancing personal development and performance. This includes conference attendance, networking opportunities and external sessions to enhance specific skills, such as a particular econometric technique. Research institutes hold an additional budget focused on facilitating a dynamic research culture through funding conference presentations, fieldwork and professional training, etc.

ii. Research students

Research degree students are an essential part of the UoA and their number has continued to increase during the REF census period. The number of doctoral awards (successful completions) has increased more than fourfold, from three in the previous RAE cycle, to 13 during this REF period. Moreover, there are currently **48 MPhil/PhD** students being supervised in B&M, of whom approximately half are registered full time. The majority of these students are self-funded or corporate sponsored, including a sizeable proportion of international students. Sponsors include the Petroleum Technology Development Fund (Nigeria), Shah Abdul Latif University (Pakistan), Institute of Finance Management Dar Es Salaam (Tanzania), Sellafield Ltd, Nuclear Decommissioning Agency and various government agencies (Vietnam, Jordan, Libya, Botswana, ORSAS-UK). The current timeline is for an additional 15 doctoral students to graduate in the next 12 months, and with the same number completing in the following year. UCLan has invested in a number of studentships and fee waivers, to facilitate this expansion and the growth trajectory and the UoA has benefitted with 6 internal scholarships since 2008.

UCLan provides a comprehensive training programme for staff and students, including research methods and skills elements, supplemented by additional modules within LBS for B&M doctoral students. This provision has recently been awarded the Vitae Excellence in Research Training award and associated kitemark. The on-line Research Masters Programme from Epigeum is utilised as an alternative delivery platform where appropriate; enabling progressive learning from research student to senior research academic via a combination of face-to-face, e-learn and web-based training, thereby complying with the training requirements of the RCUK, HEFCE and QAA. To enhance employability, students can engage in teaching activities, via 'Teaching Toolkit' training and the provision of a mentor to monitor progress in both teaching and marking.

All full-time students are provided with a desk in a student room with access to individual networked computer and printing. LBS has two Research Degrees Tutors who work closely with the university Research Student Registry (RSR) to admit, induct, support and review the progress of research students. Supervision is provided by teams of two or three, with one experienced person acting as Director of Studies (DoS). This practice allows less experienced research staff to develop supervisory skills by including them on teams along with experienced colleagues. Furthermore five staff have completed UCLan's PG Certificate in Research Student Supervision and a further ten are presently registered on UCLan's New Research Supervisor Training

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programme. Together these mechanisms are helping to increase the capacity of staff skilled in supervision at doctorate and MA by research level to meet increasing demand in the School. Doctoral students have their own research student society (PROGRESS), which reports to the university Research and Knowledge Transfer Committee. At School level, a research degree student representative sits on the LBS Research Committee, ensuring the student voice is present in the strategic decisions of the School. Doctoral students are awarded associate membership of LBS research institutes, entitling them to take advantage of most aspects of institute activity. Students are required to make at least one presentation of their work to the wider research community per annum, the institute research seminars are a natural forum for this; particularly, during the early stages of a project. An annual UCLan Research Student Conference provides an alternative internal opportunity for doctoral students to present posters and papers pertaining to their on-going research. Doctoral students attend research seminars, by academic staff and external speakers, to foster a culture in which learning from experienced researchers in the designing of projects and presentation of results is encouraged. Presentations at learned conferences is strongly encouraged and supported financially. A notable success of this approach is evidenced by UCLan doctoral student (Geier) receiving an award for her conference paper at Euro Working Group on Decision Support Systems, 2012.

d. Income, infrastructure and facilities

In the previous RAE cycle, a significant amount of investment was made in the UoA, to facilitate a step-change in research activity and hence embed research culture more firmly at the heart of the School. This was successful, as can be noted by the results of the RAE2008. In this REF period, greater emphasis has been placed upon the ability of the School to generate sufficient resources to finance its expanding portfolio of research projects, to ensure sustainable progress.

Accordingly, LBS has generated £689K which represents approx.. £60K per FTE member of staff included in the REF submission. This includes ESRC funding for two projects: the first, led by IGFD, to investigate the microfoundations to the access of finance in South Africa (£78K), and the second, led by LIEBR, received funding (£99K) to establish, and subsequently evaluate, a business network in the Lancashire region (KN4B).

Non-research council funding includes a collaboration with the Law School, funded by the DG for Employment, Social Affairs and Inclusion, investigated Combating Cyber-bullying in the workplace" (€163K). A number of projects in the field of employment relations have been supported by both ACAS and trade unions (TUC, UNISON); the former funding four projects, undertaken by iROWE, relating to the management of workplace conflict (£26K). This work led to the award of an ESRC Research Seminar Series, 'Reframing Resolution: Managing Individual Workplace Conflict' (£18K). Moreover, the TUC funded for two projects examining the role and impact of Union Learning Representatives led by iROWE (£20K) which was cited by Baroness Wilcox (Parliamentary Under Secretary of State in the Department of Business, Innovation and Skills) as playing a key role in the Coalition government's continued funding of union learning. European funding includes a SET-DEV project, where UCLan participation focused upon the socialisation of science and technology (€1.2m, UCLan share €130K). Commercial research funding includes an evaluation of medical leadership and management, undertaken by **Ashman and colleagues**, and sponsored by the ELPCT (£49K); online supply chain crime prevention, sponsored by ShopDirect Ltd (£30k); and a local impact and skills study conducted by LIEBR, funded by Cuadrilla Resources (£40K).

Research infrastructure and facilities for B&M are primarily available via the UCLan Library and Information Service, which is open 24 hours during term-time. It provides both physical and extensive online resources that can be seamless accessed externally via UCLan Global. It offers e-journal resources, access to various business datasets, and to statistical packages necessary to analyse the data generated. Research in the UoA also benefits from a range of innovative resources established to enhance knowledge transfer and the nurturing of SMEs. The *Northern Lights* business incubation unit feeds into research programmes in different ways, whilst drawing upon the knowledge created through LBS research activity (particularly I₂E₂ and LIEBR). Indeed, the interaction between the local and regional business (particularly SME) community, and the university research community, is viewed as one of the key strengths of the UoA. It has anticipated the 'impact agenda', since it has long sought to disseminate its key research findings in the attempt to improve the efficiency of organisations and improve the lives of working people.

e. Collaboration or contribution to the discipline or research base

Policy advice and consultancy: **Ritchie** has chaired the Crewe Development Agency, a multi-million pound organisation to initiate and support small business initiation and development, including being a Director of the South Cheshire Chamber of Commerce. **Arun** has advised the European Commission on the role of microfinance in social protection. **Bennett** and **Wibberley** have advised ACAS and a number of large employers in respect of workplace mediation and the management of conflict. **Hollinrake** has provided advice and guidance to UNISON, in the North West, regarding their organising strategies and to the TUC regarding the impact and effectiveness of Union Learning Representatives. **Arun** has given evidence to the All-Party Parliamentary Group on Microfinance on the inquiry into the impact of microfinance on poverty. **Whyman** is economic advisor to the Forum for Private Business and Global Britain. LIEBR has completed consultancy reports for North West energy companies, relating to skills and training investment. He has contributed towards House of Lords (Europe) and Treasury Select Committee reports

Advisory, review, funding, standards and planning bodies: **Richie** and **Yusuf** are members of the EPSRC Review College; whilst **Arun**, **Ashman**, **Kostov**, **Petrescu**, **Richie** and **Whyman** are members of the ESRC Peer Review College. **Arun** has reviewed proposals for the Danish Development Agency and the Department for International Development, **Kostov** reviewed proposals for the Austrian Science Fund; **Richie** has acted as representative of North West universities on North West regional groups and business support agencies.

Journal editorships and editorial boards: **Richie** edits the *Cyprus International Journal of Management* and **Yusuf** the *International Journal of Agile Systems and Management*. Membership of editorial boards include *CBS Journal of Multidisciplinary Studies*, *Sri Lankan Central Bank (Arun)*; *International Journal of Technology Policy and Law (Arun)*; *Journal of Agribusiness in Developing and Emerging Economies (Arun)*; *IRISH, the Biannual Journal of the Institute for Research in Social Sciences and Humanities (Arun)*; *Economics, Management and Financial Markets (Whyman)*; *Insurance Markets and Companies: Analyses and Actuarial Computations (Kostov)*; *International Journal of Logistics Systems and Management (Yusuf)*; *International Journal of Management Education (Leeds)*; *International Journal of Strategic Change Management (Yusuf)*; *Journal of East-West Business (Kuznetsov)*

Prestigious fellowships or visiting appointments: **Arun** acted as Visiting Professor, University of Rome, La Sapienza; Research Fellow at IZA, Berlin; and is External Associate, Brooks World Poverty Research Institute, University of Manchester. **Ritchie** acted as Visiting Professor at Lille University and PA College in Cyprus. **Whyman** is an Associate of the Oxford Centre for Mutual and Employee-owned Business, Kellogg College, University of Oxford.

Learned society and professional body involvement: **Ritchie** is Executive Vice- President of the Institute of Small Business and Entrepreneurship (ISBE), and Chair of the ISBE North West Chapter. He is also Chair and Founder of International Supply Chain Risk Management Network.