Centre for Business Research

UNIVERSITY OF CAMBRIDGE

CBR

CBR ANNUAL REPORT

31 JULY 2013 – 1 AUGUST 2014

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Foreword

This has been a year of intense activity in the CBR. CBR researchers were carrying out fieldwork in China, India, Cambodia, Russia and Brazil, as well as in the UK, mainland Europe and Japan; they were developing original datasets on legal institutions, innovation, and macroeconomic indicators; their worked appeared in world-leading journals in management studies, innovation research, legal studies and political science; and they contributed evidence-based insights to policy debates on economic development, technological change and poverty alleviation at British, European and global level. It was also a year of transition, with a major project, the UK Innovation Centre, completing its term, while new ESRC-funded projects on law and development were initiated, and contract research was undertaken for a range of governmental bodies, companies and NGOs. In the year to October 2014 over £1 million was raised in new funding, including a major donation from the Cambridge Political Economy Society Trust over a five year period from 2015, and support from a consortium of governmental and industry bodies for an extension of the CBR's survey of university-industry links. The Centre assumed a central role in two University-level initiatives, the ESRC's Impact Acceleration Account Pilot Programme and the Strategic Research Initiative in Public Policy, which brings together policy-based researchers across the sciences and humanities within Cambridge. The Centre has been developing new areas of research activity at the interface between the social sciences and the technology-based disciplines, including research into the Internet of Things and the economics of cyber security. This is made possible with a small but dedicated core team and with the goodwill and support of a community of researchers, within and beyond Cambridge, who are committed to the Centre's remit of interdisciplinary, policy-relevant research.

Simon Deakin
Director, CBR

October 2014

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1. General Overview, Research and Dissemination Highlights

Introduction

The CBR conducts interdisciplinary research on enterprise, innovation and governance in contemporary market economies. Established in 1994, it is now one of the leading centres for social science research on economics, law and business in Europe, and has a growing global reputation. The Centre's current areas of specialisation include the construction and analysis of large and complex datasets on SMEs and innovation, longitudinal analysis of legal and regulatory change affecting business firms, and fieldwork-based studies of corporate governance and organisational practice. The Centre has made a significant contribution to the development of research methods and theory in the analysis of law and finance. The Centre's research is disseminated to and used by managers, policy-makers and regulators in numerous countries.

The CBR is located on the sixth floor of the Judge Business School building in the centre of Cambridge. It has links to several Cambridge University departments in addition to JBS , including Engineering and Law. The CBR's Director is Simon Deakin (Professor of Law in the Faculty of Law) and its two assistant directors are Andy Cosh (Emeritus Reader in Economics in the Department of Engineering) and Michael Kitson (Senior Lecturer in International Macroeconomics in JBS). The Centre has a core staff of around a dozen researchers at postdoctoral and more senior levels and a small administrative team.

This report covers the activities of the CBR from the end of July 2013 to the beginning of August 2014.

Research Achievements and Results in 2013-14: Overview

2013-14 saw the publication of 36 refereed articles, 5 books, 27 chapters in books, and 92 other publications including working papers and research reports. Publications appeared in several core journals in management (including *Academy of Management Review*, *Organization Science*), innovation studies (including Research *Policy*) and law (including *American Journal of Comparative Law*).

Impact Highlights: Working with Government, Business and Civil Society

Foresight Lead Expert Group: The Future of Manufacturing. Launch of Final Project Report, October 2013

Professor Alan Hughes was a member of the Lead Expert Group for this major research undertaken by the government-supported Foresight Programme and was particularly involved in writing the final report. The Lead Expert Group was led by Sir Richard Lapthorne and also included Professor Nicholas Crafts, Professor Steve Evans, Professor Anne Green, Professor Richard Harris, Professor Chris Lowe, Dr. Hamid Mughal, and Professor Sir Michael Sterling. This report considers the changes affecting British manufacturing in a global context and demonstrates how manufacturing is set to enter a dynamic new phase, driven by rapid changes in technology, new ways of doing business, global competition and potential volatility in resource prices and availability. The project commissioned over 30 research reports to inform its findings of which six were written and co-authored by CBR and UK~IRC colleagues including Simon Deakin, Cher Li, Elif Bascavosoglu-Moreau, Alan Hughes, Bill Martin, Ken Coutts and Bob Rowthorn. Of the Report's 65 recommendations, 62 were accepted by the Coalition Government and three have been the subject of further discussion.

On the publication of the final report, Sir Richard Lapthorne wrote:

'The Foresight Programme has the distinction of only allowing conclusions to be drawn where there is a strong evidence base from high quality sources. Combining the UK-IRC research papers together with his interpretative skills enabled Alan Hughes to capitalise on this work and make an outstanding contribution to our study on the Future of UK Manufacturing. A telling point was the breadth of coverage of the research reports and their positive effect on our confidence to constantly push at the boundaries of our Foresight brief. Leveraging quality study work in this way greatly facilitated both the pace and the quality of our Foresight work. It was an excellent example of how to make the efficient use of high quality thinking time in synthesising robust reports.'

The Economic Significance of the UK Science Base: A Report for the Campaign for Science and Engineering (CaSE) by Jonathan Haskel, Alan Hughes and Elif Bascavusoglu-Moreau, March 2014.

This UK~IRC report shows that investing public money in science and engineering is good for the economy. The report looked in detail at the relationship between public funding of science and engineering and three levels of economic activity: total factor productivity growth in industries; ability of universities to attract external income; and interaction between individual researchers and the wider economy. The report demonstrates that, at the level of industries, universities and individual researchers, public investment in science and engineering leads to economic growth. The report provides compelling evidence that public investment in scientific research leads to economic growth through an increase in private sector productivity and beneficial economic and societal impacts through increased interaction between the academic and private sectors. It adds crucial evidence to support advice that government can drive economic growth by investing in science and engineering research.

Director of CaSE, Dr Sarah Main, said:

'*This new economic analysis shows us how the UK's exceptional science and engineering sector can be the corner stone of our economy. The UK has a world-class reputation for scientific research, which innovative industries want to access. Government will reap great rewards by investing in science through university and research funding because it raises our knowledge base and acts as a magnet for private sector investment.'*

Dissemination Highlights: Informing Policy Debates

CBR was widely disseminated in the media and featured prominently in policy debates in 2013-14. Highlights include the following; a full list of media outputs is contained in the appendix.

The Labour Market - Working It! A striking recovery in the labour market, and a problem for Mark Carney

In October 2013, official figures showed that the UK unemployment rate fell to 7.1% in October 2013, but that wages remained below the pre-crisis level. Bill Martin and Robert Rowthorn, writing in *The Economist*, argued in a much discussed article that 'declining wages are encouraging firms to rely more on human labour and less on capital, machines or software, leading to more employment at lower productivity rates across the economy.

Why the new nuclear power contract between EDF and the UK government should be re-negotiated

In April 2014 the BBC Today Programme interviewed David Howarth about the findings of his research with Simon Deakin on the nuclear power contract then being negotiated between EDF and the UK government and *The Times* ran an article on the issue. CBR workshop, supported by the ESRC's Impact Acceleration Account, had examined whether the contract might contravene EU law on state aids and the free movement of goods. Following approval for the deal from the European Commission in October 2014, litigation on the lawfulness of the contract under EU law seems inevitable.

How Britain's economy got dumber: Pfizer's bid for AstraZeneca

CBR and UK-IRC research by Alan Hughes and Andrea Mina on the comparative performance of the UK economy has shown the decline of the UK's R&D intensity over time compared to our major rivals. This research was prominently cited by Aditya Chakroborty in *The Guardian* in May 2014 in a discussion of the potential adverse effect on the UK manufacturing R&D of the proposed takeover of AstraZeneca by Pfizer.

Research Highlights: Recognition for CBR Researchers

CBR Research Fellows win CONCORDi-2013 Best Paper Award at 4th European Conference on Corporate R&D and Innovation in Seville, September 2013

The CONCORDi-2013 Scientific Committee granted the CONCORDi-2013 Best Paper Award for the best selected work presented at the 4th European Conference on Corporate R&D and Innovation which took place on 26-27 September 2013 in Seville to the paper 'Dynamic financial constraints and innovation: Evidence from the UK innovation surveys', authored by Henry Lahr and Andrea Mina of the CBR. Their work was prized for 'the originality, the scientific rigor and the policy relevance with which the authors deal with the complex relationship between the firm's financial constraints and its innovation'. The main result of the paper is that the financial constraints experienced by firms do not seem dampen their R&D and innovation, while R&D activities and innovation, especially product and new-to-market ones, both make the firm more financially constrained. The paper draws the attention of policy makers to the financial constraints that persist and may even be intensified when the firm innovates and enters the stage of its innovation diffusion. The paper argues that policy support for this first stage is at least as important as that to innovation as such, especially with respect to SMEs, which often lack the capabilities fully to exploit innovative outcomes. The prize was announced by Professor Bronwyn Hall (a member of the Scientific Committee) on the afternoon of 26 September 2013.

Research Highlights: Quality of Research Outputs

The CBR aims to publish articles on a regular basis in leading or core journals in each of the disciplinary areas in which it carries out research (economics, innovation studies, geography, law, management, accounting, political science and sociology). Because of the uneven flow of research findings, it will not necessarily be possible to produce a large number of outputs in core journals in every year. Our aim is to achieve a substantial number of high-quality outputs over the normal life of a project.

The Centre recognises that not all research outputs will be ideally suited to publication in article form. Thus outputs in the forms of books, book chapters, and governmental reports are also encouraged. The CBR also produces a Special Publications series focusing on evidence based policy reports and the outputs of public, commissioned evaluation reports. We aim to produce a balanced flow of research outputs of various kinds over the project life cycle.

The Centre does not make a REF submission in its own right. CBR outputs are credited to the university departments of the PIs and researchers concerned. In this way the Centre makes a direct contribution to the RAE/REF entries of departments within Cambridge and at other universities (as CBR-based researchers often go on to find employment elsewhere).

Since the start of the 2008 REF cycle, CBR research has appeared, or is forthcoming, in the following highly-ranked journals (journals featured in 2013-14 are italicised):

Discipline	**Journal**
Economics and Management	Economic Journal; Economics Letters; Journal of Institutional and Theoretical Economics; Small Business Economics; Accounting, Organizations and Society; Sloan Management Review; *Academy of Management Review*; *California Management Review*; *Organization Science*; *Journal of Institutional Economics*; *Journal of Business Ethics; Corporate Governance: An International Review; International Business Review; Journal of Management Studies; Journal of Governance and Management*
Innovation Studies	Industrial and Corporate Change; Promotheus; Journal of Technology Transfer; *Research Policy; International Journal of Innovation & Technology Management; Journal of Product Innovation*
Law and Socio-Legal Studies	Journal of Empirical Legal Studies; Review of Law and Economics; Law and Society Review; Socio-Economic Review; Modern Law Review; Journal of Corporate Law Studies; Queen's Law Journal; *American Journal of Comparative Law*; *Journal of Law and Society*
Employment relations	Comparative Labor Law and Policy Journal; *International Labour Review; Industrial Law Journal; British Journal of Industrial Relations; Indian Journal of Labour Economics*
Political Science	Comparative Political Studies; Political Quarterly; New Political Economy; *Governance: An International Journal of Policy, Administration and Institutions*
Economic Geography	Journal of Economic Geography; Regional Studies; Cambridge Journal of the Regions, Economy and Society

Developing Research Capacity

Research methods workshops

Simon Deakin taught on research methods in the economics of law and company law at Moscow State University (September 2013), Doshisha University, Kyoto (January 2014) and the European University Institute, Florence (March 2014), as well as contributing to the Cambridge Law Faculty's legal methods training course for Ph.D. students.

Ph.D. projects

CBR project leaders, co-investigators and research associates including Ding Chen, Simon Deakin, Alan Hughes, Andrew Johnston, Sue Konzelmann, Tim Minshall, Mathias Siems and Ajit Singh supervised a wide range of Ph.D. projects related to their work for the Centre in 2013-14. Topics supervised included: Islamic finance; trade liberalization and economic development; bankruptcy law in China; labour law and age discrimination in Britain and Finland; collective labour law and the European Union; enforcement of arbitral awards in China; a UK-China comparison of macro-prudential financial regulation; external auditing in the EU and Turkey; and corporate governance in Nigeria.

A Note on the Organisation, History and Structure of the Centre

Organisation

The CBR has a Director, Simon Deakin, and two Assistant Directors, currently Andy Cosh and Michael Kitson.

Management structure

The CBR currently has two programmes of interdisciplinary research. The first, led by Andy Cosh, focuses on *Enterprise and Innovation*, the second, led by Simon Deakin, focuses on *Corporate Governance*. These programmes are supported by the Survey and Database Unit (led by Cosh) which provides expertise for survey based work and is responsible for the highly regarded biennial surveys of the UK small business sector, and the Policy Evaluation Unit (led by Cosh and Hughes) which specialises in evidence based policy evaluation linked to the core research programmes.

The Survey and Database Unit provides the CBR with a unique in-house integrated approach to the design and interpretation of complex large scale surveys in both the Corporate Governance and Enterprise & Innovation programmes. It has been associated with many of the CBR's most distinctive contributions in terms of SME growth; innovation and financing; the international comparisons of innovation activity; and most recently the largest survey in the world to date covering the knowledge exchange activities of over 22,000 UK academics in all disciplines and UK Higher Education Institutions.

History

The contract between the ESRC and the University of Cambridge under which the CBR was established in 1994 specified a number of aims and objectives to be met by the Scientific Programme of the CBR.

Major advances were expected in these areas:

- the analysis of the interrelationships between management strategy, takeovers and business performance in an international competitive context;
- the analysis of the relationship between corporate governance structures, incentives systems, business performance and the regulatory and legal environment;
- the analysis of policy, entrepreneurial styles, innovation, finance, training and international activity and networking and cooperative activity in relation to the survival, growth and development of small and medium-sized firms.

It was expected that in making these advances, the CBR would make a significant contribution to the construction and analysis of large and complex datasets including survey and panel data.

In order to achieve the objectives set out above, the CBR was to carry out the following actions:

- conduct an interdisciplinary research programme in Business Research;
- construct and maintain survey and related databases necessary for the conduct of Business Research;
- mount a series of workshops and seminars in Business Research;
- produce and distribute a Working Paper Series to disseminate the results of the Centre's research programme;
- maintain contact with researchers in the UK and abroad in cognate areas of research, and with potential users of the output of the Centre's research, in designing and executing the Centre's programme of research.

It was also expected that, in making these advances, the CBR would make significant contributions to the following areas: a) economics, b) human geography, c) management and business studies, and d) socio-legal studies.

In its final report as an ESRC-designated research centre (*Report on Activities 2002-4*), the CBR set out how it had achieved these objectives in the three years prior to the ending of core funding in December 2004. These objectives remained broadly relevant going forward. However, following the ending of core funding, the Centre's management structure was reorganized to reflect a new focus on the twin themes of *Enterprise and Innovation* and *Corporate Governance*. These now correspond to the Centre's two research programmes.

In 2009 the CBR and the Entrepreneurship and Innovation group at Imperial College London successfully bid for funds to establish a new UK Innovation Research Centre (UK~IRC), with Alan Hughes as Director, funded by the Economic and Social Research Council (ESRC), National Endowment for Science, Technology and the Arts (NESTA), the Department for Business Innovation and Skills (BIS) and the Technology Strategy Board (TSB). The research activities of the UK~IRC are presented within the Enterprise and Innovation programme section of the CBR Annual Report.

2. Project reports

Enterprise and Innovation Programme: Director Andy Cosh

The Enterprise and Innovation programme is concerned with enterprise and innovation and their links to productivity and firm growth. Amongst the principal objectives of this programme are the analysis of the innovative performance, financial and management characteristics, and location of smaller firms, and the design and evaluation of policies towards supporting innovation and entrepreneurship. This analysis has involved close interdisciplinary collaboration between CBR researchers in economics, geography, law and sociology; and has been strengthened by collaboration with other groups in the UK and abroad. One focus of our work is the financing of innovation and the difficulties faced by translating scientific advance into commercial success. Another focus of our work is the analysis of the role of collaboration and external knowledge sourcing in stimulating innovation in both SMEs and larger businesses.

A major new research area analyses the factors that affect the incidence, form, effectiveness and regional impact of knowledge exchange activities between the business and higher education sectors. It identifies the way these interactions vary across nations and regions. Knowledge exchange includes the full range of ways in which the business community and the higher education sector interact and which may affect business and regional economic development. These interactions include educational and training activities, research publications and patenting, conferences, contracting and consulting activity, internships, joint research and development and licensing and new business formation.

The third strand of the programme concerns the efficacy of public policy interventions aimed at improving innovation, productivity and growth. This work includes an evaluation of the role of services in the economy and the structural balance of the UK eceonomy. The modelling is used to assess policy and to provide scenarios for different policy interventions.

Evidence Base for Innovation Policy (UK~IRC)

Project team: Alan Hughes (Cambridge), David Connell (Cambridge), Michael Kitson (Cambridge), Stan Metcalfe (Cambridge), Andrea Mina (Cambridge), Jocelyn Probert (Cambridge), Ammon Salter (Imperial), Keith Smith (Imperial), Henry Lahr (Cambridge), Elif Bascavusoglu-Moreau (Cambridge) Project dates: 2009-2014. Funding: ESRC, NESTA, BIS, TSB.

Overview

The objectives of this project were to identify the principle channels by which the evidence base on innovation informs public policy in an international comparative context and to inform the public policy debate in the UK on the basis of that understanding using evidence from the UK~IRC and wider research base. This project drew on inputs by senior academics associated with the UK~IRC projects on Open Innovation, Knowledge Intensive Services and Networks alongside other academics and policy makers taking part in the research process. Until January 2013 it was not supported by separately funded research streams. The Funders Group agreed that for the year January 2012 to December 2013 a new sub-project would be directly funded on the analysis of international comparative inputs into the formation of selected policy domains. This was designed to allow a focus on the types and forms of evidence used in the development of innovation policy and to prepare

materials on topics selected with the Funders. These materials were to be discussed at a set of High Level Chatham House Rule events for the Funders.

Substantive work began in the second full year of funding and ran throughout the life of the UK~IRC. It began with a series of scoping and connecting seminars and discussions with senior policy makers in the UK. These were supported through Knowledge Hub events and by the establishment of a strategic collaborative arrangement with the Centre for Science and Policy (CSaP) at Cambridge. This led to the UK~IRC hosting a series of visits by business and policy practitioners for face to face briefing and knowledge exchange throughout the life of the project, which have included:

Dr Tera Alas, Director, Industrial Strategy, BIS; Adrian Alsop, ESRC; Nathan Boublil, Public Policy Consultant, French Foreign Trade Advisors and Associate, EP Capital; Dr Richard Cawley, Senior Economic Advisor, Financial Engineering Unit, EC Directorate-General for Research & Innovation; Dr Rosa Fernandez, Chief Economist, National Centre for Universities and Business; Dr Debbie Gillatt, Director, Regional Growth Fund and Legacy, BIS; Mr Iain Gray, Chief Executive Officer, Technology Strategy Board; Dr Joanna Hodgson, Head of Knowledge and Innovation Group, BIS; Dr Jane Kennedy, Research Business Manager, Strategic Commissioning and Partnership Development, London Borough of Newham; Tim Leeder, Programme Manager, Emerging Technologies and Industry, Technology Strategy Board; ITP Fellowship Visit by Mary Macleod MP

Participants in a Discussion on *The Role Universities play in Contributing to Economic Growth* were:

Mr Jeff Masters, Chief Policy Advisor to the Rt. Hon. Chuka Umanna MP; Professor Phil Nelson, Chief Executive Officer, EPSRC; Dr Kenan Poleo, Regional Director, UK Science and Innovation Network Europe, Foreign and Commonwealth Office; Dr Sonia Roshnick, Director, Humanitarian Research Centre; Mr Charles Samuda, Policy Advisor to Liam Byrne, MP, Shadow Minister for Universities, Science and Skills; Mark Simmonds, Office of Shadow Cabinet Office Minister; Dr Philip Sinclair, Senior Policy Advisor, Innovation and Growth, Cabinet Office; Dr James Smith, Head of Science and Technology, Office for Security and Counterterrorism, Home Office; The Lord Stephen, Liberal Democrat Member of the House of Lords; Michael Stephens, CISCO and Council for Industry and Higher Education; Dr Jon Sussex, Deputy Director, Office of Health Economics; Dr Nick Timothy, Special Advisor to the Rt, Hon. Theresa May, MP; The Rt. Hon. Valerie Vaz, MP; Dr John Weir, Director, N8 Industry Innovation Forum; Sir Mark Walport, Chief Scientific Advisor to the UK Government.

In 2011 the project developed a strategic partnership with the Council for Industry and Higher Education (CIHE) (now the National Centre for Universities and Business (NCUB)). This was designed to carry out a co-produced research project on enhancing the value of UK R&D.

The Evidence Based policy team also became heavily involved in policy discussion about rebalancing the UK economy in the aftermath of the world financial crisis. This took the form of a series of publications on rebalancing. It also included a major contribution to a two year Foresight Programme on the Future of UK Manufacturing. Hughes accepted an invitation to membership of the 8 strong Lead Expert Group for this Programme. In addition 6 research papers by UK~IRC authors were commissioned refereed and published by the Foresight Programme. These drew on the insights derived from the macro-modelling aspects of the UK~IRC Services project and on the experience in the design and implementation of innovation and industrial policy developed in the evidence based policy project itself.

We summarise outcomes and activities under three headings. These are Policy Analysis and Advice; CIHE Strategic Research Partnership: Enhancing Value; Funders Group Chatham House Rule Events; Foresight Programme on Future of UK Manufacturing

Policy Analysis and Advice

The project members were throughout the UK~IRC programme heavily involved in policy practice and advice in the UK. Their input and advice was also sought internationally.

The Centre enhanced its ability to connect with the whole of UK government needs in the innovation policy domain by working in strategic partnership with the Council for Science and Policy at Cambridge. Members of the team met through this route with multiple senior officials and policy advisers in the Cabinet Office, each of the Directorates of BIS, the Home Office, HM Treasury, the Foreign Office, DEFRA, Department for Education,, Department for Communities and Local Government, and Department for Transport. Meetings were also held with senior officials of TSB and HEFCE as well as several Local Government Officials.

Salter was heavily involved in a European Commission's Expert Group on the Measurement of Innovation, leading to papers released by the EC on developing measures of research excellence and structural change. Michael Kitson gave talks on university industry policy in USA Eastern Europe and the Middle East. Connell prepared presentations on EU/US style public procurement SBIR programme at a workshop organised by the European Parliament in Brussels in April 2012 and on the role of lead customers at a Euroscience Open Forum in Dublin in 2012 as well as giving the presentations at the University of Vilnius in Finland. He also took part in a series of meetings which led to the launch of public procurement linked policy initiatives in the EU.

Smith played a central role in the production of the economic analysis underlying the UK Innovation and Growth Strategy. Hughes also worked on the evidential and conceptual basis for industrial policy and wrote an invited paper for an ESRC and CEPR BIS conference hosted by the Rt Hon. Vince Cable MP on National Innovation Policy and Global Innovation Systems: Key Challenges and Opportunities for the UK, which was published in the resulting edited book. He made presentations at numerous OECD and EU policy meetings and was invited to speak by the Foundation for Science and Technology at the Royal Society alongside the Rt. Hon. David Willetts MP, the Minister for Universities and Science, and Sir John Parker, the President of the Royal Academy of Engineering, where the topic for debate was "Intervene or stand back – what should be the industrial strategy for the UK?". As a member of the Council for Science and Technology, he attended meetings with the Rt. Hon. Vince Cable MP, the Rt. Hon. David Willetts MP, and regularly produced policy advice and made presentations to senior officials at BIS and at HEFCE. In 2012 he was appointed as one of eight lead experts advising the UK Government's Foresight Programme on the Future of UK Manufacturing.

The UK~IRC policy analysis team submitted written evidence to the House of Common's Science and Technology Committee review on Bridging the Valley of Death. The report of the Committee which was published on 4th March 2013 contains several direct references to the UK~IRC in the text of the report and multiple citations to the work of Connell, Salter, Cosh, Hughes, and Mina in the supporting evidence and footnotes. In many other places UK~IRC evidence is cited, but not specifically referenced. The work of the UK~IRC and, in particular, Connell as well as Mina and Hughes was referred to in the major report of the Labour Party's Small Business Task Force which was also published in March 2013. Hughes was an invited expert witness to give oral evidence to the House of Commons Select Committee Inquiry into University – Industry Relationships in June 2014

Project members took part in a wide range of international policy related activities. This included policy discussions in several European countries. Professor Hughes was a member of a high level innovation policy delegation to India (Delhi and Bangalore) led by David Willets and including Sir Adrian Smith (BIS) Dr Geoff Mulgan (NESTA) Professor Paul Boyle (ESRC) and Ian Gray (TSB). Hughes was also a member of a CST delegation to a joint meeting in Paris with the French Haut Conseil de la Science et de la Technologie. He also made several policy presentations in Mexico as well giving policy seminars and conference presentations on the theory and practice of innovation policy in Europe

Australia New Zealand UK and Australia. He was appointed as Innovator in Residence to the Queenland State Government in Australia in July 2013. Connell prepared presentations on EU/US style public procurement SBIR programme at a workshop organised by the European Parliament in Brussels in April 2012 and on the role of lead customers at a Euroscience Open Forum in Dublin in 2012 as well as giving the presentations at the University of Vilnius in Finland and took part in a series of meetings which led to the launch of public procurement linked
policy initiatives in the EU.

CIHE Strategic Research Partnership: Enhancing Value

The Enhancing Value Research project was carried out with co-funding and support from BBC, BP, Cisco, the Technology Strategy Board, HEFCE, the EPSRC and one of the UK~IRC's strategic partners, the Council for Industry and Higher Education (CIHE). The first report based on the work of this project was published in 2012 as The UK R&D Landscape written by Alan Hughes and Andrea Mina. Subsequent work focused on the development of methodologies to measure the impact of public sector funded research expenditures. This produced a major new review published in 2012 as *Enhancing Impact - The Value of Public Sector R&*D co-authored by Alan Hughes and Ben Martin of the University of Sussex. In parallel with this research a series of in-depth case studies was undertaken in bio-pharmaceuticals, energy, construction and the creative digital and information technology industries. This was published in 2013 as Enhancing Collaboration Creating Value by Andrea Mina and Jocelyn Probert. The work was conducted in close collaboration with industry and supported by the Technology Strategy Board's membership of the Task Force Steering Group. The research included 50 interviews with the UK's most important companies and leading SMEs as well as key agencies including the Technology Strategy Board, Research Councils and Universities in the chosen sectors. Findings were presented at a series of high-level workshops and breakfast briefing meetings at which the results were presented and discussed with the Rt Hon David Willetts MP, the Minister for Universities and Sciences, and Lord Sainsbury, the former Minister for Science. In addition to the three substantive research based reports, the production strategy included the dissemination of short specially written briefing documents co-authored with David Docherty and a final Enhancing Value Task Force report entitled Growing Value: Business-University Collaboration for the 21st Century written by David Docherty of CIHE, David Eyton of BP, Alan Hughes of UK~IRC and Shirley Pearce, former Vice-Chancellor of the University of Loughborough. The Growing Value final report was presented at BIS on the 19 December 2012 at a meeting chaired by Martin Donnelly, the Permanent Secretary of BIS. The findings and insights deriving from this work have attracted very positive feedback from BIS and HEFCE and have been included in numerous internal BIS briefing documents.

The research carried out highlighted the key challenges of building effective connections between global industries and the UKs outstanding university sector. All of the CIHE reports can be seen on the research section of the UK~IRC's website (http://ukirc.ac.uk/research/CIHEtaskforce/).

Enhancing Value project: Key Findings:

- Business Enterprise Research and Development (BERD) and Gross expenditure on R&D (GERD) in the UK have been decreasing as a percent of GDP since the 1990's. In contrast to this there has been a considerable increase in higher education expenditure on R&D in the UK (HERD) as a percentage of GDP. The upshot, however, has been an overall fall in total gross expenditure on R&D (GERD) in the UK relative to GDP from the early 1990s to date, despite a modest recovery at the beginning of this century. Moreover, in international comparative terms the overall spend on R&D in the UK relative to GDP seems to be weakening over time.

- The business enterprise component of R&D expenditure in the UK is low by international standards even after adjusting for structural difference between countries. It is also concentrated in the hands of a few very large firms and the small number of industrial sectors in which they are based. The official statistics reveal that the largest 10 business R&D spenders accounted for 34% of all UK R&D in 2009 and the largest 50 spenders accounted for 56%. The many thousands of independent small and medium sized businesses employing fewer than 250 people accounted for only around 3.5% of the total R&D spend.

- The magnitude of business enterprise R&D as a form of innovation related expenditure differs significantly across UK industrial and service sectors. Sectoral innovation systems in the UK thus vary in the weight to be attached to R&D per se and in their combination of investments in capital goods, software, skills and training, and expenditure on design and business organisation relative to R&D.

- The UK has, by comparative international standards, a relatively high share (over 40%) of its business enterprise R&D expenditure carried out by the subsidiaries of overseas firms. Moreover, the share of total business R&D expenditure in the UK funded from overseas sources (over 20% by 2009) increased substantially during the 1990s. It appears that the UK is a comparatively attractive location for funding and carrying out R&D activities. However, the share of overseas funding stopped rising after 2002. Moreover UK businesses have decreased the relative extent to which they fund R&D in the UK. In 2000 R&D expenditure funded in the UK by the UK business enterprise sector was approximately ten times as large as expenditure it funded overseas; by 2009 it was only five times as large. The 'openness' of UK R&D activity makes it relatively vulnerable to the strategic investment decisions of overseas funders of UK R&D and of the parent companies of subsidiaries based in the UK as well as the decisions of the major UK based multinationals.

- The positive trend in Higher Education R&D in the UK has been weakened in the aftermath of the world financial crisis. Moreover since the crisis began the UK's principal competitors have increased HERD at a faster rate than the UK. At the same time the relative contribution of business enterprise to the funding of R&D in the UK higher education system has declined significantly.

- Government funding of business R&D in the UK is relatively high by international standards, but the majority of other countries have been increasing their commitments since 1999 whilst the UK has marked time. The USA has an exceptionally high level of direct government funding for business R&D and a relatively low tax incentive contribution. In the UK the use of the two R&D funding support streams is more balanced. The domination of R&D expenditure in the UK by a handful of large firms is not surprisingly matched by the extent to which they dominate access to funding designed to support UK R&D. Of the sample of countries we have considered in this report the UK has the lowest share of total government financed support for business R&D going to small and medium sized firms.

Enhancing Value project: Key Conclusions and Recommendations

Key Conclusions:

1. There is a global trend towards greater openness in research and collaboration between companies and research institutions. These dynamics are present in the UK, with some institutions being leading practitioners.

2. The openness and excellence of the UK research base is reflected in its attractiveness to overseas firms. The UK has the world's highest percentage of R&D coming from foreign subsidiaries. But this extreme position carries risks. This investment could go elsewhere as developing countries incentivise inward investment, or the UK could increasingly be viewed as providing a higher education and research service 'at cost' to the world. This would profit other countries' innovation systems with little or no follow-on benefit to the UK.

3. Research is a competitive, global activity and developing countries are capturing market share. The UK needs to compete for a greater share of supply chains, from research through to wide-scale deployment of new concepts and products, in order to support the UK's economic prosperity and sustained investment in the higher education and research base.

4. Enhancing the impact of the UK's higher education and research base requires a joined up or systems-based approach, which recognises the linkages from research through to deployment, and from start-up companies through to major multi-nationals, as well as the importance of infrastructure and finance in achieving growth.

5. Large international companies account for the majority of the UK's business research and have the capacity to interface effectively with UK universities and funding organisations. These same companies choose to invest where they can find the best people, leveraging national research expenditures and infrastructure. Smaller companies account for a small fraction of R&D, and those seeking to innovate often struggle to leverage the university and funding systems, due to a lack of resources and relevant 'bridging' skills, both in the companies and in universities.

6. The commercialisation of research is one of many ways in which value is created and it is inherently risky. Large companies are practised at this and have the ability to manage the whole innovation pipeline and portfolio. Failures occur regularly and are to be expected. Smaller companies have fewer resources and a narrower portfolio, making failure terminal, but success also more dramatic.

7. The impact of publicly-funded research is difficult to quantify, but is consistently assessed as strongly positive where capacity exists to absorb the research into business and community activities.

8. Innovation pathways vary by sector, depending for example on the 'clock-speed' of specific industries, industry structure, maturity, and the significance of IP. There is no single 'silver bullet' solution to enhancing the value and impact of university inventiveness that would work across all sectors. Equally, many technologies have multiple applications across many sectors.

9. The absence of an industrial strategy has arguably resulted in offshoring of manufacturing, fewer opportunities for local leverage of the research base and a lack of strategic prioritisation of public research funding. Each sector has a particular set of strategic requirements and particular growth trajectories, and requires specific policy support.

10. Despite having a vibrant financial services industry in the UK, UK inventions often end up being funded by overseas businesses, and their value is not captured in the UK.

Recommendations

1. Maintain the excellence of the UK Research Base through long-term strategic commitments from government.

2. Prioritise and finance collaboration, and the sharing of best practice in innovation, between UK universities and businesses, local and global.

3. Promote entrepreneurship and entrepreneurial corporate management in universities in order to enhance risk-taking and innovation in business.

4. Develop consistent differentiated sector strategies to incentivise university-business interactions designed to match specific sectoral systems of innovation.

Funders' Group Chatham House Rule Events

The extensive interactions with leading academics and policy makers in the UK and abroad led to the identification with the Funders group of a number of issues of common policy concern across countries. These were identified as topics for the Chatham House Rule Events in the final year of the Centre. The areas identified were the evolution of policy towards:

- university funding and the public funding of research more generally
- the role of small entrepreneurial firms in the innovation process and in particular support frameworks for financing innovation
- intermediate research and technology organisations (such as the UK "Catapult" programme.

International comparative material on these topics was developed and collated. This was based on desk research, fieldwork interviews in UK France Germany and Scandinavia, and experience with and analysis of policy developments in the US and Australian innovation system was presented at two Funders Group events in 2013 and 2014. The departure on maternity leave of one of the research fellows midway through the project limited further international fieldwork opportunities. These will be continued by Smith and Hughes on an unfunded basis after March 2014 as will publication of the results of the materials presented at the Chatham House events and the associated discussions.

Foresight Programme on Future of UK Manufacturing

The project made a major contribution to the Foresight Programme on the Future of UK Manufacturing. In 2102 Hughes was invited by Sir John Beddington the Chief Scientific Adviser to the UK Government to serve as one of the 8 members of the Lead Expert Group of this project. Chaired by Sir Richard Lapthorne the Group was responsible for the delivery of the 2 year research programme and production of the Final report. The UK~IRC provided 6 externally refereed and published research reports for this Programme which drew in particular upon the macro aspects of the Services project and on the wider innovation research expertise of the UK~IC team. These dealt respectively with De-Industrialisation and the Balance of Payments; Scenario Models of the Future of UK Trade in Manufacturing and Services; Re-industrialization: A commentary (all by Coutts and Rowthorn); Knowledge spillovers and sources of knowledge in the manufacturing sector: literature review and empirical evidence for the UK (Bascavusoglu-Moreau and Li); Short-termism, impatient capital and the financing of innovation in the UK (Hughes); and Industrial policy for the medium- to long-term (Hughes with Professor N Crafts). These inputs and Hughes's contribution to the deliberations of Expert Group had a significant impact on the shape of the Report which was widely discussed in policy and practitioner circles. Of the Report's 65 recommendations 62 were accepted by the Coalition Government and 3 are the subject of further discussion.

'The Foresight Programme has the distinction of only allowing conclusions to be drawn where there is a strong evidence base from high quality sources. Combining the UK-IRC research papers together with his interpretative skills enabled Alan Hughes to capitalise on this work and make an outstanding contribution to our study on the Future of UK Manufacturing. A telling point was the breadth of coverage of the research reports and their positive effect on our confidence to constantly push at the boundaries of our Foresight brief. Leveraging quality study work in this way greatly facilitated both the pace and the quality of our Foresight work. It was an excellent example of how to make the efficient use of high quality thinking time in synthesising robust reports.'

Sir Richard Lapthorne
Chairman Cable & Wireless plc
Chair Lead Expert Group for the Foresight Project on the Future of UK Manufacturing

Outputs for Evidence Base for Innovation Policy (UK~IRC)			
Articles in refereed Journals	119 25 0 44	Chapters in Books	54 55 56 58 61 69 77
Books	86 90	Conference papers/ presentations given	200 201 202 203 204 205 206 207 208 209 210 211 218 219 220 221 222 230 231 232 235 239 240 259 260 261 262
Membership of Committees external to the University	280 281 282 283	Consultancy advice given	336
MPhil & PhD students supervised		Visitors (UK & Overseas)	286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 308 311 313
Collaboration with other research teams		Other publications	59 60
Conferences attended		Working Papers	118 120 121 122
Workshops held/attended	165 166 167 168 169 170	Media coverage	356
Research Reports	94 95 96 97 98 99	User contacts	317 318 319 320 321 322 323 324 329 331

SME Policy & Performance

Project leaders: Alan Hughes and Andy Cosh. Other Principal Investigators and Associates: Anna Bullock, Bob Bennett, Xiaolan Fu (Oxford), Jaeho Lee, Vadim Grinevich, Ana Siqueira, Douglas Cumming (York University, Ontario), Isobel Milner, Fabrizio Trau (Italian Confederation of Industry), Yoshifumi Nakata (ITEC, Doshisha University),. Funding: ESRC; AIST, Japan; various other shorter term funds and contract research grants. Project Dates: Ongoing.

This project is concerned with developing and testing models of small and medium sized enterprise (SME) performance and its determinants, with policy analysis and with methods of complex survey design and analysis necessary to investigate models of business performance. Performance includes innovative activity and export activity, as well as growth, profitability and survival. Determinants include internal management and organisational characteristics, the strategic behaviour of managers including strategies of co-operation and collaboration, as well as external environmental factors, including financial, labour and product market constraints. The project is concerned with policy evaluation and evaluation methodology, and with the comparison of the performance characteristics of different groups of firms including high-technology and conventional businesses. The project develops and utilises appropriate databases for these purposes including, in particular, the complex panel survey data generated by the CBR biennial survey of SMEs. This survey is carried out by the project leaders and managed by Anna Bullock via the CBR Survey and Database Unit. The project is also concerned with the development of appropriate survey instruments for performance measurement and analysis. It also draws on the results of a complementary project on methods of missing data imputation (Missing Observations in Survey Data: An Experimental Approach) to enhance the usefulness of performance survey datasets. The econometric analysis undertaken is characterised by the development and use of appropriate multivariate techniques including sample selection modeling and robust regression methods. Careful account is taken of the extreme heterogeneity of SME performance and the endemic sample attrition and self-selection biases which can arise in complex panel data analysis. In addition the project produces rigorous but user friendly presentations of key survey results in the biennial publication of reports based on the CBR SME survey, as well as custom designed articles for practitioner journals. Use is also made of complementary case study and qualitative analytical techniques, and of interview based piloting of alternative survey instruments to assist in complex survey design.

CBR SME Survey 2011

The CBR has carried out surveys of British SMEs in 1991, 1993, 1995, 1997, 1999, 2002, 2004 and 2008 and has created several panels of firms. This rich material has led to several publications relating to training, management practices, innovation, business advice and finance; and their impacts on firm performance. The last study was carried out in November 2008 at the onset of the credit crunch recession and compared how SMEs were faring in raising finance compared with both 2004 and the previous recession of 1991. The 2011 survey has resulted in over 1900 responses, the analysis of which has recently begun. One important part of this analysis is to explore the financing of SMEs three years into the recession. Another important novel aspect of this survey is an in-depth exploration of family businesses.

Recent SME surveys using the CBR survey instrument have been carried out in Australia, Japan and New Zealand.

New Modes of Innovation: Managerial and Strategic Business Practices and Open Innovation (UK~IRC)

Principal Investigators: Andy Cosh, Joanne Zhang, Alan Hughes, Michael Kitson, Tim Minshall, Letizia Mortara, Andrea Mina, Elif Bascavusoglu-Moreau, Nelli Theyel (Cambridge), Ammon Salter (Imperial / Bath), Oliver Alexy (Imperial / TUM School of Management), Gerald Avison, Chas Sims (Business) Project dates: 2009-2014. Funding: ESRC, NESTA, BIS, TSB.

Aims and objectives

The growing interest in open innovation has been driven by the phenomenon where organisations are increasingly moving toward network-based forms of innovation, sourcing ideas through licensing agreements, formal alliances and mergers and acquisitions and the use of a wide variety of sources of knowledge for innovation. Although attempts to examine open innovation using the UK innovation survey have made some progress, we still lack in-depth data at the sectoral level and a clear theoretical understanding of how firms build capabilities to be open and how they can successful integrate external actors into their innovation processes.

In order to deepen and extend our existing knowledge on the nature and extent of open innovation among UK firms, this project was designed to shed light on the organizational mechanisms and capabilities as well as institutional arrangements that are required to foster effective open innovation. In particular, it addressed three questions:

- How do patterns of usage of OI practices vary across firms, sectors and sizes?
- What are the factors driving the firms' usage of OI practices?
- How does the firms' usage of OI practices affect their innovativeness and performance?

The project examines open innovation practices in both large and smaller firms using both surveys and case studies. This has led to new understandings of how and why firms engage in open innovation practices; original empirical research into the consequences of such engagement; and the development of novel conceptual approaches. These sub-projects are summarised in the following sections.

Open innovation in smaller UK firms

Following the UK~IRC investigation of large companies' implementation of open innovation, the research team turned to smaller UK firms in both the manufacturing and business services sectors. In 2010, a survey (that did not actually mention the term 'open innovation') was sent to 12,000 UK firms with up to 999 employees, of which 1,202 firms responded (Cosh and Zhang, 2011). Overall, the results indicate that open innovation practices are not the preserve of large businesses; many small and medium-sized enterprises are active too.

The researchers divide open innovation activities into three broad kinds. 'Hunting' activities are 'inbound', searching for knowledge outside the firm through engagement with customers and suppliers, the research base, consultants and public information sources. 'Cultivating' activities take place through informal and formal collaborations and partnering with other firms and organisations. 'Exploiting' activities are 'outbound', involving both bringing innovative products and services to market and external transfers of knowledge and technology through licensing, spin-outs and exchange.

The companies that responded to the survey can be categorised into three open innovation types. 'Traditional' firms are closed and self-reliant, making no external transfers and pursuing low searching

activities and little formal collaboration. 'Hunting-cultivating' firms make no external transfers but are active in their search for knowledge and collaborative activities. And 'ambidextrous' firms make external transfers and are engaged in hunting-cultivating.

The survey results indicate that hunting activities are widespread with similar proportions of larger and smaller firms involved with each source. Cultivating activities are less common and the smaller the firm, the less likely it is to be involved. External transfer activities are carried out by similar proportions of firms in each size group, but smaller firms are more likely to do this free of charge. The latter are also less likely to use both legal and strategic methods to protect their innovations.

The study finds that firms of similar sizes and ages operating in the same sector are making different choices in their degree of openness. While there is much commonality of open innovation practices among the surveyed firms, there is no one optimal form of 'openness'. But it is clear that firms that choose a more open approach to innovation, both inbound and outbound, are both more innovative and faster growing.

The Cosh and Zhang (2011) paper also provides a foundation for positioning new research areas. Having the core survey findings published in a single paper provides a very useful platform for other researchers to explore emerging topics. For example, Weiss, D. and T. H. W. Minshall (2014) (Negative effects of relative proximity and absolute geography on open innovation practices in high-tech SMEs in the UK. 7th IEEE International Conference on the Management of Innovation and Technology (ICMIT 2014), Singapore) uses Cosh and Zhang as a starting point.

Policies to promote open innovation

Public policy can play a key role in the innovation ecosystem, addressing market failure and promoting innovation – and many UK measures specifically promote the use of open innovation practices. The UK~IRC survey of 12,000 smaller firms shows that policy measures are generally well-received when they are taken up, but there is some work to be done in raising awareness and making sure that policies are reaching those firms for which they are intended (Cosh and Zhang, 2011).

In terms of satisfaction with measures among those firms that have them up, 40% or more scored the policy they use as having an important, or crucial, impact for all but three of the schemes. The lowest approval ratings among users were for the Small Business Research Initiative (21%), Knowledge Transfer Networks (16%) and Venture Capital Trusts (12%).

In general, the lowest innovation policy users are traditional firms, followed by hunting-cultivating firms and then ambidextrous firms. But this is not always the case: although ambidextrous firms have the higher proportionate use of collaborative bids, R&D tax credits and the Enterprise Investment Scheme, hunting-cultivating firms match them in their use of grants for collaborative R&D, Knowledge Transfer Networks and Knowledge Transfer Partnerships. In addition, hunting-cultivating firms are ahead in their use of grants for R&D.

The evidence makes clear that firms cannot be treated as homogeneous. In promoting network and collaborations, policy-makers need to address different types of firms in terms of their size, their sector and the open innovation practices they use. Certain types of financial support policies work better for certain groups of firms, which suggests that this should be taken into account when designing and marketing policies.

For example, the survey finds that larger firms are more successful in exploiting and protecting their intellectual property than smaller firms. This might suggest unequal benefits in more open relationships between smaller and larger firms. The government might seek to give special attention to the training and guidance needed to facilitate collaborations between large and smaller firms, helping both sets of firms to maximise the potential value of their interactions.

Challenges of open innovation for R&D professionals

The advent of more open models of innovation has changed the norms and expectations related to the work of corporate R&D divisions. Although staff are expected to stay informed about external developments, the primary focus in closed R&D is on the development of new products, processes, and services internally. With open innovation, individuals are tasked with scouting for external ideas, shepherding external ideas through internal processes and facilitating their exploitation in the firm.

UK~IRC researchers are exploring these individual-level aspects of open innovation. They are identifying the challenges faced by R&D professionals in open innovation activities in large multinationals and the coping strategies that individuals adopt to surmount these challenges. Understanding these informal 'bottom-up' practices of individuals is helping to reveal the organisational practices that can promote open innovation most effectively.

The research draws on information derived from interviews in a range of companies, as well as a detailed case study of more than 300 R&D scientists and engineers working in a leading firm strongly oriented to open innovation (Salter et al, 2012, 2014). The first paper identifies four specific challenges and coping strategies of individuals engaged in open innovation. It proposes a range of open innovation practices that organizations can implement to better equip their staff to undertake effective external engagement.

In practice, many organizations find it difficult to deal with unsolicited ideas because of their high volume, low quality, and the need to transfer IP ownership. The second paper examines the ways organizations can successfully use unsolicited ideas from inventors, customers and others in their innovative efforts, looking at the organizational arrangements that support the effective unsolicited ideas programmes among leading multinationals.

The case study finds strong evidence that openness to external sources can have significant benefits for the ability of individuals to generate new and valuable ideas for their organisation. By being open, individuals benefit from variety and alertness, making them better prepared to develop valuable new ideas for their organisation. But there is also evidence that the integration and approval costs associated with coordinating inputs from external sources can produce negative returns to openness.

Open innovation in business services

The phenomenon of open innovation has largely been studied from the viewpoint of manufacturing firms, with services receiving far less attention despite the predominant role they play in advanced economies. A recent UK~IRC study addresses this gap by focusing on open innovation in services, both as a subsector of the economy and as a component of the activities of manufacturing firms (Mina et al, 2013).

The analysis draws on the 2010 survey of smaller UK firms to study the open innovation practices of business services firms. Overall, it finds that engagement in open innovation by these firms increases with firm size and R&D expenditure. And compared with manufacturers, they are more active open innovators; they are more engaged in informal relative to formal open innovation practices; and they attach more importance to scientific and technical knowledge than to market knowledge.

Looking at the service activities of manufacturing firms, a higher degree of openness, enabling the search and recombination of more diverse knowledge inputs, is associated with the adoption of a 'service-inclusive' business model. In other words, the practice of open innovation has important connections with the growth of 'servitisation' strategies – in which manufacturing firms shift from 'making and selling products' to providing combinations of products and services (Tether and Bascavusoglu-Moreau, 2011).

Open innovation in big multinationals

The UK~IRC study of multinationals involved a sample of 43 firms, whose senior executives were interviewed about why they were pursuing open innovation, how they implemented the strategy and the implications for their companies' culture, structure, skills and incentives (Mortara et al, 2009; Mortara and Minshall, 2011).

The companies cite no single outstanding reason for the adoption of open innovation. Reducing product time to market, the availability of new technologies and gaining access to competencies are of approximately equal importance. But almost all emphasise that open innovation should not be seen as a cure-all and has clear limits, depending on the industry involved.

Companies can take different routes to open innovation, depending on what is driving the impetus to adopt open innovation. Open innovation activities are usually either managed centrally by a core team or distributed throughout the organisation. The evidence suggests that a top-down, strategically driven approach often relies on centralised open innovation services and a core team to develop the open innovation strategy and support its implementation.

The analysis also reveals four main issues that companies have to tackle. The first is culture: for almost all the companies, the shift towards an open approach to innovation required the direct involvement of top management. This often translates into a shift of culture, whereby working with other companies becomes accepted and endorsed throughout the organisation.

The second issue concerns structure and procedures: independent open innovation teams working within the traditional company configuration are a very popular choice for open innovation implementation. Moving people around within an organisation may also be used to improve the intensity of internal networks and increase cross-functional working.

The third issue is skills: there is no 'right' blend of skills that is considered a definite enabler of open innovation. But the lack of an appropriate skills blend is seen as an obstacle to its implementation. This suggests that training is essential, rather than merely desirable, when preparing the company for open innovation.

Finally, there is the issue of motivation: appropriate changes in the incentive structure are essential to implement open innovation successfully.

Managing open innovation

The UK~IRC research on open innovation has a number of important implications for management decision-making. First, companies should avoid jumping onto the bandwagon simply because of growing popularity of the concept. Managers need to formulate strategies in accordance with their firms' resources and strategic needs, as well as taking account of the external environment, for example, competition within their sector and the nature of intellectual property regimes.

They should also consider the full spectrum of open innovation practices, including both inbound and outbound activities. But collaborations require effective management: not only do managers need to build capabilities in absorbing external knowledge and technology in pursuit of innovation, but they also need to learn how to appropriate value from these collaborations.

In terms of creating an open innovation culture within an organisation, this cannot happen overnight. The internal phase of open innovation – the processes that need to be put in place to market the idea within the firm – is very important. Making changes to company structure, skills, incentives and control methods can gradually help to develop a company culture that supports open innovation.

The starting point for change is most likely to be an open innovation implementation team, which can seed the culture within the organisation. It is inevitable that different units in a firm will have different sub-cultures of their own, but it is possible to make use of these cultures and find ways to support open innovation within them.

The open innovation implementation team needs to identify which functions within a firm should be connected, and what tools are available or must be found to accomplish this. To build skills in open innovation, companies should train groups of people who have diverse professional skills rather than trying to create single open innovation 'masters'. A company needs people with a range of expertise to be able to assess and review external capabilities and opportunities.

In terms of the specific challenges for R&D professionals, internal training programmes would allow them to learn how to be effective in open innovation. It is critical to develop organisational practices that lower the personal and professional costs of openness to the individual, for example, introducing intellectual property systems that clarify what can and cannot be shared with external parties. Organisations need to create a role for 'assimilators' who can work alongside 'information scouts' and 'gatekeepers' to help in the reformulation and integration of new external ideas to allow their absorption across the wider organisation (Salter et al, 2014).

The 'not-invented-here' syndrome – when employees devalue innovations that have originated outside the company – is a common obstacle to open innovation implementation. Such demotivation can be overcome by involving people in the decision-making process, improving internal communication and establishing adequate reward systems. Targets are not always the best approach.

The role of top management is crucial. By demonstrating commitment and support, top management are of key importance to overcoming the objections of those who are less inclined to accept the new approach to innovation (Mortara et al, 2009). This is now being explored in the context of SMEs [e.g. Ahn, J., L. Mortara and T. Minshall (2014). Linkage between CEO characteristics and OI adoption in innovative SMEs. DRUID Academy, January 15-17. Aarlborg, Denmark. and Ahn, J., L. Mortara and T. Minshall (2013). The influences of CEO characteristics on open innovation in innovation-oriented SMEs. R&D Management Association (RADMA) Conference 26-28 June. Manchester, UK].

Commercial Engagement in Open Source Software

Open source software engagement by commercial firms is becoming an increasingly prevalent phenomenon. What is interesting is that such engagement not only requires the company to share the outputs of its work with others, including their competitors, but even the blueprints to those outputs, which means that their work becomes perfectly reproducible.

In an attempt to find out how the capital market reacts to such effects, Alexy and George (2013) show how its reaction varied substantially over time depending largely on how clearly companies could be identified as doing open source. In fact, they find that companies clearly identified as doing open source through press mentions by other firms, or through their own business models, are punished by the stock market when open source was new, that is, at the beginning of the millennium. At the same time, they show how this punishment fades away over time as open source becomes commonly accepted. In doing so, they point both toward myopia in capital market evaluations as well as strategies aimed at overcoming the negative effects such myopia may have on the evaluation of firms.

Alexy and Reitzig (2013) take a closer look at the competition between firms building a business model around open source and those offering proprietary software in the same sectors. In example would be IBM, drawing heavily on Linux as an operation system and selling complements around it, and Microsoft still trying to make money on its Windows operating system. They find that when the business model of the open source-reliant companies came under competitive and legal pressure, they chose a novel strategy to defend themselves: they released patents to the open source community to prevent legal attacks from the competing firms. In essence, they hoped to build norms of non-enforcement of intellectual property against open source, as well as erect punishment mechanisms (the ability to countersue) to substantiate the norm. In seeing how this strategies increased legal and competitive certainty in the space of open source, the open source-reliant companies even *increased* the share of their products building on open source. At the same time, they continued to produce intellectual property *and* assigned it to the open source community for free to fend off competitors not bound by the norm, such as patent trolls.

Finally, Henkel, Schöberl and Alexy (2014) study how companies decide to engage in open source in the first place. Given how much change open source means for companies and their internal routines—as shown for example by Alexy and Henkel (2013)—they argue how many companies should resist engagement in open source. In line with their argument, they find that it is often not companies themselves that come up with the idea to be more open; rather, they are pushed toward it by powerful customers. Only upon being confronted with open source this way do they begin to study potential benefits, which they learn to increasingly exploit over time.

Conceptual Developments

UK~IRC scholars have contributed to the development of theories of open innovation. Alexy, George and Salter (2013) show that existing theories of how organizations harness knowledge for innovative activity cannot convincingly explain emergent practices in which firms selectively reveal knowledge to their advantage. They conceive of selective revealing as a strategic mechanism to reshape the collaborative behaviour of other actors in a firm's innovation ecosystem. By disclosing knowledge freely, they may reasonably hope for other actors to build on that knowledge. This, however, also means that those other actors will become more similar to the focal firm. In turn, those other actors may, in the future, be more enticed to collaborate with the focal firm, and also unwillingly produce spillovers more valuable to it. Supported by a multitude of examples, such as ARUP's successful establishing of the field of fire engineering, the authors should how such strategic disclosure of knowledge may initiate collaboration in cases in which it was previously thought impossible: namely when potential partners are not known, when there would be too many partners (and coordination would become prohibitively costly), and even when potential partners are unwilling to collaborate. This leads to them specifying the conditions when firms are more likely to reveal knowledge and highlight some boundary conditions for competitor reciprocity. Also, they discuss four distinct strategies embedding selective revealing that practicing managers can directly apply. Finally, from an academic perspective, they discuss selective revealing's implications for theories of organization and open innovation and for management practice.

Salter and Laursen (2014) examined the 'paradox of openness' — the creation of innovations often requires openness, but the commercialization of innovations requires protection. Based on econometric analysis of data from a UK innovation survey, they find a concave relationship between firms' breadth of external search and formal collaboration for innovation, and the strength of the firms' appropriability strategies. They also show that this concave relationship is stronger for breadth of formal collaboration than for external search. There is also partial evidence suggesting that the relationship is less pronounced for both external search and formal collaboration if firms do not draw ideas from or collaborate with competitors. They found evidence also that an overly strong emphasis on appropriability may be associated with reduced efforts to draw in knowledge from many different

external actors in formal collaborations for innovation. This study draws attention to how different forms of openness might be connected to appropriability concerns. We found that the negative side of appropriability (a concave rather than a linear relationship) and its link to openness is greater for formal collaboration than for external search breadth, supporting the hypothesis that the "scaring off" effect is stronger for direct collaboration than for external search which involves less two-way interaction. Their theoretical and empirical contribution suggests that potential absorptive capacity needs to be accompanied by a strategy for protecting the firm's knowledge in order for the firm to be able to exploit the new combinations. Their analysis implies that these aspects of knowledge exploration and exploitation are connected.

Engagement and Impacts

A major conference was held in June 2012 to celebrate a decade since Chesbrough coined the term open innovation and a special issue of Research Policy on "Open Innovation" was published at the end of 2013. Two UK~IRC papers were included in the Special Issue. The team actively disseminated our research findings at leading international conferences including multiple papers at the annual Academy of Management conference (in Chicago, Boston, San Antonio, and Orlando), the DRUID conference in Copenhagen, Centre for Innovation Research 2012 Conference at the University of Tilberg, EURAM conference in Rotterdam, VHB Tagung in Hamburg, the Babson Conference at Lausanne and at Lyon and the Strategic Management Society conference in Prague. Oliver Alexy and Ammon Salter's paper with Paola Criscuolo 'Managing unsolicited ideas for R&D' was runner-up in The Best-Paper-Award in Innovation Management (sponsored by the European Business School (EBS) and MikroFORUM. It was subsequently published in California Management Review (54 (3): 116-139.). Additionally Oliver Alexy's co-authored paper 'Citius, Altius, Fortius? The Two Sides of Community-enabled Bricolage and Their Effect on Entrepreneurial Ventures was a division nominee for best paper at the Strategic Management Society Conference in Prague in October 2012.

There have been numerous engagements with the business community through case studies, dissemination and courses. The UK~IRC team ran a popular interactive session called "Open Innovation: is it a good thing for your organization" at the TSB conference Innovate '11. The team also organized a session on open innovation at the UK~IRC's 2011 Innovation Summit. Members of the UK~IRC team at the Institute for Manufacturing at Cambridge are involved in the creation of industry-specific OI forums where members share best practice, explore 'hot topics' along the food and FMCG Value Stream and participate in optional, accelerated Open Innovation (OI) collaborations. A new OI Forum in the Healthcare Sector is also being established. They also organize events where innovators and technology spin-outs, start-ups and SMEs can pitch their ideas to forum members.

Capacity Building

Oliver Alexy joined the UK~IRC team as a post-doc on the Open Innovation project. Beyond helping to advance the survey and related work, Oliver was pivotal in providing conceptual work around the topic of open innovation. This work led to two publications, one co-authored with Ammon Salter, in the Academy of Management Review, the leading journal in the field of management by impact factor. Further, conceptual and applied work was developed with direct application to practice and published in two leading practitioner-oriented outlets, the California Management Review and the Sloan Management Review. In addition, Oliver succeeded in publishing numerous articles on the drivers and boundary conditions of (successful) open innovation and purposeful disclosure of proprietary knowledge in the Journal of Management Studies and Research Policy, amongst others. Finally, Oliver presented his work at numerous prestigious conferences. In this context, he was also awarded as a runner-up of the Past Division Chairs' Best Emerging Scholar Award, the leading award handed out by

the Academy of Management's Technology and Innovation Management Division. Oliver joined the TUM School of Management in July 2012 as Professor of Strategic Entrepreneurship.

UK~IRC research student Nelli Theyel had a paper accepted for the Best Paper Proceedings of the Academy of Management conference last summer and has had another paper in the special issue of the International Small Business Journal on "Open Innovation in SMEs: An International Perspective on a Dynamic Approach to Contemporary Entrepreneurship". Nelli's work included three other papers. The first examined the differences in OI practices and outcomes between young and older firms and showed that OI practices have stronger, and not always positive, impacts on young firms. The second was a case study of the open innovation relationships of a waste to energy firm and showed the tension between intimate, trust-based, relationships and those based on arms-length competitive tendering. The third paper contrasted the OI practices of clean energy firms in the UK with those in California and found that the efficacy of various OI practices depended on both location and the stage of evolution of the sector. Nelli's PhD from the University of Cambridge was awarded in 2014.

In addition, Dr Andrea Mina has been appointed University Lecturer in the Economics of Innovation at the Judge Business School, University of Cambridge; and Dr Joanne Jin Zhang has been appointed to a University Lectureship at the University of East Anglia.

Outputs for New Modes of Innovation: Managerial and Strategic Business Practices and Open Innovation (UK~IRC)			
Articles in refereed Journals	2 8 16 119 25 26 31 32 35 37 38 47	Conferences attended	
Working Papers	101 102 126 138	Chapters in books	51 54 69 85
Workshops held/attended	165 166 167 168 169 170	Conference papers given	186 187 188 190 200 201 202 203 204 229 230 232 235 236 237 238 241 263
Consultancy and advice given	336	Mphil & PhD Students supervised	
User contacts	315 316 330	Media	356
Visitors	309 310 312 314	Membership of committee external to the university	280 281 282 283
Other publications	59 60	Books	86 90

Knowledge Intensive Business Services (KIBS), Intangibles & Innovative Performance

Project Leader: Bruce Tether (Manchester)**.** Project Director: Alan Hughes**.** Other Researchers: Jonathan Haskel, Ken Coutts, Bob Rowthorn, Cher Li (UK~IRC Research Fellow), Stan Metcalfe, Andrea Mina (UK~IRC Senior Research Fellow), Bill Martin, Karl Wennberg, Elif Bascavusoglu-Moreau (UK~IRC Research Fellow)**.** Project dates: 2009-2014**.** Funding: ESRC, NESTA, BIS, TSB.

Aims and objectives

It is well known that the UK and other advanced economies are very largely service economies, and it is increasingly recognized that intangible investments are more important, but less well understood, than tangible investments in driving firm performance and economic growth. Much less is known, however, about the variety that exists within (knowledge intensive) services, the interactions between (knowledge intensive) services and manufacturing, and how various intangibles contribute to performance and growth. Within this context our work sought to examine these issues and was undertaken at both the macro (or economy wide) level and at the micro (or firm) level.

Results

At the macro level our work has sought to understand the significance of intangible investments (some of which is outsourced to specialist business service firms), and the challenges of 'rebalancing' the UK economy away from its over reliance on financial services. In relation to intangibles, Jonathan Haskel and colleagues' work has been particularly significant. Haskel has worked closely with the UK Intellectual Property Office (IPO), undertaking studies estimating UK investment in intangible assets and Intellectual Property Rights. This work is a development of Haskel's previous work on the UK Innovation Index which was undertaken with NESTA. The study finds that the UK invests significantly more in intangibles than in tangible assets, and that this has been growing whilst tangible investment is flat. Haskel and others' work on the importance of intangibles, and public investment in the science base has been particularly significant in persuading the government to maintain the science budget in cash terms (see, for example, Haskel, Hughes and Bascavusoglu-Moreau 2014 report for the Campaign for Science and Engineers). Meanwhile, Haskel, Tether and Bascavusoglu-Moreau undertook studies for the IPO on the significance of investment in design, and of the holding of registered designs for company performance. Results were presented at a joint IPO-Design Council workshop in September 2011.

In relation to the apparent need to 'rebalance' the UK economy, the team has undertaken several studies, several of which were closely related to the Foresight 'Future of Manufacturing' study undertaken at the behest of the Government's Chief Scientific Advisor and supported by the Department for Business, Innovation and Skills. Alan Hughes served on the project board. Coutts and Rowthorn used macro-modelling to examine the future of the UK economy and conclude that with a stronger manufacturing sector it would grow faster and generate more net exports, but that share of manufacturing in employment or value-added is be unlikely to increase substantially. Policy needs to support UK trade performance in knowledge-intensive services as well as manufacturing, and to maintain the prominence of the UK's trade in financial services. Meanwhile, Bascavusoglu-Moreau and Li examined knowledge spillovers and knowledge sourcing in manufacturing. They find that especially higher tech or advanced manufacturing firms make the strongest use of external knowledge sources including Knowledge-Intensive Services, highlighting the importance of interactions between these two 'sectors'. Another significant contribution is that of Bill Martin and Robert Rowthorn who asked 'Is the British economy supply constrained II? A renewed critique of productivity pessimism' (May 2012). They argued that the UK's productivity weakness is due to workers' willingness to work for lower real wages which is symptomatic of an economy suffering deficient demand and excess

indebtedness. These findings received wide coverage in national and trade press including FT and BBC online news.

Our micro level work aimed to understand better the variety of businesses that exist within the broad category of business and professional services, behavioral differences, and inter-connections with other firms and organizations. We focused in particular on R&D services, architecture practices, specialist design firms and engineering consultancies. Our studies involved a mixture of qualitative and quantitative work, examined (inter alia) how R&D service firms in the "Cambridge Cluster" inter-relate with and assist their mainly manufacturing clients, understanding which small creative service firms react to the emergence of new market opportunities, examining how differences in the 'knowledge base' relate to the location, performance and growth of architecture practices and engineering consultancies, studying 'open innovation' in services, and examining the drivers of internationalization among engineering consultancies, a sector in which the UK has a significant balance of trade surplus.

Engagement and Impacts

The team has presented papers at numerous national and international conferences, including the Academy of Management Annual Meeting (San Antonio & Boston); the British Academy of Management meeting (Liverpool); the 14th International Schumpeter Society Conference (Brisbane); the 9th Annual International Industrial Organization Conference (Boston) and the DRUID Society Conference (Copenhagen & Barcelona). Papers were also presented at seminars, including at Manchester Business School, University of Southampton, University of Rome La Sapienza, University of Padua, the University of Turin, Friedrich Schiller University/Max Planck Institute for Economics, and INGENIO-Spanish Council for Scientific Research/University of Valencia. We also organised an international symposium on Innovation and Practices in Professional Services (Imperial College Business School, March 2011), with scholars from Boston College, Imperial College London, Universities of Harvard, Oxford, Cambridge and Bath, and helped organise the UK~IRC Early Career Researcher Workshop, held at Jesus College, Cambridge.

Jonathan Haskel's work on improved measurement of intangible price deflators, in particular of R&D, led to a conference (December 2011), to review UK and European progress in the capitalisation of R&D. The conference was opened by the ONS Chief Economist and the keynote was given by Dennis Fixler, Chief Statistician at the Bureau of Labor Statistics in the US. The intangible price deflator for R&D will be enacted into the UK National Accounts in the summer of 2014.

Bruce Tether was the principal organiser of the UK~IRC Innovation Summit held in Manchester in November 2012 on the theme "Creative Industries and Vibrant Places". This brought together academics with policy makers, business managers and other interested parties. In addition, the project's findings were presented to John Dodd, Director of Innovation at BIS, at Queens College, Cambridge (Sept 2011), and a further presentation was made to the BIS innovation in London in April 2014.

Other engagement activities include the aforementioned participation of several team members in the Foresight Future of Manufacturing Study, and work undertaken for both the Intellectual Property Office and the Campaign for Science and Engineering. Bruce Tether also acted as an invited discussant at the OECD for their final conference of the INNOSERV project (Dec. 2012), and travelled to Japan for National Institute of Science and Technology Policy (NISTEP) conference on designing and innovating services.

A significant proportion of our firm level work has been undertaken using data originally complied by the Architects Journal and New Civil Engineer, the magazine of the Institute of Civil Engineers. Over time, our team has built relationships with the editorial teams of these trade journals, and Bruce Tether now provides annual commentaries on the performance of firms in these sectors for both

outlets. He has also spoken at industry events, and helps the annual judging for various annual prizes for architecture practice and engineering consultancies.

Publications

Our research has been published in a variety of academic journals, including: *Economic Letters; Industrial and Corporate Change; International Journal of Industrial Organization; Journal of Economic Geography; Oxford Bulletin of Economics and Statistics; Oxford Review of Economic Policy; Research Policy; Review of Income and Wealth and The Manchester School*. We have also contributed chapters to various books, including two published by Oxford University Press. Further papers are being written or are currently under-review with academic journals, including the Journal of Business Venturing and the Strategic Management Journal. Full details are provided elsewhere in this report. We have also written several policy oriented reports, including reports for the Foresight Future of Manufacturing study, the Intellectual Property Office and the Campaign for Science and Engineering.

Capacity Building

Two of the project's researchers have been appointed to permanent faculty positions at leading universities: Dr Andrea Mina has been appointed University Lecturer in the Economics of Innovation at the Judge Business School, University of Cambridge, whilst Dr Cher Li is now an Associate Professor in Industrial Economics at Nottingham University Business School.

Outputs for Knowledge Intensive Business Services (KIBS), Intangibles & Innovative Performance			
Working Papers	108 109 110 114 115 118	Articles in refereed journals	119 25 31 125 34
Conference papers given	200 201 202 203 204 227 229 230 232 234	consultancy and advice given (paid or unpaid)	336 337 338 339
Chapters in Books	54 69 76 77 84	Other publications	59 60
Workshops held/attended	165 166 167 168 169 170	Conferences attended	270
Books	86 90	Datasets created, software written	153
Collaboration with other research teams		Membership of committees external to the University	280 281 282 283
Media	356	User contacts	325 326 327 328

Development of a Stock-Flow Consistent UK Macroeconomic Model for Policy Analysis

Project leaders: Bill Martin; Graham Gudgin. Project team: Ken Coutts, Graham Gudgin, Bob Rowthorn, Neil Gibson (Ulster). Project dates: ongoing.

This work, which formed part of the macro component of the UK~IRC Business Services project, follows in the tradition of stock-flow modelling pioneered by the late Professor Wynne Godley. The research is not publicly funded. The modelling is used to inform strategic macroeconomic policy analysis of the UK economy. The work also provides a top-down perspective relevant and complementary to research on the balance of payments, led by Ken Coutts and Bob Rowthorn as part of the Services project.

Since joining CBR in 2007, Bill Martin has written papers on the development of historical sector national accounts statistics, the theory of optimal policy using a stock-flow consistent model, and the econometric stability of a UK private expenditure function. He has constructed a simple macro model, which was used to develop scenarios in a policy-orientated report in 2010 focussed on the strategic challenges facing the UK. The report, published under the joint CBR UK~IRC imprint, received widespread press coverage. Bill Martin was invited to present his views to HM Treasury economists, to a BIS-ESRC seminar on the Government's proposed White Paper on growth, to a private seminar organised by the Deputy Prime Minister, and to a seminar organised by Professor Arestis at St Catharine's College, Cambridge.

In July 2011, Bill Martin's second strategic report examined the proposition that the British economy was supply constrained. The report gave a detailed critique of the view, widely held in policy circles, that the economy had suffered a permanent loss of productivity. The analysis received widespread press coverage and prompted requests for additional briefing from economists at the Bank of England and BIS. The report also highlighted the role played by business services and banks during the downturn, analysis that feeds naturally into the UK~IRC funded investigation of the changing input-output structure of the economy, as part of the Services project.

In May 2012, Bill Martin and Bob Rowthorn co-authored a sequel to Bill Martin's 2011 report, addressing criticisms of the earlier analysis and new arguments put forward by productivity pessimists. The sequel received widespread coverage in the UK and in the US – in addition to citations in major British papers (FT, Sunday Times, Observer, Guardian), magazines (The Economist, Prospect) and the Bank of England's Quarterly Bulletin, the study was cited by Paul Krugman in the New York Times and by the IMF in its 2012 Article IV Report on the UK. UK officials were privately briefed.

In November 2013, The National Institute of Economic and Social Research published a response by Bill Martin and Robert Rowthorn to a critique of their 2012 study, written by Goodridge, Haskel and Wallis (GHW). The response re-emphasised the importance of effective demand failure and associated real wage submissiveness as key drivers of the UK economy's productivity shortfall. Martin and Rowthorn also commented sceptically on the evidence offered in support of GHW's alternative explanations of the productivity puzzle that stressed the role of intangible investment.

Macro-Economic Forecasting and Policy Analysis for the UK Economy

This sub-project aims to examine alternatives to current macro-economic policy in the UK. Initial work involves developing econometric models of the UK macro-economies and balance of payments in order to assess the consequences of current economic policies and to run scenarios for key policy options. The initial policies being investigated include fiscal and monetary stimuli aimed at reducing unemployment, and the future of manufacturing in the UK. The project is undertaken in collaboration with Professor Neil Gibson and his team at the University of Ulster. An initial report has also been compiled to examine the

historical impact of liberal market policies in the period since 1980, compared with the 'corporatist' era of earlier decades.

Outputs for Development of a stock-flow consistent UK macroeconomic model for policy analysis			
Articles in Refereed Journals	7 27 28	Newspapers	352 353 354 355
Chapters in books	57	Datasets created, software written	148 149 150 151
Collaboration with other reserach teams		Workshops held/attended	164
Conferences attended	269	Membership of committees external to the University	279
Consultancy Advice given	333	Working Papers	108 109 110

Survey and Database Unit

Project Leader: Andy Cosh. Survey and Database Manager: Anna Bullock. Survey and Database Assistant: Isobel Milner. Funding: ESRC; various other shorter term funds and contract research grants. Period: ongoing.

Aims and Objectives

- To ensure the efficient design, management and costing of CBR project surveys including the CBR biennial survey of small and medium sized enterprises.
- To advise on questionnaire design, survey method, choice of sampling frames, and data inputting and cleaning procedures in CBR project surveys.
- To advise on statistical software use with CBR datasets.
- To archive data at CBR, and where appropriate organise the deposit of ESRC sponsored datasets with the UK Data Archive at Essex.
- To act as a technical advisor to other members of the CBR on the contents of and access to proprietary and official data sets, a great number (e.g. FAME, Datastream, ONS) of which are utilised by CBR staff.

During the year 2013-14, the unit has been involved with a number of projects described below.

The Knowledge Hub (UK~IRC)

The team carried out a final feedback survey on the impact of the UK~IRC's knowledge hub activities over the last five years, which was conducted as a web survey. The questions covered the following sections: UK~IRC Events; Post Event Contact; UK~IRC Website; UK~IRC Newsletter & other e-communication; UK~IRC's activities overall and Demographics.

Evidence on the Value of Non-Hypothecated Public Funding for Research.
This project for HEFCE is a collaboration with PACEC looking at the outputs of non-hypothecated HEI research funding and how HEIs use this funding and maximise its value. It looks at HESA research income and Funding Council quality related funding. This involved using the database of HEI income prepared for the BIS report as well as the CBR's Academic survey data. Databases used for this project include:

- A database of HESA and Funding Council data created by combining cross-sectional annual data from HESA on Research income by type for the years 2001/2 to 2011/12 by institution and cost centre and QR funding data by institution and Unit of Assessment (UOA) by year using Funding Council Sources. Subject areas from these two sources were combined to allow comparison with the CBR's Academic Survey. Academic staff FTE data by CBR subject code and institution produced by HESA for the years 2005/6 to 2010/11 was added to the dataset.
- A database at institutional level containing various income sources and output data from the HE-BCI survey for the years 2003/4 to 2011/12.

Ranked tables for each HESA funding source, QR allocation and income generated from Collaborative Research, Contract Research, Intellectual Property etc. were produced and a draft final report was submitted to HEFCE in October 2013.

Asset finance, Trade Credit and Retention of Title

The Survey and Database Unit was asked by Professor Louise Gullifer at the University of Oxford and Dr Paul Ali at the University of Melbourne to carry out a pilot survey of firms in the manufacturing; construction; and wholesale and retail sectors with 50-500 employees in England and Wales The title of the project is 'A Comparative Analysis of the Reform of Personal Property Security Law in Australia and the United Kingdom' and its aim is to look at the way that the reforms of the law in this area in Australia have operated in practice, and to compare the law in the UK in similar areas, with a view to considering whether any reform would be beneficial here. The survey took place in January and February 2014.

Services Innovation and Innovative Performance at the Sector Level (UK~IRC)

This UK~IRC project is concerned with structural changes in the UK economy that have led to unprecedented growth in its service - and especially business service - component. The research programme includes analyses of firm behaviours, sectoral landscapes and the macro environment. At the start of 2014, the Survey and Database team carried out a survey of several leading UK service industries, focusing on professional service firms, of KIBS (particularly architects, engineering and building consultants, and design firms and creative agencies). The survey examined issues including: services offered, competitors, employees, human resources and knowledge management; collaboration and partnerships; innovation; and general information. The survey, which was conducted as a postal survey with an option to respond via the web, was sent to a sample of 4,500 firms. 576 completed questionnaires were returned, a response rate of 13%. The survey design included a promise to make a £5 donation to charity for every completed survey received. This was to be split equally between Cancer Research UK and Oxfam.

Outputs for Survey & Database Unit			
Surveys	157 158 159	Research Reports	93 94
Datasets created, Software written, archived	146 147 152	Training courses attended	379

Corporate Governance Programme: Director Simon Deakin

The Corporate Governance programme carries out a range of basic and applied research projects on issues affecting the governance, management and regulation of companies, including board structure, executive pay, hostile takeovers, shareholder activism, socially responsible investment, corporate insolvency, inter-firm contracting, worker participation, employment protection, and labour standards regulation. Under the aegis of the programme, researchers have provided advice and research support to a number of policy initiatives in the UK and overseas, including the DTI-sponsored review of UK company law which culminated in the passage of the Companies Act 2006, the EU's consideration of options for the reform of working time regulation, and ILO work on labour standards in developing countries. The programme has contributed to advances in methods of data collection and statistical analysis in the study of the relationship between law and finance, and to theoretical developments in the field of evolutionary law and economics. Funding has come from, inter alia, the ESRC, the EU, and the UK and Japanese governments.

Law, Development and Finance in Rising Powers

Project leader: Simon Deakin. Co-investigators: Svetlana Adrianova (Leicester), John Armour (Oxford), Gregory James (Loughborough), Mathias Siems (Durham), Kristin van Zwieten (Oxford). Senior Research Fellow: John Hamilton. Research Associates: Ding Chen (Newcastle), Andrew Johnston (Sheffield), Gerhard Schnyder (King's College, London), Ajit Singh (Cambridge). Senior Research Fellow: John Hamilton. Research Fellow: Boya Wang. Research Associate: Sveta Borodina.
Project dates: 2013-15. Funding: ESRC (Rising Powers Programme).

Aims and objectives

The aim of this project is to examine the role of law in economic development in the 'rising powers' of China, Russia, India and Brazil. The work will analyse to what extent the quality of legal and other formal institutions has affected financial development and economic growth in these countries, and whether reliance on informal institutions poses an obstacle to their future growth. The project involves collaboration between the CBR and a number of partner institutions, and is supported by the law firm Clifford Chance.

For over a decade, with the encouragement of the World Bank and western governments, developing countries have adopted programmes of legal and financial reform combining privatisation of state-owned banks and enterprises with the enactment of enhanced legal protections for shareholders and creditors. According to some accounts, China's recent experience demonstrates the value of a developing legal framework in overcoming limits to growth in an informal, trust-based economy, while Russia is actively seeking to put in place the necessary legal and regulatory structures for market-based financial development. In Brazil, the example of the Novo Mercado, a new stock market segment which has attracted a large number of high-tech IPOs, suggests that a strategy of allowing firms to opt into a shareholder-rights based regulatory regime can work in promoting flows of equity finance in an emerging market context. In India, too, there is some evidence that recent corporate governance reforms have led to greater transparency on the part of listed firms and to increased investor confidence, although critics of the reform process argue that it has not gone far enough. The picture emerging from these experiences is one in which formal and informal institutions do not necessarily operate in tension. Rather, they may complement each other in providing the foundations for sustainable economic growth and societal development.

Methods

The project is researching these issues using an inter-disciplinary, multi-methods approach, combining quantitative analysis of the extent and nature of correlations between legal and financial development in the countries under review, with qualitative, fieldwork-based research aimed at building up a detailed, micro-institutional account of the perceptions and strategies of actors involved in legal and financial reforms. We are using legal and financial datasets to carry out time-series and panel data analysis capable of specifying causal links between legal institutions and economic development in the rising powers and, by way of comparison, in a wider sample of developed and developing countries with over 30 annual observations per country. The fieldwork is focusing on the role played in each country by the banking sector and capital markets as alternative (or possibly complementary) sources of finance for firms; on how government reconciles or combines its continuing role as owner of financial and industrial enterprise with its emerging role as regulator of banks and securities markets; and on how firms meet their financing needs.

Progress report

Data collection for legal datasets begun in the spring of 2013 and a revised version of the CBR Shareholder Protection Index, covering 30 countries for the period 1990-2013, was completed later that year. Econometric analysis of the dataset began in 2014. A first round of interviews was carried out in Russia in the summer of 2013. Further interviewing was carried out by the Cambridge team in Russia from September 2013 and in China (Beijing and Guangdong Province) from November 2013. The Oxford team has carried out extensive fieldwork in Brazil and India.

In September 2013 Simon Deakin visited the Faculty of Law at Moscow State University to give a series of lectures and presentations on corporate governance. In November 2013 Simon Deakin and Ding Chen gave a presentation on law and finance research at Renmin University, Beijing.

Results from the project will be disseminated once the fieldwork and econometric analysis are completed in the course of the academic year 2014-15.

Outputs for Law Development and Finance in Rising Powers			
Articles in refereed Journals	13 5	Chapters in books	49 50 52 62 63 78 80 82 83
Working Papers	103 105 106 107 116 117 130 131 81 132 133 134 135 136 137 140	Other Publications, e.g book reviews, pamphlets	145
Conference papers given	189 191 192 193 196 197 223 224 225 226 246 247 248 249 250 251 252 253 254 255 271 272 273 274 275 276 277 278	Collaboration with other Research Teams	
Conferences attended	264 265 266 267 268	Visitors	297 306 307
Workshops Held/attended	160 161 162 163 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185	Mphil & PhD Students supervised	368 369 370 373 374 375 376 377 378
User contacts	331 332 341 342	Membership of committees external to the University	284 285
Books	88 91	Datasets	154 156

Labour Law and Poverty Alleviation in Low- and Middle-Income Countries

Project leader: Simon Deakin. Co-investigator: Shelley Marshall (Monash University). Research Fellow: Enying Zheng. Researcher: Zoe Adams. Research Associates: Ajit Singh (CBR), Prabirjit Sarkar (Jadavpur University). Project dates: 2013-15. Funding: ESRC (DFID-ESRC Joint Scheme on Poverty Alleviation)

Aims and objectives

The aim of the project is to understand the role of labour law in alleviating poverty in developing countries, with the focus on four country cases, namely Cambodia, China, India and South Africa.

Labour regulation can operate to reduce poverty in two ways: by promoting greater equality of incomes and wealth, and by encouraging the more productive and efficient use of labour resources. A key issue is the effectiveness of labour law regulation in practice. Even if, in principle, labour law rules can serve social and economic goals, they may fail to do so if the capacity of regulatory institutions is limited, if rules lack legitimacy on the ground, or if the laws are ill-suited to economic or social conditions.

Methods

The empirical strategy for addressing these issues is two-fold. The quantitative dimension of the work takes the form of econometric analysis of datasets providing data on legal and institutional variables at national and regional level, alongside relevant economic and labour market indicators (GDP, employment, unemployment, productivity, and so on). The qualitative dimension of the work takes the form of interviews with actors in the case study countries. These include those with legal knowledge and experience (judges, lawyers, politicians, regulators, civil servants, labour inspectors), private-sector firm-level actors (HR and other managers), and actors in civil society (trade unions, NGOs). These two aspects of the study will be brought together to provide comparative data on countries with different levels of industrialisation, economic structures and cultural contexts.

The project is being undertaken with the support of the International Labour Office (ILO), which is providing advice on access in the case study countries, data support, and policy analysis, and in close collaboration with researchers based at partner institutions, including Monash University and the University of Cape Town.

Progress report

A preliminary workshop was held at the ILO in February and work on data collection was begun in June 2013. Preliminary results from econometric analysis were reported in two working papers (Deakin, Malmberg and Sarkar, 2014; Deakin, Fenwick and Sarkar, 2014). Interviews were carried out in South Africa and China in the summer of 2013. In the course of the academic year 2013-14, further fieldwork was conducted in China, India and Cambodia. Further work was undertaken on the CBR Labour Regulation Index, with over 80 countries preliminarily coded by the summer of 2014.

Ajit Singh and Simon Deakin gave invited lectures at the Annual Conference of the Indian Society of Labour Economics, New Delhi, December 2013.

Full results from the project will be disseminated once the fieldwork and econometric analysis are completed in the course of the academic year 2014-15.

Outputs for Labour Law and Poverty Alleviation in Low and Middle income countries			
Articles in refereed Journals	10 11	Other publications	
Working Papers	130 134 135 136 137	Chapters in books	48 53
Workshops held/attended		Media Coverage	
Conference papers given	198 199 271 272 273 274 275 276 277 278	Mphil & PhD Students supervised	371 372 376

Contract, Democracy and Policy: The Case of the New Nuclear Power Contract

Principal investigators: Simon Deakin and David Howarth (POLIS and Land Economy). Researcher: Carolyn Twigg. Project dates: March-May 2014. Funding: ESRC Impact Acceleration Account Pilot Programme.

Aims and objectives

April 2014 a policy workshop funded by the ESRC Impact Acceleration Account Pilot Programme discussed the proposed contract between the UK government and Electricité de France, backed by the Chinese government, to build a new nuclear power plant at Hinkley Point in Somerset. The contract purports to constrain over a period of 35 years the ability of future UK governments to change policy on nuclear power, including changes in taxation. It is far from clear that the proposed contract would be legally enforceable, and its underlying economic rationale is open to question. Those attending the workshop were the project PIs, Simon Deakin and David Howarth; researcher and coordinator, Carolyn Twigg; policy officer, Boni Sones; academic experts in law (David Feldman, Angus Johnston, Oke Odudu and Pippa Rogerson) and economics (Michael Pollitt); and policy makers (Tom Burke, independent consultant, and Tim Yeo MP, chair of the House of Commons Energy Select Committee). The workshop discussed problems with the Hinkley Point C contract including the strong possibility that it was in breach of EU rules on state aid and free movement of goods, and would have to be renegotiated.

Dissemination focused on the message coming out of the workshop, of the need for renegotiation of the Hinkley Point C contract, as follows:

- Creation of a number of podcasts in audio documentary form. These include four interviews conducted by Boni Sones with various workshop participants, and two documentary podcasts containing a mix of interview material and linking commentary.
- A radio interview by David Howarth on the BBC Today Programme on 6 May, with Tim Yeo MP responding. See also http://sms.cam.ac.uk/media/1711925.
- Posting on to the Law Faculty, CBR and PPSRI website of media links, a summary blog, podcasts, and a report on the workshop findings:
  http://www.law.cam.ac.uk/press/news/2014/05/faculty-members-in-the-media/2640
  http://www.law.cam.ac.uk/people/academic/sf-deakin/22/blog/#article93
  http://www.cbr.cam.ac.uk/research/projects/project2-33output.htm
  http://www.publicpolicy.cam.ac.uk/research-impact/impactworkshop

Impact took the following forms:

1. ***Press and social media coverage***

- Widespread comment in the press and social media on David Howarth's interview and the website material, links, and report written by him and Simon Deakin, including: http://www.bbc.co.uk/news/uk-politics-27291087 https://www.facebook.com/StopHinkley; http://www.no2nuclearpower.org.uk/news/; http://www.solarpowerportal.co.uk/news/uk_governments_nuclear_deal_likely_to_run_into_legal_difficulties_23546; http://www.thetimes.co.uk/tto/business/industries/naturalresources/article4082169.ece

2. Contacts with users

We have been approached by:

- lawyers representing some of the parties to the draft contract
- the nuclear regulatory authority in Sweden
- campaigners against the construction of Hinkley Point C
- a network of academics and policy experts involved in submitting evidence to the European Commission on the approach it should take to Hinkley Point C.

3. Contacts with regulators and policy makers

- We have been contacted by a Special Adviser to the Secretary of State for Energy and Climate Change.

- Not directly referring to the CBR project, but more generally responding to press and political comment in the days following the *Today* programme discussion, the Prime Minister discussed Hinkley Point C on the BBC on 9 May http://www.bbc.co.uk/news/uk-england-somerset-27346693.

Outputs for Contract, Democracy and Policy: The Case of the New Nuclear Power Contract			
Working Papers		Chapters in books	
Workshops held/attended		Media Coverage	343 344 345 347 348 349 350 351 362 363
Conference papers given		Mphil & PhD Students supervised	

3.Outputs

(Note: work forthcoming in reporting year 2013-14 is listed here but not included in the Performance Indicator Table, section 9)

Articles in refereed journals

1. Adams, Z. and Deakin, S. (2014) 'Institutional solutions to inequality and precariousness in labour markets' *British Journal of Industrial Relations*, forthcoming.

2. Alexy, O. and George, G. (2013) 'Category divergence, straddling, and currency: open innovation and the legitimation of illegitimate categories' *Journal of Management Studies*, 50(2): 173-203.

3. Amdekar, S. and A. Singh (2014) 'Climate change and the premises for a new society' *Economic and Labour Relations*, forthcoming.

4. Buchanan, J., Chai, D.-H. and Deakin, S. (2014) 'Agency theory in practice: a qualitative study of hedge fund activism in Japan' *Corporate Governance: An International Review*, 22: 296-311.

5. Buchanan, J., Chai, D.-H. and Deakin, S. (2014) 'Empirical analysis of legal institutions and institutional change: multiple-methods approaches and their application to corporate governance research' *Journal of Institutional Economics*, 10: 1-20.

6. Deakin, S. (2013) 'The legal theory of finance: implications for methodology and empirical research' *Journal of Comparative Economics*, 41: 338-42.

7. Coutts K. and Rowthorn R. (2013) 'The UK balance of payments. Structure and Prospects' *Oxford Review of Economic Policy*, 29: 307-325.

8. Criscuolo, P., Salter, A. and ter Wal, A. (2014) 'Going underground: bootlegging and individual innovative performance' *Organization Science*, forthcoming.

9. Deakin, S. (2014) 'The standard employment relationship in Europe – recent developments and future prognosis' *Soziales Recht*, 3/2014: 89-99.

10. Deakin, S. (2014) 'Labour law and inclusive development', forthcoming, *Indian Journal of Labour Economics*.

11. Deakin, S., Malmberg, J. and Sarkar, P. (2014) 'How do labour laws affect unemployment and the labour share of national income? The experience of six OECD countries, 1970–2010' *International Labour Review*, 153: 1-27.

12. Deakin, S., Fraser Butlin, S., McLaughlin, C. and Polanska, A. (forthcoming) 'Are litigation and collective bargaining complements or substitutes for achieving gender equality? A study of the British Equal Pay Act' *Cambridge Journal of Economics*, forthcoming.

13. Fennell, S., Kaur, A. and Singh, A. (2013) 'India and the Eurozone: a commentary on the political economy of adjustment and correction' *Contributions to Political Economy*, 32 :151-167.

14. Han, Y., Xu, M. and Zheng, E. (2014) 'The influence from the past: organizational imprinting and firms' compliance with social insurance policies in China' *Journal of Business Ethics*, 122: 65-77.

15. Han, Y. and Zheng, E. (2014) 'Historical source of practice variation: organizational imprinting and corporate social responsibility' *Management and Organization Review*, forthcoming.

16. Henkel., J., Schöberl, S., and Alexy, O. (2014) 'The emergence of openness: How and why firms adopt selective revealing in open innovation' *Research Policy*, 43: 879-890.

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149. Gudgin, G. *UK trade data 1970-2012* consistent with the ONS Pink Book 2012. The data consists of 108 variables for visible trade (4 commodities), invisible trade (5 sectors), income and capital flows (6 separate flows). The data is currently being updated to 2013

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151. Gudgin, G. *A model of UK Balance of Payments*, a quantitative information system of 108 time series variables built around a framework of accounting identities with behavioural equations derived from the historic data described in 2 above. The system projects flows of trade, incomes and capital between the UK and rest of world using 9 categories of trade, and 6 categories of income and capital flows. The model has 27 exogenous variables and is thus heavily dependent on assumptions about such things as the future trends of world trade. Further details of the model were given in papers to be published on the BIS Foresight website (autumn 2013) and the Oxford Review of Economic Policy (Autumn 2013). This paper describes the history of the UK balance of payments since 1950, and contains an informal discussion of future prospects. It documents the huge shifts that have occurred in the composition of trade, in particular the rise of the City of London and knowledge-intensive services (communications, consultancy, R&D, media, other business services, etc.), the rise and fall of North Sea oil, and the transformation of the UK from a leading net exporter of manufactured goods to a major net importer. Domestic oil production is now in decline, net income from overseas investment has fallen, and the City of London is under threat. The UK also has a current account deficit equal to 4 per cent of GDP. These recent developments have led to widespread calls for rebalancing the economy so as to improve the trade performance of the manufacturing sector. This paper supports this objective. It calls for industrial and other policies to improve UK trade performance, above all in manufacturing, but also in knowledge-intensive services. It also points out the need to safeguard London's role as a global financial centre.

152. Milner, I. (2014) *New Modes of Innovation: Managerial and Strategic Business Practices and Open Innovation (UK~IRC) survey dataset* (SN7528)

153. Mina, A. (2014) *Professional service firms survey data*, CBR, Spring 2014.

154. Siems, M. (2014) *CBR Extended Shareholder Protection Index*, Centre for Business Research, University of Cambridge, 2nd edition, September 2014, edited by Mathias Siems, (ed.), 107 pages (coding of the law on shareholder protection for 30 countries, 1990-2013, with detailed explanations).

155. Adams, Z, and Deakin, S. (2014) CBR Labour Regulation Index, Centre for Business Research, University of Cambridge, extended version (80 countries) expected by December 2014.

156. Wang, B. (2014) A cross-sectional dataset with 2484 observations of Chinese listed companies over the 2007-2008 Financial Crisis period has been constructed. The 35 variables consist of three main categories, including control (firm-specific financial) variables, indicators of firm-level corporate governance (CG) measures, as well as proxies of provincial legal environment. The CG indicators cover the following aspects of investor protection: (1) ownership characteristics (ownership concentration, institutional shareholdings, separation of cash flow and control rights, as well as controllers' identities); (2) functions of the board (size, independence and activism); (3) disclosure quality (reputation of external auditor, independence of audit committees and dual-listing); and (4) executive remuneration. The raw data was downloaded from the China Stock Market & Accounting Research (CSMAR) database and DataStream. For coding the nature of corporate control, we have manually examined 1385 corporate reports and identified the ultimate controller of the listed companies observed. To proxy the quality of legal enforcement, we have used indices from the Chinese National Economic Research Institute (NERI) Marketization Index of different Chinese provinces. These indices cover the key aspects of legal and institutional environments, including degree of government intervention, non-state sector development, product and factor market development, protection of property rights, and development of legal and service intermediaries. They have been applied to examine how firm-specific CG measures and sub-national institutional factors jointly affect firm valuation.

Surveys

157. Bullock, A. (2014) *Postal Survey of SMEs regarding Asset finance, Trade credit and Retention of Title*.

158. Bullock, A, Milner, I. (2014) *Survey of Professional and Business Service Firms – Postal and Web Survey*.

159. Milner, I. (2014) *Web survey – UK~IRC contact database*.

Workshops held/attended

160. Chen, D. 27/09/2013 Workshop at Cambridge University, on 'Law, Development and Finance in Rising Powers'

161. Chen, D. and Deakin, S. 20/11/2013 Renmin University, School of Law, held Seminar on Law and Finance in Emerging Markets

162. Chen, D. 16/06/2014 4th Law and Development Annual Conference

163. Chen, D. 17/06/2014 workshop at Leeds law school on 'Money, Its Legal and Social Past and Present'

164. Gudgin, G. Workshop on better use of evidence for policy-making – EU Commission Brussels, 15/16 May 2014

165. Hughes, A. (2014): Participation in the *Hauser Review of Catapults Inaugural Meeting*, Royal Society, London, 1 May.

166. Hughes, A. (2014): NCUB Innovation Roundtable Discussion on *Innovation in the Pharmaceuticals Industry*, London, 12 May.

167. Hughes, A. (2014): Participation in *Monitoring Collaboration Performance between Universities and Industry* Seminar, NCUB, London, 29 May.

168. Hughes, A. (2014): Participation in workshop discussion of BIS Industrial Strategy and Economic Growth, BIS Conference Centre, London, 11 June.

169. Hughes, A. (2014): Participation in IPPR Round Table on the future of UK Innovation Policy, IPPR, London, 12 June.

170. Hughes, A. (2014): BIS Roundtable on Innovation, BIS Conference Centre, London, 2 July.

171. Konzelmann, S. 'Changing Relations between the State and the Market in the Aftermath of the 2008 Financial Crisis.' *Comparative Research on Law and Political Economy Conference,* Osgoode Law School, York University, Toronto, Ontario, Canada, May 2014.

172. Konzelmann, S. 'The Political Economics of Austerity.' *Bournemouth Business School Seminar Series,* Bournemouth University, Bournemouth, UK, April 2014.

173. Konzelmann, S. 'The Political Economics of Austerity.' *Contemporary Economic Issues Lecture Series,* University of East Anglia, Norwich, UK, March 2014.

174. Konzelmann, S. 'This House Believes Austerity Economics Has Failed.' *Michaelmas Debate*, University of Cambridge Marshall Society of Economics, Cambridge, UK, October 2013.

175. Konzelmann, S. 'Acquiring International Competitiveness: Lessons from Team GB and the Summer Olympic Games.' *Group for Research in Organizational Evolution International Workshop,* University of Hertfordshire Business School, Hitchin Priory, UK, September 2013.

176. Singh, A. Conference of the Indian Society of Labour Economics, New Delhi December 2013 – gave the second Gautam Mathur Memorial Lecture

177. Singh, A.National Conference 'India's Industrialisation: How to Overcome the Stagnation' organised by the Institute for Studies in Industrial Development. Gave Special Address 'Some Brief Notes on the State of the Indian Economy'.

178. Singh, A. Stockholm International Conference on 'Entrepreneurship and Regulation'. Presented paper 'Full Employment in Western Europen and the Regulatory Regime'.

179. Singh, A. Marshall Society Conference, Cambridge 2014

180. Singh, A. IPPR Round Table 'Reforming British Innovation Policy, June 2014

181. Singh, A. TUC Seminar 'Beyond Shareholder Value' July 2014

182. Singh, A. Workshop 'New Perspectives on Industrial Policy for a Modern Britain' sponsored by OUP and the IPPR.

183. Wang, B. ESRC 'Rising Powers and Interdependent Futures' Workshop, Cambridge, 4 October 2013

184. Wang, B. ESRC 'Rising Powers and Interdependent Futures' Conference for Principal Investigators, Manchester, 13-14 March 2014

185. Wang, B. ESRC 'Rising Powers and Interdependent Futures' Doctoral and Early Career Researchers workshop, Manchester, 5 June 2014

Conference Papers/Presentations given

186. Ahn, J., L. Mortara and T. Minshall (2014). Linkage between CEO characteristics and OI adoption in innovative SMEs. DRUID Academy, January 15-17, Aarlborg, Denmark.

187. Ahn, J., L. Mortara and T. Minshall (2014). Longitudinal effects of open R&D strategy on firm performance: Comparative study of the UK and Korea. 2014 R&D Management Association Conference. Stuttgart, 3-6 June.

188. Alexy, O., Bascavusoglu-Moreau, E. and Salter, A., (2013) 'The antecedents of openness: aspiration, slack and open innovation'. Open Innovation Workshop, University of Bath, 19-20 September, Bath, UK

189. Armour, J 'How Creditor Rights Matter for Debt Finance: A Review of Empirical Evidence', EBRD Conference on *Secured Lending in Commercial Transactions—Trends and Perspectives*, EBRD, London, November 2013

190. Blasini, B., T. Minshall and L. Mortara (2014). The role of communicators in innovation clusters: Initial evidence from the case studies of Munich and Cambridge. DRUID Academy, January 15-17. Aarlborg, Denmark.

191. Borodina, S., Deakin, S. and Hamilton, J. (2014) 'Russia's legal transitions' presentation to Faculty seminar, Birmingham Law School, July 2014.

192. Chen, D. 16/06/2014 4th Law and Development Annual Conference presented 'law and finance in emerging markets'

193. Chen, D. and Deakin, S. (2013) 'The rule of law and financial development in emerging markets' presentation at Faculty of Law, Renmin University, Beijing, November 2013.

194. Crowe, S., Turner, S., Fulop, N., Utley, M. 2014. 'Improving quality through interdisciplinarity: the account of a collaboration between operational researchers and social scientists', Health Services Research Network (HSRN) Symposium 2014, Nottingham, 19-20 June.

195. Crowe, S., Turner, S. 2013. 'Practising interdisciplinarity: the auto-ethnographic account of an operational researcher and social scientist collaboration', Qualitative Health Research meeting, University College London, 18 December.

196. Deakin, S. (2013) 'Law and economics'. Presentation to Clifford Chance, Moscow, September 2013.

197. Deakin, S. (2013) 'Corporate governance' lectures at the Faculty of Law, Moscow State University, September 2013.

198. Deakin, S. (2014) 'Labour law and inclusive development', V.V Giri Memorial Lecture, Annual Conference of the Indian Society of Labour Economics, New Delhi, December 2013.

199. Deakin, S., Fenwick, C. and Sarkar, P. (2014) 'Labour law and inclusive development: the economic effects of industrial relations laws in middle-income countries' paper presented to the Regulating for Decent Work conference, ILO, Geneva, July 2013.

200. Hughes, A. (2014) Presentation on *Some Evidence Based Perspectives on the State of the Relationship*, NCUB Report Launch: *State of Relationships,* One Great George Street, Westminster, London, 14 April.

201. Hughes, A. (2014): presentation , BIS Seminar on *Economic Impact of the Science Base* based on the report by Hughes, Haskel and Bascavusoglu-Moreau, BIS Conference Centre, London, 7 May.

202. Hughes, A. (2014): Evidence presented to the BIS Select Committee on *Business-University Collaboration*, House of Commons, London, 10 June.

203. Hughes, A. (2014): Roundtable with Dr Liam Byrne, Shadow Minister for Science and Universities, House of Commons, London, 1 July.

204. Hughes, A. (2014): Presentation of Advice and Comment to the Scientific Research Investigative Review Team, Ministry of Defence, London, 11 July.

205. Hughes, A. (2013) Sharing Experience: Learning from the Cambridge ESRC IAA Pilot, ESRC Impact Acceleration Account Regional Workshop, 76 Portland Place, London, 3 December.

206. Hughes, A. (2014) Industrial policy for the Medium to Long-Term, Technology, Innovation and Dynamics (TIID) Seminar Series, Graduate School of Business Economics Maastricht, 26 February.

207. Hughes, A. (2013) Mechanisms for Enhancing the Impact of University-based Research on Company Innovation and Business Performance: An International policy comparison, ATSE Workshop - Translating Research into Productivity: Rethinking Linkages, Brisbane, 8 August

208. Hughes, A. (2013) Measuring the Impact of Public Sector Funding for Science Base Research: How can we know if it pays off?, Meeting of the Science Council, London, 8 October

209. Hughes, A. (2013) Industrial Policy and the Future of Manufacturing, British Embassy, Berlin, 11 November.

210. Hughes, A. (2013) Industrial Policy and the Future of Manufacturing, Royal Society, London, 30 October.

211. Hughes, A. (2014) Changes in the Industrial Landscape, Session 3, DSTI/IND/STP Joint Workshop on the Next Industrial Revolution, OECD Headquarters, Paris, 5th March.

212. Hughes, A. (2014) Intermediate Institutions and High-tech Businesses: Evidence and Rationale for Policy Developments, UK~IRC Chatham House Rule BIS Seminar, The Ballroom, 58 Prince's Gate, London, 24 March.

213. Kirshner, J. *Bankruptcy Law as a Backstop to Systemic Risk* American Institute for Economic Research, Great Barrington, MA, July 2014

214. Kirshner, J. *Design Flaws in the Bankruptcy Regime* Brooklyn Law School, Brooklyn, NY, April 2014

215. Kirshner, J. *Law and Security Panel Debate* Council on Foreign Relations, New York, NY, November 2013

216. Kirshner, J. *Rethinking Theories of Economic Crisis* Harvard Stanford International Junior Faculty Forum, Harvard Law School, Cambridge, MA, October 2013

217. Kirshner, J. *Financial Innovation and India* Canadian Law and Economics Association Annual Conference, University of Toronto, Canada, September 2013

218. Kitson, M. (2013), 'Innovation policy and growth', CSAP and Cabinet Office, London September

219. Kitson, M. (2013), 'The myth of the ivory tower: the connectivity of UK academia with the business, public and third sectors', Creative spaces: universities in the era of open innovation, Cardiff University, 25th November 2013

220. Kitson, M. (2014), 'Innovation policy and growth', University of East Anglia, March

221. Kitson, M. (2014), 'Eight Features of Knowledge Exchange', Universities UK: The contribution of UK universities to national and local economic growth, London, 3 April 2014

222. Kitson, M. (2014), 'The myth of the ivory tower', Entrepreneurial University, Engaged Industry & Active Government: Triple Helix Opportunities, 29 - 30 May 2014, University of Surrey

223. Konzelmann, S. 'The Alternatives Within: Explaining Within-Country Variation in Paths of Economic Economic and Financial Development and Governance.' *Society for the Advancement of Socio-Economics Annual Meetings,* Chicago, IL, USA, July 2014.

224. Konzelmann, S. 'Reimagining Industrial Strategy in the Light of the UK Elite Sport Case: Is there a 'Market Enhancing' Role for the State?' *Society for the Advancement of Socio-Economics Annual Meetings,* Chicago, IL, USA, July 2014.

225. Konzelmann, S. 'Creating Winners' in a Liberal Market Economy: Is there an Olympic Legacy for British Industry?' *European Association for Evolutionary Political Economy Annual Meetings,* Paris, France, November 2013.

226. Konzelmann, S. 'The Alternatives Within: Endogenous Drivers of Policy Change Within Liberal Market Economies.' *European Association for Evolutionary Political Economy Annual Meetings,* Paris, France, November 2013.

227. Marzocchi, C., Massini. S. and Tether, B.S. (2013) 'Opening the Black Box of KIBS and Professional Services: How do their search strategies differ?', Presented at the 8th European Meeting on Applied Evolutionary Economics (EMAEE) Conference, June 10-12, 2013, and R&D Management Conference, 26-28 June, 2013.

228. McLaughlin, C. and Bridgman, T. (2013) 'Apple and the human costs of production', Winning entry, Dark Side Case Study competition, Academy of Management, Orlando, August 2013.

229. Mina, A. (2013) 'Open Innovation in Business Services: Practice & Performance', at the 'Profiting from Service innovation' Conference (a joint event between UK~IRC, ESRC, University of Manchester and University of Bath) on 9 October 2013 at Imperial College London.

230. Mina, A. (with H. Lahr) (2013) 'Coaching or selection? Venture capital and firms' patenting performance': - AoM Annual Meeting 2013, Lake Buena Vista, Orlando, 9-13 August 2013 and DRUID Summer Conference 2013, ESADE, Barcelona, 17-19 June 2013.

231. Mina, A. (with H. Lahr) (2013) 'Exit risk, technological opportunities and the stage distribution of venture capital investments', Financial Management Association (FMA) Annual Meeting, Chicago, 16-19 October 2013.

232. Mina, A. (with H. Lahr) (2013) 'Dynamic financial constraints and innovation: Evidence for the UK Innovation Survey panel':
CONCORDi-2013 Conference, JRC-IPTS, Seville, 26-27 September 2013. WINNER OF THE CONFERENCE BEST PAPER AWARD
International Schumpeter Society Conference, Friedrich Schiller University, Jena, 27-30 July; DRUID Summer Conference 2014, Copenhagen Business School, Copenhagen, 16-18 June

233. Njoya, W. 'On the Legitimacy of Property Rights: Shareholder Ownership and Social Justice' Paper selected for presentation at University of Toronto/Osgoode Hall Junior Faculty Forum April 25, 2014.

234. Pina K. and Tether B.S. (2013) Do the drivers of innovation in KIBS differ with their knowledge base?, presented at the R&D Management Conference, 26-28 June, 2013. Also presented at BAM Conference 2013, September, Liverpool, UK; Eu-SPRI Conference 2013, October, Lund, Sweden; DRUID Academy 2014, January, Aalborg, Denmark

235. Salter A, Criscuolo, P., Grohsjean, T., and Opsahl, T. (2013) 'The chosen ones: the selection of capabilities in professional service firms' Academy of Management Conference 2013, Orlando, Florida, US, 5-10 August - Nominated for Best Paper Prize in TIM Division and included in Best Paper Proceedings.

236. Salter, A. (2013) Panellist, DRUID debate on 'Innovation Systems' with Maryann Feldman, Dan Breznitz and Martin Kenney, DRUID Summer Conference, Barcelona, Spain, 21-23 June.

237. Salter A, Criscuolo, P., Grohsjean, T., and Opsahl, T. (2013) 'The chosen ones: the selection of capabilities in professional service firms', DRUID Summer Conference, Barcelona, Spain, 21-13 June.

238. Salter, A. (2013) 'Multi-Level Models in Innovation', Professional Development Workshop, Academy of Management Conference 2013, Orlando, Florida, US, 5-10 August.

239. Salter, A. (2013) 'Profiting from Service Innovation: A Summary', UKIRC workshop, Imperial College London, 9 October.

240. Salter, A., Vernet, A., (2013) 'Networks and Innovation' at the 2013 UK~IRC Innovation Summit on 26 November 2013 in London

241. Salter, A. (2014) 'Open innovation at the individual level', University of Hamburg, 29-30 May

242. Sanderson, P (2014) 'Accounting to stakeholders under conditions of uncertainty' Accountability in Corporate Governance and Financial Institutions. Centre for Business Law and Practice, School of Law, University of Leeds. 19 June

243. Sanderson, P (2014) 'Optimising regulatees' disposition to comply: Observations from research on regulatees' attitudes to code compliance. 'Improving professional regulation in health and social care: interdisciplinary insights. Professional Standards Authority: Windsor, UK. 28 March

244. Sanderson, P (2014) 'Optimising regulatees' disposition to comply: Observations from research on regulatees' attitudes to code compliance.' 2014 Year Ahead, Chartered Institute of Environmental Health: Stratford upon Avon. 13-14 February.

245. Schnyder, G. *'Measuring Corporate Governance: Lessons from the "Bundles Approach"'* (new version of CBR WP 438). Paper presented in a panel on 'Bundles in Corporate Governance Research: Implications for Theory and Methods' at SASE meeting University of Chicago, July 10, 2014.

246. Siems, M. Annual Conference of the European Association of Law and Economics (EALE), Aix-en-Provence, France (9/14)

247. Siems, M. Inaugural conference of the World Interdisciplinary Network for Institutional Research (WINIR), London , UK(9/14)

248. Siems, M. Annual Conference of the Asian Law and Economics Association (AsLEA), Taipei, Taiwan (6/14)

249. Siems, M. Conference on 'Shareholder Power', National University of Singapore (NUS) (3/14)

250. Siems, M. The 21st Century Commercial Law Forum – 13th International Symposium 2013, Tsinghua University, Beijing, China (10/13)

251. Siems, M. Workshop on "Economics and law in Europe in the 20th century", Paris, France (9/14)

252. Siems, M. Workshop on "Corporate Governance at the Crossroads", Center for Advanced Study in the Social Sciences, Juan March Institute, Madrid, Spain (9/13)

253. Siems, M. VU University Amsterdam, the Netherlands: International Distinguished Lectures of the ZIFO Institute for Financial and Corporate Law (1/14)

254. Siems, M. China University of Political Science and Law (CUPL), Beijing, China: 57th Lecture of the Research Center of Law and Economics (10/13)

255. Siems, M. Research centre seminars: Law & Economics Forum, LSE, University of London (2/14); Centre for Corporate and Commercial Law (3CL), University of Cambridge, UK (11/13); Institute of Advanced Legal Studies (IALS), University of London (12/13 and 6/13)

256. Turner, S., Vasilakis, C., Utley, M., Foster, P., Kotecha, A., Morris, S., Fulop, N. 2014. 'Developing and implementing health service innovation in glaucoma outpatient clinics: the problem of aligning multiple public and private organisational actors', Health Services Research Network (HSRN) Symposium 2014, Nottingham, 19-20 June.

257. Turner, S., Vasilakis, C., Utley, M., Foster, P., Kotecha, A., Morris, S., Fulop, N. 2014. 'Developing and implementing health service innovation in glaucoma outpatient clinics: the problem of aligning multiple public and private organisational actors', 9th Biennial International Conference in Organisational Behaviour in Health Care, Copenhagen Business School, 23-25 April.

258. Turner, S., Fulop, N., Horne, R., Morris, S., Ramsay, A., Utley, M. 2014. 'Evaluating the pilot implementation of vaccinating healthy school-aged children against seasonal influenza', study overview presented at Public Health Commissioning Teams Flu Workshop, Department of Health, London, 16 April.

259. Vernet, A.; Salter, A.; Kilduff, A. (2013) "Brokerage and Small Worlds: Interplay of Individuals' Position and Global Network Structure" presented at AoM (Orlando, August).

260. Vernet, A.; Salter, A.; Kilduff, A. (2013) "Information, Control, and Small Worlds: Studying Returns to Individual Network Positions under Different Global Structures" presented at Druid (Barcelona, June).

261. Vernet, A. (2013)"Tied to Perform: The Influence of Latent Ties on Mobilization" presented at Sunbelt (Hamburg, May 2013).

262. Vernet, A. Kilduff, M. And Salter A. (2013) 'Binoculars and blinders: the role of brokerage and closure in anticipating successful open innovation projects', DRUID Summer Conference, Barcelona, Spain, 21-13 June.

263. Weiss, D. and T. H. W. Minshall (2014). Negative effects of relative proximity and absolute geography on open innovation practices in high-tech SMEs in the UK. 7th IEEE International Conference on the Management of Innovation and Technology (ICMIT 2014). Singapore.

Conferences attended

264. Armour, J. and Schmidt, C. Commonwealth Central Bank Governors' Meeting, October 2013, IMF, Washington DC (by videolink);

265. Armour, J. and Schmidt, C. EBRD Conference on *Secured Lending in Commercial Transactions—Trends and Perspectives*, EBRD, London, November 2013;

266. Armour, J. and Schmidt, C. *UK Launch of the Brazilian Takeover Panel: A Roundtable Discussion with the CEO*, 20 May 2014, Hermes Fund Managers, London;

267. Armour, J. and Schmidt, C. *The Design Of a New Brazilian Commercial Code and the Challenges of an Emerging Economy*, 4 June 2014, Institute of Advanced Legal Studies, University of London;

268. Armour, J. and Schmidt, C. *Comparative Law & Economics Forum Annual Conference* and *China State Capitalism Workshop*, Columbia Law School, 13-14 June 2014.

269. Gudgin, G. The Causes and Consequences of the Long Expansion 1992-2007. Clare College, Cambridge 19/20 September. 2013

270. Mina, A. - UK-IRC "Profiting from Service Innovation" Workshop, Imperial College, London 9 October; Financial Management Association (FMA) Annual Meeting, Chicago, 16-19 October.

271. Singh, A. attended the Conference of the Indian Society of Labour Economics, New Delhi, 16-18 December 2013. At this meeting, organised by the Institute of Applied Manpower Research (now the National Institute of Labour Economics Research and Development), Ajit gave the 2nd Gautam Mathur Memorial Lecture.

272. Singh, A. attended the National Conference 'India's Industrialisation: How to Overcome the Stagnation', organised by the Institute for Studies in Industrial Development in association with the Indian Council of Social Science Research, New Delhi. Ajit gave a Special Address 'Some Brief Notes on the State of the Indian Economy'.

273. Singh, A. presented a paper at the Stockholm International Conference on 'Entrepreneurship and Regulation'entitled 'Full Employment in Western Europe and the Regulatory Regime: An Institutional and Historical Analysis Together with a Commentary on Government as an Entrepreneur'. The paper is currently under review for publication.

274. Singh, A. was also a discussant of a paper 'The Impact of Judiciary Efficiency on Entrepreneurship: A European Perspective' by Allessandro Melcarne.

275. Singh, A. attended and spoke at the Marshall Society Conference at Cambridge University Union, January 2014.

276. Singh, A. attended the IPPR Round Table 'Reforming British Innovation Policy' June 2014.

277. Singh, A. attended the TUC seminar 'Beyond Shareholder Value' July 2014.

278. Singh, A. attended a workshop 'New Perspectives on Industrial Policy for a Modern Britain, sponsored by Oxford University Press and the IPPR. February 2014

Membership of Committees (external to the University)

279. Gudgin, G is Chairman of the Advisory Board. Northern Ireland Centre For Economic Policy. University of Ulster.

280. Mina, A. Associate Editor of *Industry and Innovation*

281. Mina, A. Member of the UK Council for Industry and Higher Education (CIHE) and UK-IRC working group of the *Task Force "Enhancing Value: Getting the Most out of UK Research"*.

282. Mina, A. External Expert for the Italian National Agency for the Evaluation of Universities and Research Institutes.

283. Mina, A. Member of the Cambridge Science and Policy Network (CSaP), University of Cambridge

284. Singh, A. Cambridge Political Economy Society (founding editor)

285. Singh, A. International Advisory Board, Development and Change, the Hague

Visitors

UK

286. Dr Tera Alas, Director, Industrial Strategy, BIS: 1 October 2013

287. David Docherty, Council for Industry and Higher Education: 1 August 2013

288. Dr Rosa Fernandez, Chief Economist, National Centre for Universities and Business: 20 December 2013

289. Dr Debbie Gillatt, Director, Regional Growth Fund and Legacy, BIS: 5 February 2014

290. Mr Iain Gray, Chief Executive Officer, Technology Strategy Board: 25 October 2013

291. Aarti Jethwani, Lead – Global Academic Relations, Infosys Ltd, 29 November 2013

292. Dr Jane Kennedy, Research Business Manager, Strategic Commissioning and Partnership Development, London Borough of Newham: 17 September 2013

293. Professor Phil Nelson, Chief Executive Officer, EPSRC: 25 March 2014

294. Dr Kenan Poleo, Regional Director, UK Science and Innovation Network Europe, Foreign and Commonwealth Office: 6 May 2014

295. Dr Sonia Roshnick, Director, Humanitarian Research Centre: 24 March 2014

296. Mr Charles Samuda, Policy Advisor to Liam Byrne, MP, Shadow Minister for Universities, Science and Skills: 13 June 2014

297. Prabirjit Sarkar visited CBR to work on Project Papers & reports 1 year

298. Dr James Smith, Head of Science and Technology, Office for Security and Counterterrorism, Home Office: 15 May 2014

299. Dr Philip Sinclair, Senior Policy Advisor, Innovation and Growth, Cabinet Office: 30 September 2013

300. Michael Stephens, CISCO and Council for Industry and Higher Education: 1 August 2013

301. Dr Jon Sussex, Deputy Director, Office of Health Economics: 24 October 2013

302. Dr Nick Timothy, Special Advisor to the Right Honourable Theresa May,MP, Home Secretary: 22 April 2014

303. The Right Honourable Chuka Umanna, MP, Shadow Secretary of State for Business Innovation and Skills: 7 November 2013

304. Sir Mark Walport, Chief Scientific Advisor to the UK Government: 17 October 2013

305. 2013-2014 5 CSaP Policy / Innovation Fellows (Tim Whitely (BT), Hitesh Thakrar (ADIA), Philip Sinclair (Cabinet Office), Alan Pratt (Home Office), and Naomi Krieger Carmy (UK Israel Tech Hub, British Embassy Israel)

Overseas

306. Chen, D. 17/11/2013-22/13/2013 Beijing interviews (with Simon Deakin)

307. Chen, D. 22/09/2014-28/09/2014 Guangdong Province, interviews (with Simon Deakin)

308. Dr Denis Gavreau, King Abdullah University of Science and Technology: 30 May 2014

309. Prof Yoshi Nakata, Doshisha University, Kyoto, Japan: 22 August 2013

310. Dr Christian Sandström (April – October 2014) – "Adoption of 3D printing technologies in the hearing aid industry"

311. Valentina Tartari, Assistant Professor, Department of Innovation and Organizational Economics, Copenhagen Business School, 20-22 September and 11-15 November 2013

312. Dr Martie-Louise Verreyne, University of Queensland Business School: 8 June 2011 & 11 June 2013

313. Dr Grace Wang, Director, Division of Industrial Innovation and Partnerships, US National Science Foundation: 3 March 2014

314. Prof Hugh Whittaker, University of Auckland: 11-14 July 2013

User Contacts

315. Brook Lyndhurst, research and strategy consultancy, research project. (2011-2-12)

316. Funds awarded from the Royal Academy of Engineering to appoint three Visiting Professors of Innovation to the University of Cambridge, Department of Engineering. (2011-2-12)

317. Funds and Support in Kind for CIHE UK_IRC R&D Task Force: Council for Industry and Higher education EPSRC, HEFCE,BP, BBC (2011-2-12).

318. Funds awarded from the Royal Academy of Engineering to appoint three Visiting Professors of Innovation to the University of Cambridge, Department of Engineering (Pieter Knook – former President of Microsoft Asia; Sam Beale - former Head of Technology Strategy at Rolls-Royce; Rick Mitchell – former Technology Director at Domino Printing Sciences.

319. Hughes, A. (2012) Globalization and the Value of UK R&D, CIHE Breakfast hosted by Sir John Parker, Chairman, Anglo American, 20 Carlton House Terrace, London, 16 October.

320. Hughes, A. (2012) The UK R&D Landscape and the Impact of Publicly Funded Research: Selected Findings, CIHE-UK~IRC Task Force: Launch of Enhancing Collaboration, Creating Value, Digital TV Group, London, 3rd September.

321. Hughes, A. (with Martin, B.) (2012), The Impact of UK Public Sector Research, Presentation at BIS, London, 11 May.

322. Hughes, A. and Martin, B.R. (2012) Enhancing Impact: The Value of Public Sector R&D, UK~IRC and CIHE.

323. Hughes, A. and Mina, A. (2012) The UK R&D Landscape, UK~IRC and CIHE.

324. Architects Journal – analysis of data on the 100 largest UK architecture practices and provision of a written commentary on trends – published in the Architect's Journal in May 2011. Participate in the judging panel on the various categories of architectural practices of the year.

325. New Civil Engineer - analysis of data on over 200 UK based civil engineering practices and provision of a written commentary on trends – published in NCE's Consultants File supplement. Participate in the judging panel on the various categories of engineering practices of the year.

326. Association of Consultants and Engineering (ACE) – collaboration around the development of the industry over the last 100 years (ACE is celebrating its centenary this year – 2013)

327. CRE8TV.EU project on Unveiling Creativity for Innovation in Europe – an FP7 project that began in Feb 2013

328. Funds awarded from the Royal Academy of Engineering to appoint three Visiting Professors of Innovation to the University of Cambridge Department of Engineering (Pieter Knook – former President of Microsoft Asia; Sam Beale - former Head of Technology Strategy at Rolls-Royce; Rick Mitchell – former Technology Director at Domino Printing Sciences.

329. Alan Hughes, Project Leader and Policy Advisor, Council for Industry and Higher Education, London: March 2013 – October 2013

330. The Technology Partnership plc

Consultancy and Advice given (paid or unpaid)

331. Armour, J. and Schmidt, C. (2014) Discussion with Chief Executive and Legal Advisors for CAF – Comitê de Aquisições e Fusões (Brazilian Takeover Panel) regarding history of takeover regulation in UK. UNPAID

332. Armour, J. and Schmidt, C. (2014) Commissioned Research for Commonwealth Secretariat on (i) Bank Resolution Mechanisms; (ii) Prioritization of Implementation of Financial Regulation for Growth. PAID

333. Gudgin, G is Senior Economic Advisor at Oxford Economics Ltd

334. Kirshner, J. *French Bankruptcy Law Reform and the Shifting Balance of Power*, Venor Capital Management

335. Kirshner, J. American Institute for Economy Research, Great Barrington Massachusetts

336. Mina, A. UK Department of Business Innovation and Skills

337. Mina, A. Architects Journal – analysis of data on the 100 largest UK architecture practices and provision of a written commentary on trends – published in the Architect's Journal in May 2011. Participate in the judging panel on the various categories of architectural practices of the year.

338. Mina, A. New Civil Engineer - analysis of data on over 200 UK based civil engineering practices and provision of a written commentary on trends – published in NCE's Consultants File supplement. Participate in the judging panel on the various categories of engineering practices of the year.

339. Mina, A. Association of Consultants and Engineering (ACE) – collaboration around the development of the industry over the last 100 years (ACE is celebrating its centenary this year – 2013)

340. Sanderson, P. Graham Russell, Director, Katharine Fletcher, Deputy Director, Better Regulation Delivery Office, Dept. of Business, Innovation and Skills. Advice on (i) developing a regulation delivery model and (ii) the relationship between governance and standards. Cambridge. 16 July

341. Singh, A. ILO Geneva

342. Singh, A. Dr. Manmohan Singh Professor, Punjab University, Chandigarh

Media Coverage

a. Newspapers

343. Deakin, S. https://www.facebook.com/StopHinkley;

344. Deakin, S. http://www.no2nuclearpower.org.uk/news/;

345. Deakin, S.

346. http://www.solarpowerportal.co.uk/news/uk_governments_nuclear_deal_likely_to_run_into_legal_difficulties_23546;

347. Deakin, S.

http://www.thetimes.co.uk/tto/business/industries/naturalresources/article4082169.ece

348. Deakin, S. http://www.law.cam.ac.uk/press/news/2014/05/faculty-members-in-the-media/2640

349. Deakin, S. http://www.law.cam.ac.uk/people/academic/sf-deakin/22/blog/#article93

350. Deakin, S. http://www.cbr.cam.ac.uk/research/projects/project2-33output.htm

351. Deakin, S. http://www.publicpolicy.cam.ac.uk/research-impact/impactworkshop

352. Martin, B. 25th January 2014, *The Economist*, 'The Labour Market -Working It', 22, http://www.economist.com/news/britain/21594988-striking-recovery-labour-market-and-problem-mark-carney-working-it

353. Martin, B. 1st February 2014, *The Economist*, 'The Price of Getting Back to Work', 69, http://www.economist.com/news/finance-and-economics/21595422-inflation-may-help-determine-how-fast-labour-markets-recover-recession

354. Martin, B. 23rd March 2014, *The Observer, 'In my View', by William Keegan, http://www.theguardian.com/business/2014/mar/23/william-keegan-osborne-austerity-economic-policy*

355. Martin, B. 3rd May 2014, *The Economist*, 'Waiting for Payday', http://www.economist.com/news/britain/21601546-low-paying-recovery-might-last-be-turning-something-better-waiting-payday

356. Mina, A. Coverage of the UK-IRC/CIHE 'UK R&D Landscape' Report: The Guardian, 13 May 2014 (http://www.theguardian.com/commentisfree/2014/may/12/pfizer-astrazeneca-britains-economy-got-dumber);

357. 29 Oct 2013 The Conversation, 'US politics and the health of a nation' https://theconversation.com/us-politics-and-the-health-of-a-nation-19503

358. 6 Dec 2013 Cambridge Network: The Autumn Statement: possibly good politics – but bad economics: http://www.jbs.cam.ac.uk/media/2013/cambridge-network-the-autumn-statement-possibly-good-politics-but-bad-economics/?utm_source=rss&utm_medium=rss&utm_campaign=cambridge-network-the-autumn-statement-possibly-good-politics-but-bad-economics#.U6Bn58JOXrc

359. 8th Dec 2013 Letter published in The Guardian 'British technology's uncertain future' http://www.theguardian.com/science/2013/dec/08/british-technology-uncertain-future-graphene

360. 17 Mar 2014 The Conversation, 'Budget 2014: How good politics can trump good economic' https://theconversation.com/budget-2014-how-good-politics-can-trump-good-economics-24439

361. 19 Mar 2014 The Conversation, 'Budget 2014: Experts respond' https://theconversation.com/budget-2014-experts-respond-24591

(b) TV/Radio

362. Radio interview by David Howarth on the BBC Today Programme on 6 May, with Tim Yeo MP responding. See also http://sms.cam.ac.uk/media/1711925.

363. Deakin, S. http://www.bbc.co.uk/news/uk-politics-27291087

364. 12 Nov 2013 Investment Europe, 'Cambridge Judge's Michael Kitson argues for growth stimulus' http://www.jbs.cam.ac.uk/media/2013/investment-europe-cambridge-judges-michael-kitson-argues-for-growth-stimulus/?utm_source=rss&utm_medium=rss&utm_campaign=investment-europe-cambridge-judges-michael-kitson-argues-for-growth-stimulus#.U6FzYfldV8F

365. 23 Jan 2014 BBC Radio Cambridgeshire: The Paul Stainton Bigger Breakfast Show: Interest rates http://www.jbs.cam.ac.uk/media/2014/bbc-radio-cambridgeshire-the-paul-stainton-bigger-breakfast-show/?utm_source=rss&utm_medium=rss&utm_campaign=bbc-radio-cambridgeshire-the-paul-stainton-bigger-breakfast-show#.U6BnlcJOXrc

366. 19 May 2014 BBC Radio Scotland: Newsdrive: Alternative measures to GDP: http://www.jbs.cam.ac.uk/media/2014/bbc-radio-scotland-newsdrive/?utm_source=rss&utm_medium=rss&utm_campaign=bbc-radio-scotland-newsdrive#.U6BlPsJOXrc

367. 3 Jun 2014 BBC Radio Cambridgeshire: Drivetime: Economics of immigration http://www.jbs.cam.ac.uk/media/2014/bbc-radio-cambridgeshire-drivetime/?utm_source=rss&utm_medium=rss&utm_campaign=bbc-radio-cambridgeshire-drivetime#.U6Bkd8JOXrc

MPhil & PhD students supervised (incl.topic)

368. Armour, J. and Schmidt, C. supervised Natalie Mrockova, Bankruptcy Law in China

369. Chen, D. supervised Mingji Qu 'Evaluation of Mechanism for Post-recognition enforcement of Commercial Arbitral Awards in the People's Republic of China'

370. Chen, D. supervised Sen Zhang, 'Macro-Prudential Financial Regulation: China and the UK compared' (interruption)

371. Deakin supervised A. Blackham (Law) on labour law and age discrimination.

372. Deakin supervised F. Vergis (Law) on collective labour law and EU law.

373. Siems, M. *Current PhD students as principal supervisor*: H. Kubra Kandemir (née Savas) (Durham University, previously at University of East Anglia, since 1/11): 'Understanding External Auditing and its Regulation in the EU and in Turkey: A Way to Convergence?'

374. Siems, M. Supervised Melih Sonmez (Durham University, previously at University of East Anglia, since 4/11): 'The Role of Better Transparency Law in Corporate Governance and Financial Markets, and Its Practicability in Legal Systems: A Comparative Study Between the EU and Turkey'

375. Siems, M. *Current PhD student as second supervisor*: Oludara Awolalu (Durham University, since 10/13): (draft title) 'Corporate Governance and Enforcement Mechanisms in Developing Countries: Issues and Challenges, using Nigeria as a Case Study'

376. Singh, A., Kanjanachat Meethong, passed her PhD examination in May 2014; her thesis was entitled 'Essays on Trade Liberalisation and Economic Development'.

377. Singh, A. Iman El-Marashly Islamic Finance

378. Singh, A. Alakha Singh, World Health Organisation and Development

Training courses attended

379. Isobel Milner attended a training session on Excel Functions and Macros on 3rd December 2013.

4. Staff

Research Staff

Zoe Adams, corporate governance, Researcher
Sveta Borodina, corproate governance, Research Associate
John Buchanan, corporate governance, enteprise and innovation, Research Associate
Anna Bullock, enterprise and innovation, corporate governance, Survey and Database Manager
David Connell, enterprise and innovation, Senior Research Fellow
Andy Cosh, enterprise and innovation, corporate governance, Assistant Director
Simon Deakin, corporate governance, Director
John Hamilton, corporate governance, Senior Research Fellow
Alan Hughes, enterprise and innovation, corporate governance
Michael Kitson, enterprise and innovation, Assistant Director
Isobel Milner, enterprise and innovation, corporate governance, Assistant Database Manager
Andrea Mina, enterprise and innovation, Senior Research Fellow
Alberto Garcia Mogollon, Research Assistant
Jocelyn Probert, enterprise and innovation, Senior Research Fellow
Carolyn Twigg, corporate governance, Researcher
Boya Wang, corporate governance, Junior Research Fellow
Enying Zheng, corporate governance, Research Fellow

Administrative Staff

Jill Bullman, Accounts Clerk (from September 2014)
Stef Ferrucci, Administrator (from October 2014)
Irmi Hahne, PA (left June 2014)
Liz Hewitt, Administrator (left April 2014)
Philippa Millerchip, UK~IRC Events Coordinator
Rachel Wagstaff, Receptionist, Publications Secretary & PA
Louis Wenham, Accounts Clerk (left August 2014)
Liz Williams, PA (from August 2014)

5. Visiting Fellows

Julie Valentin, University of Paris-I
Prabirjit Sarkar, Jadavpur University, Kolkata
Aimin Yan, Hunan University

6. Research Associates

Research associate status may be conferred on project leaders and members of projects who do not otherwise have a position in the CBR, and to former members of the CBR research staff who are still involved in the relevant projects. This category includes personnel in other University of Cambridge departments as well as from outside the University of Cambridge; these affiliations are indicated below. The following were research associates in the period 2009-10 (University of Cambridge unless otherwise stated):

John Armour (University of Oxford)
Catherine Barnard (Faculty of Law)
Dominic Chai (Korean National University)
Brian Cheffins (Faculty of Law)
Ding Chen (University of Newcastle)
Ken Coutts (Faculty of Economics)
Panos Desyllas (University of Manchester)
Graham Gudgin (Regional Forecasts Ltd)
Paul Guest (Birkbeck, University of London)
Xiaolan Fu (University of Oxford)
Antara Haldar (Faculty of Law, University of Cambridge)
Jonathan Haskel (Imperial College, London)
Jonathan Hay (Law Reform Institute, Washington DC)
John Hendry (Birkbeck, University of London)
Andrew Johnston (University of Queensland)
Ian Jones (Brasenose College, Oxford and London Business School)
Jodie Kirshner (Faculty of Law)
Martin Kilduff (Judge Business School)
Suzanne Konzelmann (Birkbeck, University of London)
Aristea Koukiadaki (University of Manchester)
Colm McLaughlin (University College, Dublin)
Bill Martin (former Chief Economist UBS Global Asset Management, member of the Financial Services Consumer Panel)
Ron Martin (University of Cambridge, Department of Geography)
Viviana Mollica (Durham University)
Stan Metcalfe (CBR)
Barry Moore (PACEC)
Tim Minshall (Cambridge Entrepreneurship Centre)
Yoshi Nakata (Doshisha University, Kyoto, Japan)
Wanjiru Njoya (Queen's University, Kingston ON, Canada)
Stephen Pratten (King's College, London)
Bob Rowthorn (Faculty of Economics)
Ammon Salter (Imperial College, London)
Paul Sanderson (Department of Land Economy)
Prabirjit Sarkar (Kolkata Jadavpur University)
Gerhard Schynder (King's College, London)
Samantha Sharpe (CBR)
Mathias Siems (Durham University)
Ana Siqueira (Graziadio School of Business and Management, Pepperdine University)
Ajit Singh (CBR)
Keith Smith (Imperial College, London)
Rod Spires (PACEC)
Bruce Tether (University of Manchester, Institute of Innovation Research and Business School)

Simon Turner (UCL)
Tomas Ulrichsen (PACEC)
Antoine Vernet (Imperial College London)
Hugh Whittaker (Doshisha University and University of Auckland)
Frank Wilkinson (Birkbeck, University of London)
Joanne Zhang (CBR)

7. Advisory Board

(at 31 July 2014)

Kate Barker CBE, DBE
Chair
Senior Advisor to Credit Suisse

Dr Ha-Joon Chang
Faculty of Economics
University of Cambridge

Dr Andy Cosh
Assistant Director
Centre for Business Research
University of Cambridge

Professor Dame Sandra Dawson DBE
Judge Business School

Professor Simon Deakin
Director
Centre for Business Research
University of Cambridge

Mr Bill Hewlett
Costain Ltd.
Maidenhead

Dr Sean Holly
Director of Research
Faculty of Economics, University of Cambridge

Professor Andy Hopper
Computer Laboratory
University of Cambridge

Professor Morten Hviid
ESRC Centre for Competition Policy
University of East Anglia

Dr Ray Lambert
Department for Business, Innovation, Universities and Skills

Professor Christoph Loch
Director, Judge Business School

Professor Iain MacNeil
School of Law
University of Glasgow

Ms Kate Nealon
Non-Executive Director
HBOS plc

Mr Jeremy Pocklington
HM Treasury
London

Dr. Raj Rajagopal
Non-Exec Director, Bodycote Plc, Dyson Plc and W.S. Atkins Plc

Professor Gavin C Reid
Founder/Director Centre for Research into Industry, Enterprise, Finance and the Firm (CRIEFF)
School of Economics and Finance
University of St Andrews

Professor Robert Rowthorn
Faculty of Economics, University of Cambridge

Professor Paul Stoneman
Warwick Business School

Professor Sarah Worthington
Faculty of Law
University of Cambridge

8. Committee of Management

(as of 31 July 2014)

Dr Brendan Burchell
Faculty of Social and Political Sciences
University of Cambridge

Professor Brian Cheffins
Faculty of Law
University of Cambridge

Dr Andy Cosh
Assistant Director
Centre for Business Research
University of Cambridge

Professor Simon Deakin
Director
Centre for Business Research
University of Cambridge

Professor Sir Mike Gregory
Director
Institute for Manufacturing
University of Cambridge

Professor Andrew Harvey
Faculty of Economics
University of Cambridge

Dr. Sean Holly
Director of Research
Faculty of Economics
University of Cambridge

Professor Christoph Loch
Director, Judge Business School

Professor Ron Martin
Department of Geography
University of Cambridge

Professor Richard Penty (Chairman)
Department of Engineering
University of Cambridge

Peter Tyler
Land Economy
University of Cambridge

9. Performance Indicators

The following Tables contain details of key performance indicators. They are mostly as agreed in the original contract with the ESRC. With the end of core funding, these are no longer binding on the CBR, but we continue to benchmark our performance by reference to them.

A. PUBLICATIONS

Year	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	Jan-Dec 2003	Jan-Dec 2004	Jan 2005-July 2006	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	Total No.
Refereed journal articles	*26*	*16*	*35*	*24*	*44*	*42*	*38*	*35*	*33*	*33*	*23*	*31*	*28*	*26*	*30*	*15*	*33*	*38*	*36*	*586*
Books	*8*	*7*	*9*	*6*	*4*	*5*	*10*	*4*	*7*	*9*	*5*	*8*	*5*	*8*	*3*	*0*	*4*	*6*	*5*	*115*
Chapters in books	*31*	*30*	*38*	*41*	*17*	*39*	*37*	*23*	*29*	*9*	*12*	*19*	*8*	*11*	*15*	*17*	*20*	*30*	*27*	*461*
Other publications	*51*	*48*	*55*	*59*	*88*	*72*	*52*	*70*	*52*	*53*	*48*	*17*	*34*	*30*	*57*	*45*	*55*	*14*	*52*	*952*
Datasets (deposited at the ESRC Data Archive)	*0*	*1*	*0*	-	*1*	*0*	*5*	*3*	*8*	*3*	*1*	*1*	*0*	*6*	*2*	*0*	*4*	*7*	*1*	*43*

**Totals shown exclude books, chapters, articles, and papers which were in draft, in press or forthcoming as of 31 July 2014*

B. EXTERNAL DISSEMINATION

Year	**1994-95**	**1995-96**	**1996-97**	**1997-98**	**1998-99**	**1999-2000**	**2000-01**	**2001-02**	**Jan-Dec 2003**	**Jan-Dec 2004**	**Jan 2005-July 2006**	**2006-07**	**2007-08**	**2008-09**	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**Total**
Conference papers	*48*	*117*	*75*	*77*	*72*	*48*	*54*	*126*	*75*	*112*	*76*	*81*	*100*	*76*	*79*	*48*	*90*	*93*	*78*	*1452*
Radio and TV	*4*	*12*	*6*	*5*	*20*	*2*	*3*	*3*	*4*	*1*	*1*	*1*	*1*	*0*	*2*	*0*	*2*	*0*	*6*	*72*
Newspapers, magazines, websites	*8*	*17*	*15*	*12*	*32*	*6*	*11*	*11*	*14*	*13*	*13*	*6*	*4*	*1*	*17*	*11*	*17*	*7*	*18*	*233*

C. STAFF RESOURCES

Year	**1994-95**	**1995-96**	**1996-97**	**1997-98**	**1998-99**	**1999-2000**	**2000-01**	**2001-02**	**Jan-Dec 2003**	**Jan-Dec 2004**	**Jan 2005-July 2006**	**2006-07**	**2007-08**	**2008-09**	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**
Research Staff																			
1. Individuals	*14*	*16*	*20*	*25*	*21*	*23*	*19*	*21*	*22*	*26*	*25*	*18*	*20*	*18*	*16*	*13*	*13*	*17*	*17*
2. FTEs†	*11.5*	*13.5*	*15.5*	*19*	*19*	*14.5*	*13.5*	*18.5*	*14*	*12.15*	*17.7*	*11.6*	*14.1*	*11.9*	*9*	*8.8*	*9.2*	*8.7*	*10.3*
Support Staff																			
1. Individuals	*11*	*11*	*12*	*11*	*11*	*10*	*10*	*7*	*8*	*8*	*7*	*7*	*6*	*6*	*7*	*6*	*5*	*5*	*7*
2. FTEs	*4*	*4*	*5*	*5*	*5*	*4.5*	*4.5*	*5.25*	*4.75*	*4.75*	*4.5*	*4.0*	*3.6*	*3.6*	*4.25*	*3.6*	*3.5*	*3.5*	*3*

† Including a notional allocation representing a proportion of the time of the Director and Assistant Directors (0.4 FTE in each case)

***** In 2010 the CBR reviewed its research associate list and redefined the category to include continuing substantive involvement in current projects and publications. This led to a reduction in numbers of individuals formerly listed for example as parts of collaborative networks, as well as normal reductions due to retirement etc.

D. FINANCIAL RESOURCES

Year	1994/95 to2001/02	Jan-Dec 2003	Jan-Dec 2004	Jan2005 -July 2006 **	Aug06 - Jul07	Aug07 - Jul08	Aug08 - Jul09	Aug09 - Jul10	Aug10 - Jul11	Aug11 - Jul12	Aug12 - Jul13	Aug 13-July 14	Total No
	£	£	£	£	£	£	£	£	£	£	£		£
ESRC Core Funding	*3,891,471*	*530,880*	*544,219*	*58,436*	*0*	*0*	*0*	*0*	*0*	*0*	*0*		*5,025,006*
Other ESRC Funding	*502,756*	*40,793*	*29,300*	*79,835*	*284,103*	*379,176*	*319,151*	*488,684*	*579,654*	*525,691*	*653,058*	*703,226*	*4,585,227*
Funding from Host Institutions	*397,363*	*50,343*	*57,104*	*75,955*	*0*	*10,915*	*0*	*60,000*	*60,000*	*0*	*0*		*711,680*
Other Funding Total of which:	*1,897,448*	*350,819*	*570,867*	*484,357*	*263,959*	*391,708*	*366,791*	*479,043*	*335,754*	*378,381*	*248,847*	*112,000*	*5,879,974*
1. OST and other RCs	*0*	*0*	*10,000*	*31,217*	*37,390*	*74,737*	*158,106*	*161,023*	*197,030*	*40,565*	*104,647*	*48,400*	*863,115*
2. UK foundation	*721,101*	*279,768*	*440,560*	*204,989*	*40,592*	*53,850*	*33,463*		*15,609*	*76,425*	*48,000*	*42,600*	*1,956,957*
3. UK industry/commerce	*171,816*	*0*	*0*	*27,121*	*5,500*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*204,437*
4. UK local authority	*0*	*12,000*	*0*	*36,050*	*6,500*	*25,500*	*51,375*	*103,675*	*4,639*	*0*	*0*	*0*	*239,739*
5. UK Central Government	*430,813*	*0*	*78,360*	*109,915*	*102,940*	*91,711*	*0*	*17,262*	*15,203*	*37,000*	*84,700*	*17,700*	*985,604*
6. UK health	*0*	*0*	*0*	*12,766*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*12,766*
7. UK voluntary	*18,006*	*0*	*0*	*2,056*	*0*	*0*	*0*	*0*	*0*	*0*	*5,000*	*0*	*25,062*
8. EU	*152,724*	*26,662*	*22,861*	*19,972*	*52,890*	*120,316*	*95,915*	*149,195*	*76,896*	*130,968*	*0*	*0*	*848,399*
9. Other Overseas	*402,988*	*32,389*	*19,086*	*40,271*	*18,147*	*25,594*	*27,932*	*47,887*	*26,377*	*93,423*	*6,500*	*3,300*	*743,894*
Overall Total	*6,689,038*	*972,835*	*1,201,490*	*698,583*	*548,062*	*781,799*	*685,942*	*1,027,727*	*975,408*	*904,072*	*901,905*	*815,226*	*16,202,087*

*All sums are expressed in £s. *special reporting periods (see annual reports for 2003 and 2005-6).*