

Institution: University of Aberdeen
Unit of Assessment: Economics and Econometrics UoA18
<p>a. Overview</p> <p>The RAE2008 returned the Department as one of the most improved in its unit of assessment, despite it being relatively small. It has since then seen a roughly forty per cent increase in staff numbers. This has led to a substantial strengthening of all research groups and a broadening of its research beyond its traditional and main base of Labour Economics. The environment is not strictly confined to the Department, but is instead extended to other groups of researchers within the University and throughout the Universities of Scotland. The Department is based in the University of Aberdeen Business School (UABS) within the College of Arts and Social Sciences. Across the University, the Department has close links to the Health Economics Research Unit (HERU) in the College of Life Sciences and Medicine, with which it has two joint positions. A major driver is the Department's continued involvement in the Scottish Institute for Research in Economics (SIRE), with ten participating Universities, which was the outcome of an excess of £21 million investment in Economics research in Scotland by the Scottish Funding Council. Here the Department plays a particular active and leading role in SIRE's Work and Well-being Programme.</p> <p>A majority of the research conducted can be sub-divided into four themes that nevertheless do not cover all activity: 1) Labour Economics, 2) Health Economics, 3) Environmental and Energy Economics and 4) Experimental Economics and Industrial Organisation. The Department's research strategy for the next REF period is focused on developing the research environment further and on promoting research capacity that yields high quality outputs within these four themes.</p> <p>b. Research strategy</p> <p>The Department's main objectives in this REF period have been 1) to enhance a long existing tradition in Labour Economics, 2) to develop Health Economics into a viable and vibrant research theme, 3) to extend the Energy and Environmental theme beyond its traditionally strong but small base and 4) to develop the theoretical base through Experimental Economics and Industrial Organisation. This follows the stated objectives in the Department's RAE2008 submission which identified the first and the third themes as recognised areas of excellence and the second theme as an area to be developed in this REF period. The fourth area has been developed from the RAE2008 theme of Experimental Economics to also include Industrial Organisation.</p> <p>The Department as a whole has an output which exceeds the 63 publications submitted under REF2. It has in total produced over a hundred peer reviewed articles, nine book chapters, one single authored book and three joint authored books. It has been a period that has been characterised by a significant shift in its demographics through an investment in young academic staff that is expected to yield even greater returns in future REF periods. As such, of the eleven new hires, seven were awarded PhDs in the current REF period.</p> <p>The Department is situated within the University of Aberdeen Business School (UABS) with which it shares secretarial staff and organisational structure. In the context of research this implies a common School Research Committee (SRC) that oversees and coordinates research policy and administers the school research fund. The school provides a dedicated member of secretarial staff to facilitate research matters in addition to the support offered by the secretary in economics. The Business School research environment also includes other areas such as Accountancy and Finance, Management and Real Estate.</p> <p>Whilst research within the Department spans large areas such as Macroeconomics, Public Economics, International Trade and Finance, its main research strategy has concentrated on the following four themes in this REF period:</p> <p>1) Labour Economics is the largest research grouping within the Department. Over a half of the Department, that is eleven of the REF submitted members of staff, have some research output in this field. It is a group that historically has been strong within the University of Aberdeen, and which the Department has continued to strengthen through the hire of Aoki, Bender and Montagna. The group has an established reputation for high quality and policy relevant research in labour market economics. The Department has developed this area further through broadening its emphasis on</p>

empirical studies to create an environment that also enables deeper theoretical analysis, as for instance exemplified in the work by **Barmby**, **Hvide** and **Montagna**. Its research strategy is focused on the **SIRE- Work and Well-being Programme** externally and the **Centre of European Labour Market Research** (CELMR), under the directorship of **Theodossiou**, internally. This group has generated a series of large EU grants that have facilitated research in this area producing several high quality outputs; see for instance publications by **McCausland**, **Theodossiou** and **Zangelidis** returned under REF2. The Work and Well-being Programme is an active network of academics across Scotland that organises up to six workshops per annum mostly within the remit of labour economics, but also dealing with health, environmental and energy related matters. CELMR organises, within the Department, research meetings and runs seminars that disseminate new techniques and develop the knowledge base of its membership. It also runs associated annual workshops for PhD research students aimed at improving their research outcomes. An example of noteworthy output not submitted under REF2 is the book by **Barmby**, (with J. Treble, (2011): 'Worker Absenteeism and Sick Pay', Cambridge University Press). **Barmby** has a long standing record of research in absenteeism, and this book synthesises the body of work in the area. This group of labour economists form a local research community that have investigated a series of coherent and interrelated sub-themes outlined below:

Mobility, human capital, tenure and matching are research sub-themes that have a long tradition within the Department. The Department has sought to actively support and develop this research in the REF2014 period. Examples of such work include **Barmby REF2(1)**, **REF2(2)** who demonstrated that the effect of on-the-job performance indicators are counteracted by a bias on the returns to tenure which results when match quality and tenure are negatively correlated. Thus this work offers a resolution to the Medoff and Abraham human capital puzzle; who in their empirical investigations, contrary to theory, suggested that productivity may not explain why wages grow with tenure. Furthermore, **Barmby REF2(4)** explored the Peter Principle; where 'every employee tends to rise to his level of incompetence', and discussed whether this is due to a reversion to the mean effect or learning by new line managers who may be cautious in their initial rating of a worker's performance. **Skåtun REF2(1)** estimated the losses of being under or over-employed, when workers are restricted in hours of work, and drew inferences on how this affects labour market transitions. Mobility is also central in **Phimister REF2(2)** who offered an inquiry of gender differences under the imposition of a minimum wage, and found its introduction tended to reduce divergences across sexes. Both **Phimister** and **Battu** investigated labour mobility of rural home owners. An example of this is **Battu REF2(1)** who investigated housing tenure to draw inferences on mobility and unemployment duration. Tenure is also important in **Zangelidis REF2(3)** where unions are associated with steeper earning profiles, but where occupational expertise has a stronger wage effect in the non-union sector. Education, mismatch and self-employment was discussed in **Bender REF2(4)**. This research is linked to **Zangelidis REF2(2)** who studied the effect of education, gender and unemployment on labour mobility. **Hvide REF2(3)** explored the personnel and legal consequences of 'knowledge workers' who may move. Workers who expect their firm to litigate on the basis of property rights may have weak incentives to innovate. The firm must then balance the cost of having weakly motivated workers against the benefits of having fewer knowledge workers departing. How mobile individuals are along the dimension of their ethnic identities was discussed in **Battu REF2(2)**, **REF2(3)** who investigated the trade-off in choosing between ethnic roots and labour market success as well as the informal networks in job search and mobility for ethnic minorities. Physical and human capital issues are relevant in much of the above work and are also discussed in **Hvide REF2(1)** who studied the decision of workers to become entrepreneurs, and how previous work experience is an important factor in determining the success of this transition. **Skåtun REF2(2)** studied how personnel policies interact with hold-up in relation-specific capital. Human capital accumulation is also a topic in **Hvide REF2(2)**, who studied the comparative advantage some investors gain by knowledge attained from previous work life experience.

2) Health Economics is a theme the Department began to pursue in the RAE2008 period. The Department has in this REF period continued to develop this area and has in this endeavour created an environment, of approximately eight economists, that has produced a number of high quality outputs. It is a strategy that has involved increasing its collaboration with the **Health Economics Research Unit** (HERU), with which the Department forms a wider economics group at

the University of Aberdeen. This has yielded a fruitful process of cross-fertilisation. The Department benefits from the policy related approach of HERU, whilst HERU benefits from the theoretical and econometric expertise within the Department. The interaction across the Department and HERU is extensive, as wide-ranging joint work indicates and the joint posts of **Abul Naga** and **Aoki** demonstrate. HERU has a dedicated office within the Department facilitating joint research projects, as well as joint PhD supervision. Members of the Department also benefit from HERU's independently run external research seminars series, including speakers such as Geoffard (Paris) and Gravelle (York). Another example of synergies and joint projects is the **MSc in Economics of Health**, newly launched in 2012 as a vehicle partly to produce high quality PhD candidates and partly to provide an income source that can be used for strategic expansion in the area.

A highlight of the group of Health Economists within the Department are the three outputs in the top field journal, the *Journal of Health Economics*, by **Abul Naga REF2(1)** who has introduced a series of health inequality measures, **Barmby REF2(3)** who followed up a tradition from RAE2008 on workplace responses to infectious diseases and **Phimister REF2(3)** who used discrete choice experiments to elicit preferences with regards to genetic testing. This theme's research concentrates otherwise on the intersection between **Health and Labour Economics**. Detrimental health effects of labour market incentive schemes was studied in relation to performance related pay in **Theodossiou REF2(4)** and with respect to piece rates in **Bender REF2(1)**. This in turn relates to an implication of **Bender REF2(2)** who demonstrated that failing accurately to take into account unemployment rates, when deriving the compensating wage differential for risk, leads to an under-estimation of the costs that arise from work place injuries. General income inequality and socioeconomic effects on health were studied in research output associated with a series of large EU grants, such as the project 'An Inquiry into the Health and Safety at Work; a European Union Perspective' (HEALTHatWORK). For instance, in a cross country European study **McCausland REF2(1)** employed a duration model to investigate the length of time individuals remain healthy and found strong socioeconomic links, where less experience of unemployment and higher levels of educational attainment tend to lead to longer spells of good health. **Theodossiou** has studied psychological effects of workplace practices. For instance, **Theodossiou REF2(2)**, investigated psychological response effects of temporary contracts on workers. Another example is **Theodossiou REF2(3)** who studied the workplace psychological effects of punishment versus rewards used by firms, and suggested that "gift exchanges" are effective motivators whilst excessive monitoring may be detrimental to incentives. Finally, **Aoki REF2(1)** studied the causal effect of volunteering on mortality using a natural experiment in connection with an earthquake in Japan.

3) Energy and Environmental Economics is a group with a long tradition in Aberdeen that has recently experienced a rapid growth. With the hire of five economists, four of which have gained their PhD in this REF period, it now consists of eight economists, of which six are returned under this submission. With the Department ideally situated to interact with the UK oil industry, the UABS launched the **Aberdeen Centre for Research in Energy Economics and Finance (ACREEF)** in 2009 to further strengthen the group. As part of an income generating strategy and to support a growth of personnel and doctoral students in the area, the Department launched a new **MSc in Petroleum, Energy Economics and Finance** in 2008. This course has seen a steady growth in student numbers which has reached just under 40 students per annum. The aims of ACREEF, under the directorship of **Kemp**, is to provide a focus for the identification and implementation of high quality research in the areas of energy economics and finance, and to make substantive contributions both to academic understanding and to policy debate in the UK and worldwide as discussed under REF3a. The Department benefits from support of the University who has earmarked Energy as one of four institutional and interdisciplinary themes for strategic investments over the next several years. **Kemp** has successfully attained substantial funding for oil and gas economics research in every year since the early 70's. His research activities are supported by two research fellows. Research within the Centre deals primarily with North Sea Oil and Gas Economics including financial simulation, econometric modelling of activity levels, effects of taxation changes, third party access to infrastructure and economic aspects of decommissioning. The group is increasingly exploring environmental issues such as the economics of CO₂ capture as well as matters regarding uses of renewable resources such as those connected to Agriculture.

The energy group has published in the *Energy Journal* regularly through the years, which is the top journal in the field. This includes **Gronwald REF2(2)**, **REF2(3)** who studied the effect of oil prices on the macroeconomic conditions of the US, as well as **Kemp REF2(1)** which is an example of a growing research interest in carbon capture, this time applied to UK power plants. The group has in addition produced a large volume of policy related research, disseminated through briefing papers, about the state and future direction of energy economic related issues that have influenced industry and governments alike. **Kemp's** research, in particular, has led to significant levels of industry impact and policy influence. An example of the high regard in which he is held is given by **Kemp REF2(3)**, which is a (two volume) book: 'The Official History of North Sea Oil and Gas', that was commissioned by the UK government and part of the prestigious Whitehall Histories: Government Official History Series. A theoretical survey of the exploration and production of exhaustible resources is given by **Swierzbinski REF2(2)**. It is a period that has seen a broadening of the research base, such as the energy demand side analysis given in **Chitnis REF(1)**. Environmental issues include **Phimister REF2(4)**, who investigated, under the EU funded project: 'Ex-ante Spatial Policy Impact Analysis of the RDR in European Rural Areas' (RURAL ECMOD), the extent to which wind energy sector development affects rural economies. Another example is **Vlassis REF2(1)**, who used a theoretical framework to explore the necessary conditions for when the imposition of environmental taxes leads to an increase in social welfare.

4) **Experimental Economics and Industrial Organisation**. This group is still small and has been identified as an area for growth, reflecting the Department's drive to extend its theoretical base. It currently involves six academic staff, four of which have been hired in this REF period and five of which are being submitted in REF2014. A key facility that was established in the RAE2008 period is the **Scottish Experimental Economics Laboratory (SEEL)**, now under the directorship of **Swierzbinski**. His longstanding experience in the field is reflected in the survey paper, **Swierzbinski REF2(3)** on focal points and bargaining. His work in this period also includes **Swierzbinski REF2(1)** that provided a study with industrial organisation consequences, which presents a strategic uncertainty experiment of a basic demand game that is contrasted to cheap talk games and games where contracts are permitted. Though the experimental sub-group has seen a loss of two personnel in this period, these have been replaced by two early career researchers (ERC's) within the Department: **Rouaix**, whose research (**Rouaix REF2(1)**) involved public goods experiments and income distribution and **Papi** who has an interest in utilising experimental methods to explore bounded rationality (**Papi REF2(1)**). A further ECR used experimental methods in **Cerroni REF2(1)**, to elicit valid subjective probabilities. **Papi** also works in industrial organisation where **Papi REF2(2)** has applied theoretical models to investigate how firms in monopolistic competition may seek to exploit bounded rationality. Industrial organisation is also at the heart of **Montagna's** research which deals with market structure implications of labour market institutions and international trade. Examples of this are **Montagna REF2(3)** who demonstrated how outsourcing may be used to protect profits in the presence of union power and **Montagna REF2(2)** who investigated how employment protection may be used as a credible commitment device when oligopoly firms choose country location.

The next five years will see a continued expansion of Energy and Environmental Economics, as laid down in the University's Strategic plan. This expansion will involve an increase in staff at all levels and should provide the basis for a broadening of the theme into new areas of energy research as well as expanding the currently developing environmental research. The Department will further build on the gains that were made from developing Health Economics into a full-fledged theme. Thus it will seek to exploit synergies and continue to foster close links with HERU, while maintaining and enhancing its traditional strength in Labour Economics. The Department also aims to expand Industrial Organisation, which it has started to develop as part of the Experimental and Industrial Organisation theme. The Department will seek to build on its income stream from its traditional sources that include a variety of government agencies, funding bodies and industry organisations. It will further seek to exploit the on-going success of the Energy MSc and continue to develop the Health MSc in conjunction with HERU.

c. People, including:

i. **Staffing strategy and staff development**. This period has been characterised by an expansion in overall numbers of staff. The Department has been successful in attracting fifteen individuals; three chairs, one reader, one senior lecturer and ten lecturers over the period. Eleven

of these hires are still in post at the end of the REF period, representing a net gain of eight academic members of staff. Two chairs; **Feltovich**, (to Monash) and **Gerdham**, (to Lund) and one lecturer; **Seki**, (to Ritsumeikan University) in post at RAE2008 have left. Ten junior new entry appointments were made in the current REF period; three of these were subsequently recruited to other posts (**Jalles** to OECD, **Mendolia** to Wollongong and **Patacconi** to UEA). **Costa Gomes** was a chair hire from York in 2008 who departed to St. Andrews in 2013. The arrival of the SIRE chair; **Bender** (from University of Wisconsin Milwaukee (UWM)) has further strengthened the areas cognate to Labour Economics. The new reader; **Abul Naga** (from Bath) and an ECR; **Aoki** (from Warwick) are both SIRE posts that strengthen Health Economics and are hired across the Department and HERU. One Senior Lectureship; **Gronwald** (from Munich) and four ECRs; **Chitnis** (from Surrey), **Kiso** (from Maryland), **Vlassis** (from Exeter) and **Jin** (from SMU) have enhanced the Energy and Environmental group. The Department's theoretical perspective in Industrial Organisation and International Trade has been strengthened by the chair hire; **Montagna** (from Dundee) and further augmented by the early career appointment of **Papi** (from UCL). **Papi** has together with the ECR's; **Rouaix** (from Montpellier) within the Department and **Cerroni** (from Trento) employed in the Rowett Institute of Nutrition and Health at the University, ensured the experimental economics group remains strong. There have been two internal promotions; **Battu** to reader and **Zangelidis** to senior lecturer. **Elliott** (submitted to UoA2) was jointly appointed between the Department and HERU until 2012 and was for the majority of the current REF period HERU's Director and is no longer employed in UABS.

The Department adheres to the University of Aberdeen's **equality and diversity policy**. The University court has overall responsibility for the policy, whereas a vice-principal oversees its implementation. The policy applies to all areas of employment including: recruitment and selection of staff, promotion opportunities, evaluation of jobs and grading, training and development opportunities, discipline and grievance procedures, redundancy procedures and dismissals. E-training on equality and diversity is available to all staff. The University was awarded a bronze Athena Swan Award for its supportive environment for female researchers. The Department's staff composition is both demographically and culturally diverse, with twelve nationalities from four continents represented. Whereas the composition has been male dominated in the past, there is now a trend to more gender balance. Of the eleven hires; four are female and seven are ECRs.

Research is supported by the **School Research Committee** (SRC) which together with SIRE provides funding to support research such as conference attendance, with staff actively encouraged and regularly presenting at international conferences, including the American Economic Association, Econometric Society, European Association of Labour Economists, Royal Economic Society and Society of Labour Economics. It also provided funded trips to conduct research with co-authors. The SRC provided support for sabbatical leave for **Barmby**, **Theodossiou**, **Battu**, **Dickey**, and **Bracht**. The SRC also funds workshops and weekly seminars, with external presenters, including speakers such as Freeman (LSE, Harvard), Hendry (Oxford), Roth (Stanford) and Topel (Chicago). In addition, SIRE has run a series of close to 20 workshops and symposia in the current REF period, including training sessions such as a "Short Course on Empirical IO and Structural Estimation" May 2010. Financial support to all staff attending various SIRE workshops and training opportunities is provided under SIRE arrangements.

The University has a dedicated **Researcher Development Unit** (RDU) providing a programme of professional development opportunities for researchers at all grades. These range from induction courses for new appointees to an International Leadership Development Programme. Activities are aligned with the national Researcher Development Framework (www.vitae.ac.uk/rdf) to demonstrate career progression. The University has as such embedded the Concordat (UUK/RCUK) principles into its procedures. A copy of the Concordat was issued to all researchers by the Vice Principal for Research in 2009. The University was awarded the Human Resources Excellence award from the European Commission for its researcher development programme. The RDU supports researcher-led and co-development of initiatives through the Researcher Development enabling fund. The College and School provision includes further training in research skills and planning and in PGR supervision. The annual appraisal process offers further staff support by reviewing staff development, by actively seeking to identify research concerns and by removing rectifiable obstacles. Exchanges of research ideas and research guidance are facilitated through the internal workshop series where all members of staff are expected to present. All ECR's

are given additional support through (i) mentoring by senior staff, (ii) a substantial reduction in their first year teaching load, (iii) inclusion in the SIRE young researchers forum which runs regular workshops, enabling ECR's across Scotland to interact through research, (iv) a dedicated research fund, (v) bought access to additional datasets such as the German Socio-Economic Panel Study, (vi) licensing of additionally required software and (vii) funded conference attendance.

ii. Research students. There were 18.5 PhD completions in this REF period. With joint supervision this implies twenty-four PhD graduating students of which two had ESRC scholarships, with six in Energy and Environment, five in Health, eight in Labour and five in other areas. They have found employment within the University sector as well as in the private and public sector such as the Department of Work and Pensions, the Inter-American Development Bank and the European Commission (IPTS).

The Department plays a major part within the **Scottish Graduate Programme in Economics** (SGPE), which is awarded 1+3 Case ESRC recognition, which it runs together with seven other universities in Scotland. It is part of the Scottish Graduate School of Social Science which is a unique collaboration between universities in Scotland to make available outstanding research training to doctoral students. This encompasses the ESRC Doctoral Training Centre in Scotland. The UABS controls postgraduate admissions and only offers PhD supervision to high quality students in areas of clear research expertise. Once admitted, the students attend regular meetings with their first and second supervisors, where research is discussed and progress monitored. The students enjoy a dedicated office space within the Business School, each with their own desk. They are granted full access to data sets as well as facilities such as SEEL. Postgraduates are supported internally by the UABS research postgraduate committee and have access to dedicated funds for training workshops, such as the ones run by the University of Essex, as well as conferences. They partake in the Department's weekly seminar series. PhD students are offered associate membership of the SGPE, which requires enrolment and examination in advanced courses designed for the first year of the PhD-programme. The students are able to draw on wider research expertise within the Scottish economics community, by having direct access to academics at other institutions and through participation in SGPE research seminars and master classes. Postgraduates present their work in the **annual training workshops** hosted by CELMR that include external academic speakers as well as the annual SGPE training workshop where academics from the wider Scottish academic community attend to provide feedback.

The Department's research strategy included the introduction of **two new Masters Programmes** in this period, with the view to generate high quality PhD students. Whilst the MSc in Economics of Health is only in its early infancy and is yet to produce PhD students, the recent Masters Programme in Energy Economics and Finance, introduced in 2008, has already generated three PhD students to the research graduate programme within the Department.

d. Income, infrastructure and facilities

The Department has continued to generate research funds, involving all research themes, from a wide variety of external sources that include the EU, Research Councils, Governmental Organisations and Institutions such as the Office of Fair Trading, the Nuffield Foundation, the British Academy as well as different Industry Organisations. The single largest grant secured was an EU Framework 7 grant coordinated from Aberdeen that amounted to £788,000 in total, of which University of Aberdeen's share was **£355,000**, whereas the largest joint source of awards came from the oil industry totalling **£706,700**. A further EU Framework 7 (EUFP7) grant secured **£40,000**, whilst an EU-IPTS grant secured **£50,000**. Two grants coordinated outside the Department but within Aberdeen included an EPSRC grant, amounting to £441,734 that started towards the end of the REF period and a Technology Strategy Board (TSB) grant, totalling £314,761. A Chief Scientist Office (CSO) grant secured in excess of **£40,000** for the Department. There were also new Research Councils/Research Academies/Foundations grants totalling **£143,000** awarded to Aberdeen. Another notable project, that was brought to Aberdeen by a new member of staff and involved a small financial transfer of funds to the Department, was a large 8.5 million euros pan-European (EUFP7) grant. Finally, some research funding overlaps the last and present research assessment/framework period. These include two EU Framework 6 grants amounting to £365,000 a Norwegian Research Council grant of £90,000 and other research council grants totalling £95,000.

Central in this REF period for the labour theme and involving around half the associated staff is the **EU grant HEALTHatWORK**, with **Theodossiou** as its principal grant holder. It is an example of an active research strategy of strengthening the interface between labour and health economics. The project seeks to recommend future actions for research and development aimed at improving health and safety at work in EU labour markets. Another example of a labour related grant is **Montagna's** involvement in the **EUF7** 'Welfare, Wealth, and Work for Europe' project, where she is responsible for addressing the sustainability of welfare state institutions in the face of globalisation and impact of active labour market policies on international competitiveness. An example of more direct health related activity is the **CSO research project** 'Eye care services in Scotland: did the Scots get it right?' led by **Zangelidis**, that sought to investigate the economic and health outcome effects following the Scottish government decision in 2006 to provide universally free eye examinations. The Environmental and Energy theme secured extensive funding from a consortium of energy related petroleum firms, as outlined under Section b. They have also been successful in relation to environmental economics, such as **Phimister's** involvement in the **EU-IPTS** grant RURAL ECMOD. It investigates effects of Common Agricultural Policy instruments, associated with a switch away from an agriculture-centred focus, to an approach aimed at the balanced and sustainable development of EU rural areas. It is particularly concerned with the estimation of rural, urban and sectorial effects of agricultural policy options. This also includes investigations of alternative energy use in rural areas. Examples of grants that are not so easily categorised is an **ESRC** grant held by **Hvide** on entrepreneurial performance, as well as grant involvement by **Swierzbinski** in a cloud stewardship economics **TSB** project and a **EPSRC** grant concerning security policy making.

All research is subject to the University's regulation on ethics procedures and is monitored by the School's ethics officer. The SRC administers a peer review process for all new grant applications in order to improve the quality of proposals and maximise the likelihood of success. This is designed to exploit and enhance all aspects of research, including those that encourage impact. In order to promote best practice in grant applications a reference library of successful past applications has been established. Thus this library of successful grant exemplars spanning a large range of external funding organisations, collated and made available to staff by the School's dedicated secretary for research, provides a valuable resource for principal investigators and project participants. The University's **Research and Innovation** (R&I) unit provides further support services in connection with funding identification and the application process. R&I are dedicated to maximising the University's research income, identifying intellectual property opportunities and successfully exploiting innovative ideas. As the coordination, engagement and dissemination activities associated with external grants are often individually costly; the teaching and administration loads of principal investigators are regularly reduced to preserve incentives.

The Department houses an experimental economics laboratory, **SEEL**, under the directorship of **Swierzbinski**, which represents the first and until 2013 only such laboratory in Scotland. It has been an invaluable resource not only for the Department, but also for **HERU** as well as the wider Scottish economics community connected through the **SIRE** programme: Behaviour Incentives and Contracts (BIC). **SEEL** has undergone an organisational restructure that sees a deeper involvement of **HERU** personnel.

The Department is situated at the University campus in Old Aberdeen. All members of staff enjoy access to a state of the art library, which was newly opened in 2012, and information technology services that include extensive physical as well as excellent internet resource material. The Department provides important support, investment and services for its members, including high quality computer support and the provision and maintenance of econometric software and large data sets such as the British Household Panel Study (BHPS).

e. Collaboration or contribution to the discipline or research base

The Department is actively engaged in a wide variety of academic collaborations. This has produced a series of contributions that have promoted the discipline academically, to industry and in policy related spheres on a local, national and international scale. From the academic perspective alone the local interactions mainly concern research within UABS and with **HERU**. Nationally the research activities contribute to the success of both **SGPE**; the cross Scotland Masters Programme in Economics, where departmental members regularly contribute to teaching

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and SIRE, which facilitates research collaboration throughout Scotland. The two large **EU grants** coordinated from Aberdeen have seen collaboration with European partners in fifteen countries. The Department, through CELMR, has in connection with its coordination of its EUFP7 grant been heavily involved in the organising of the following associated workshops: 'The Economic and Social Implications of Health and Safety at Work', Università Cattolica, Milan July 2010, 'The Health at Work', organised session at the Scottish Economic Society 2010 annual conference, The Danish Health Econometrics Network's workshop on 'Health, Work and the Workplace', Aarhus University 2011, as well as research meetings in Aberdeen, Berlin, Thessaloniki and Warsaw. The Department also hosted a two day June 2013 SIRE conference on 'Performance Related Pay'.

All members of the Department are actively engaged in the wider academic community with a large number of **co-authors** in this REF period from the UK as well as overseas countries, including the US, Canada, from across Scandinavia and from mainland Europe. Examples of external academics who have worked with staff this REF period are Binmore (UCL), Crawford (Oxford, UCSD), Heywood (UWM), Winter (Hebrew University) and Zenou (Stockholm).

Members of the Department have held and hold a variety of **editorial associated posts** serving academic journals. The Department hosts, through the editorship of **Barmby**, the office for the *Scottish Journal of Political Economy*. **Kemp** is a member of the editorial boards of both *World Oil* and *Geopolitics of Energy*. He was also a member of the Board of Editorial Advisors to *Energy Economics* in the period 2000-2010. **Phimister** is an external associated editor for the *Journal of Agricultural Economics*. **Theodossiou** is the managing editor of the *International Journal of Economic Studies* and sits on the editorial boards of both *European Research Studies* and the *International Journal of Economic Sciences and Applied Research*. Members of the Department also perform **refereeing duties** for a wide range of top field and general journals such as the *American Economic Review*, *American Journal of Agricultural Economics*, *Econometrica*, *Economic Journal*, *Energy Journal*, *European Economic Review*, *Experimental Economics*, *Games and Economic Behaviour*, *Journal of Econometrics*, *Journal of Economic Theory*, *Journal of Finance*, *Journal of Health Economics*, *Journal of Labour Economics*, *Journal of Macroeconomics*, *Journal of Political Economy*, *Journal of Public Economics*, *Management Science*, *Quarterly Journal of Economics*, *Review of Economics and Statistics* and *Review of Economic Studies*.

Members of the Department are actively engaged in a variety of **professional associations**. The Department is heavily involved in the running of the Scottish Economic Society, where **Barmby**, **Battu** and **Theodossiou** are all Council members. **Montagna** is an executive member of SIRE. She is also the coordinator for the Policy Forums, run jointly between the Scottish Government and SIRE. **Phimister** sits on the Executive Committee for the Agricultural Economics Society. **Kemp** was a Member of the Council of British Institute of Energy Economics 2000-2011. He is currently a Member of the Committee of the Energy Institute, Aberdeen Branch. **Kemp's** involvement of professional bodies was further recognised by the Society of Petroleum Engineers when he became the Recipient of the Lifetime Achievement Award, Offshore Awards, March 2012. **Hvide** is a CEPR affiliate and an IZA Research fellow, and has been invited to write for CEPR on entrepreneurs and public policy for their vox column. **Kemp** is a Fellow of the Royal Society of Edinburgh and a Fellow of the Royal Society of Arts. **Theodossiou** is a Fellow of the Royal Statistical Society. **Theodossiou** is also a member of the University Council of the University of Thessaly. The Department has an extensive network to other areas of academic research beyond Economics, as is evidenced by **Phimister** who sits on the UoA6 'Agriculture, Veterinary and Food Science' panel.

Research Review Duties: Around a third of staff have refereed for the ESRC during this REF period. **Hvide** was invited to sit on the ESRC Peer Review College in 2010. **Abul Naga** was a member of the Peer Review Panel of the Department for International Development. **Skåtun** sat on the 2009 Irish Research Council Postgraduate Scholarship Assessment Board.

Members of the Department have acted as advisers to government at EU, UK and Scottish national level as evidenced in REF3a. Research influence is thus not contained to the academic sphere alone, but also includes policy makers through **government and its official institutions**.