

**Department of Economics**  
**(Post-doctoral) Research Assistant**  
**Fixed-term 24 months**  
(£24,403 - £31,840 p.a. depending on experience)

**Micro-level analysis of innovation, productivity and foreign direct investment**

**The Post**

The Economic and Social Research Council (ESRC), Department for Business, Enterprise and Regulatory Reform (BERR), the Department of Communities and Local Government (DCLG) and the Welsh Assembly Government are jointly investing £2.4million over an initial three year period to establish an independent Spatial Economics Research Centre (SERC), based at LSE and involving universities in Glasgow, Newcastle, Oxford, and Swansea.<sup>1</sup>

A large programme of work will be undertaken by SERC, including projects based at the University of Glasgow on what determines innovation activities at the spatial level, and its impact on productivity; and the role of FDI at regional and sub-regional levels, focusing on growth and productivity.

A research assistant is required for 24 months from September 2008 (or as soon as possible thereafter) based in the Centre for Public Policy for Regions<sup>2</sup> (part of the Department of Economics), to join a team led by Professor Richard Harris<sup>3</sup> to help with undertaking this work for SERC. This will involve using micro-level data on plants operating in the UK in order to test models and therefore gain a better understanding of the role played by innovation and FDI in determining productivity and growth in different locations.

Applicants with a Masters degree (or those expecting to graduate this summer) can apply for a Grade 6 post; those with a PhD can apply for a Grade 7 post.<sup>4</sup> Interested applicants are encouraged to contact Professor Richard Harris for an informal discussion. Contact details are:

Telephone: 0141 330 4672 or email [Richard.Harris@lbss.gla.ac.uk](mailto:Richard.Harris@lbss.gla.ac.uk).

**Deadline for applications: Friday 15 August 2008.**

A full job description and method of applying is outlined below.

It is expected that interviews for the post will take place in Glasgow on Friday 22<sup>nd</sup> August.

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<sup>1</sup> See [www.spatialeconomics.ac.uk](http://www.spatialeconomics.ac.uk)

<sup>2</sup> See [www.cprr.ac.uk](http://www.cprr.ac.uk).

<sup>3</sup> See <http://www.gla.ac.uk/economics/ourstaff/professorrichardharris/>

<sup>4</sup> Applicants nearing completion of a PhD can be upgraded to Grade 7 on attainment of the PhD if they meet all other essential requirements of the Grade 7 post.

**UNIVERSITY OF GLASGOW  
JOB DESCRIPTION**



Ref No. 14425/DPP/A3

<b>Job Title</b>	POSTDOCTORAL RESEARCH ASSISTANT (grade 7)
<b>Department/ Division</b>	Department of Economics
<b>Faculty/Division of AIMS</b>	LBSS
<b>Reporting To</b>	Professor Richard Harris, Principal Investigator

**Job Purpose**

To carry out research and contribute to publishing research findings and to participate in the work of the Centre for Public Policy for Regions (University of Glasgow) and the Spatial Economics Research Centre (based at LSE).

**Main Duties and Responsibilities**

1. To develop and lead aspects of assigned research individually or jointly as assigned by the Principal Investigator.
2. To document research results for inclusion in papers, reports and presentations and lead the preparation of designated part of such papers, reports and presentations for publication in peer reviewed journals
3. To present findings at internal departmental or group seminars and external seminars and/or national and international conferences to enhance the profile of the research centre.
4. To contribute to the administrative and management work of the Spatial Economics Research Centre.
5. To keep up-to-date with recent advances in the literature relevant to the project.
6. To collaborate with colleagues and participate in team meetings/discussions and centre research group activities.
7. To support other members of the group and contribute to the supervision of PhD students

## Knowledge, Qualifications, Skills and Experience

### Knowledge/Qualifications

#### *Essential*

A1 Appropriate good first degree in relevant subject (preferably Economics).

A2 A PhD and/or research independence in relevant subject (preferably Economics) or relevant research experience.

A3 Good quantitative/econometric knowledge (e.g. through courses taken)

#### *Desirable*

B1 Practical experience of working in relevant area; contributing to publications in area.

### Skills

#### *Essential*

C1 Ability to produce accurate work to deadlines,

C2 Ability to write clear research reports,

C3 Ability to work well in a team,

C4 Good analytical and numerical skills,

C5 Good oral skills.

#### *Desirable*

D1 Econometric skills involving use of secondary micro-level panel data, ability to write academic papers to publishable standards.

### Experience

#### *Essential*

E1 1-2 years postdoctoral experience

E2 Using quantitative/econometric skills to analyse secondary data.

E3 Experience with using statistical/econometric modelling packages (e.g. SPSS, STATA)

#### *Desirable*

F1 Practical experience of working in relevant area with micro-based panel data; contributing (jointly or solely) to publications in area.

F2 Experienced STATA user

## Job Features

### Planning and Organising

Reacting to duties assigned by Principal Investigator.  
Planning activities and working towards deadlines.  
Using modelling and simulation tools where appropriate.  
Assisting with designing research activities.  
Assisting in the planning of research outputs.

### Decision Making

In consultation with the Principal Investigator, deciding on research directions and goals, within remit of original project proposal.  
Assisting with identifying future funding sources.  
Identifying best journals for publication and which seminars/conferences to attend.

### Internal/External Relationships

Departmental colleagues to exchange information to ensure efficient working.  
External bodies to maintain co-operations at all levels.

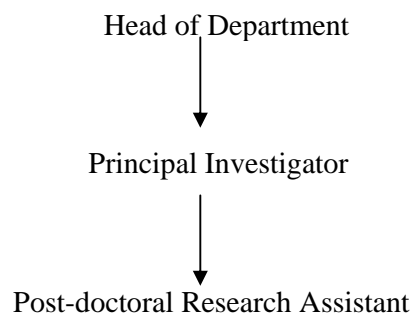
### Problem Solving

Assisting with problems relating to delivery of results. Assisting in progress towards evaluation and analysis of results.  
Work with other researchers in a collaborative way, where appropriate.  
Assisting with problems relating to achieving objectives.

### Other

Good reporting skills.  
Good presenting skills.

## Organisation Chart



### Terms And Conditions

The grade of the post will be within Research and Teaching Grade, level 7 of the University's salary scales from £30,013 to a maximum of £31,840 per annum.

This post is available for up to two years.

The successful applicant (if aged under 60) will be eligible to join the Universities' Superannuation Scheme. Further information regarding the scheme is available from the Superannuation Officer, who is also prepared to advise on questions relating to the transfer of Superannuation benefits.

*All research and related activities, including grants, donations, clinical trials, contract research, consultancy and commercialisation are required to be managed through the University's relevant processes (e.g. contractual and financial), in accordance with the University Court's policies.*

### Method of Application

Informal enquiries, and requests for further details should be made to Professor Richard Harris (email: [Richard.Harris@lbss.gla.ac.uk](mailto:Richard.Harris@lbss.gla.ac.uk); Tel 0141 330 4672)

Applications should be submitted to Anita Meldrum, CPPR, 63 Gibson Street, University of Glasgow, G12 8LR or by email to [cppr@gla.ac.uk](mailto:cppr@gla.ac.uk) not later than the **15<sup>th</sup> August 2008**. Each application should consist of the following

1. A fully collated and stapled curriculum vitae - bound copies are not necessary
2. A covering letter explaining why you wish to be considered for the position including: i) a statement of how you meet the essential and, where applicable, the desirable criteria as stipulated in the job description (please address each individual point); ii) a brief statement on the state of your health
3. Applicant Information Form ([http://www.gla.ac.uk/media/media\\_33568\\_en.doc](http://www.gla.ac.uk/media/media_33568_en.doc))
4. Equal Opportunities Monitoring Form ([http://www.gla.ac.uk/media/media\\_26169\\_en.doc](http://www.gla.ac.uk/media/media_26169_en.doc)) (in a sealed envelope addressed to Equal Opportunities, Human Resources Department).

#### Notes

**(i) It is University policy to approach referees in advance of interviews, unless otherwise stated on the Applicant Information Form.**

**(ii) Candidates called for interview and/or subsequently appointed may be required to provide proof of qualifications**

**(iii) The University is committed to equality of opportunity in employment**

**WHEN REPLYING, PLEASE QUOTE REFERENCE NUMBER**

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<b>Faculty/Division of AIMS</b>	LBSS
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<b>Job Purpose</b>
To carry out research and contribute to publishing research findings and to participate in the work of the Centre for Public Policy for Regions (University of Glasgow) and the Spatial Economics Research Centre (based at LSE).

<b>Main Duties and Responsibilities</b>
1. To conduct assigned research individually or jointly as directed by the Principal Investigator.
2. To contribute to documenting research results for inclusion in papers, reports and presentations, and contribute to the preparation of designated part of such papers, reports and presentations.
3. To contribute to the presentation of work at internal departmental or group seminars and external seminars and/or national and international conferences to enhance the profile of the research centre.
4. To maintain records and databases, and undertake any general administration and clerical tasks supporting the project.
5. To keep up-to-date with recent advances in the literature relevant to the project.
6. To collaborate with colleagues and participate in team meetings/discussions and centre research group activities.

## Knowledge, Qualifications, Skills and Experience

### Knowledge/Qualifications

#### *Essential*

- A1** Appropriate good first degree in relevant subject (preferably Economics).
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- A3** Good quantitative/econometric knowledge (e.g. through courses taken)

#### *Desirable*

- B1** Practical experience of working in relevant area; contributing to publications in area.

### Skills

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- C1** Ability to produce accurate work to deadlines
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#### *Desirable*

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- D2** Ability to write academic papers to publishable standards.

### Experience

#### *Essential*

- E1** 1-2 years research experience
- E2** Using quantitative/econometric skills to analyse secondary data.
- E4** Experience with using statistical/econometric modelling packages (e.g. SPSS, STATA).

#### *Desirable*

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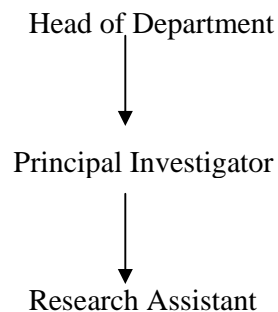
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#### Notes

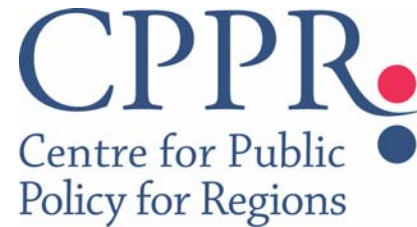
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## APPENDIX



### Project Summary

A more detailed outline of the programmes of work to be undertaken by SERC is available at [www.spatial-economics.ac.uk](http://www.spatial-economics.ac.uk). The specific projects upon which Professor Harris is working are contained in Programme 2 (the causes of place-based effects). There are two projects: (i) on innovation, knowledge and productivity; and (ii) on FDI (also involving Professor Colin Wren at Newcastle University). Details of these two projects are given below.

#### Project 2a) Innovation, knowledge and productivity

Technological progress is one of the main drivers of economic growth (HM Treasury, 2001). For firms, increased innovative activities (e.g. R&D spending) increase not only the level of innovation but also capabilities and absorptive capacity, better placing firms to internalise knowledge from outside (e.g. technology transfers). In turn, this increases the ability of firms to benefit more from globalisation (Harris and Li 2005a,b; 2006). At the regional level, increased R&D spending by firms, leading to greater innovation, absorptive capacity, and internationalisation, is likely to create a virtuous circle of further positive impacts on R&D, and therefore a movement upward in the growth path of the region's economy. Determining if and how policy might influence this process is difficult, however, because of a lack of detailed empirical evidence of the factors that determine business innovation at the firm level and, in particular, the extent to which these differ across space (Cooke and Morgan, 1994; Asheim and Gertler, 2005). This project will address this lack of evidence, by developing models of firm innovation and then estimating these using UK micro-data.

The underlying theoretical model will be based on extensions to the dynamic optimisation approach (Klette and Griliches, 2000), currently being developed. The approach will be consistent with resource-based theories of the firm, as well as Schumpeterian models of development (Harris and Trainor, 1995). The basic empirical approach will be similar to Crepon, et. al., (1998) and subsequent applications (see Hall and Mairesse, 2006, for a survey). Establishment level data from CIS4 will be used to consider what determines business R&D spending and innovation. In addition to R&D spending, CIS4 provides data for other relevant determinants (e.g. firm size, sector, exporting, ownership characteristics, market failures such as the cost of finance and government support). We will also include measures of agglomeration and diversification (OECD, 1999), as well as spillovers involving technology/knowledge transfers (Audretsch and Feldman, 1996). The former will be derived from the ARD which can be linked to CIS. In addition, it is possible to link micro-level data comprising financial information from the ARD and the BERD for the years 1996-2003. This dataset can be used to estimate the link between the R&D capital stock and productivity, using either a 'knowledge production function' and/or the 'two faces of R&D' approach (Wieser, 2005; Griffith et. al., 2004; Cameron et. al., 2005) which explicitly allows for lagging regions to benefit from technology transfers and thus 'catch-up' with the leading

region and therefore captures the role of R&D as a key variable determining absorptive capacity. The types of models that will be considered are set out in Harris et. al. (2005).

The research will identify (i) the determinants of innovation activities at the establishment level (including location and spillover effects), and thus how to overcome innovation barriers; (ii) the link between R&D and productivity, and thus the economic performance of establishments; and (iii) the particular role of absorptive capacity in overcoming barriers to innovation and its wider impact on productivity.

## 2c) Foreign direct investment:

Investment is a key driver of local, regional and national economic growth (HM Treasury, 2001). In addition to indigenous investment (project 2b), FDI is seen as a key source of growth by government, (operating through UK Trade and Investment and the RDAs). Despite this consensus, policy is hampered by weak understanding of the processes by which FDI builds-up at a regional and sub-regional level and its contribution to local economic development. This project will draw on newly available high-quality micro-datasets to investigate the way in which FDI agglomerates at different spatial scales and the processes at work, as well as provide plant-based evidence on the benefits of international investment, including to indigenous industry.

The project will operate at two spatial scales: the regional and sub-regional; and at the plant level. These approaches are complementary, providing ‘top-down’ and ‘bottom-up’ understandings of the nature and contribution of FDI. On the one hand, it will offer ‘macro-based’ evidence on the way in which FDI operates at a regional scale, and how regions interact; while on the other hand it will offer ‘micro-based’ evidence, but with a focus on spatial differences. The ‘macro-strand’ will cover the 3rd FDI wave (since 1980) and aggregate UK Trade and Industry plant-level data for UK regions and industries to investigate geographical and industrial concentration (by number and investment scale) and its spatial autocorrelation. It will address important policy issues such as how FDI co-locates across regions, how regions interact, how FDI reflects the existing structure etc. It will explore the temporal pattern and competing theoretical explanations of classical and agglomeration factors, including place-based effects. It will initially be conducted for regions, for which a large dataset of around 12,000 FDI projects exists, and then explore these at a sub-regional level, e.g. local authority districts.

The second strand to the project will operate at the plant-level, merging data from the ARD with the CIS, BERD and WERS to investigate the role of FDI at regional and sub-regional levels, focusing on growth and productivity. We will use this data to test whether FDI plants are intrinsically ‘better’ than indigenous plants; if domestic plants in different regions benefit from technological spillovers, and examine if there is clustering of activity around FDI plants. In the absence of clustering FDI may merely crowd-out domestic plants.

Through these complementary ‘macro’ and ‘micro’-based approaches, and making close reference to existing work of a theoretical and applied nature, the project seeks to provide a better understanding of the nature and contribution of FDI to economic development, with implications for national, regional and other spatially-based policies across Great Britain.

## References

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- OECD. 1999. Boosting Innovation Cluster Approach. OECD.
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## **RESEARCH ENVIRONMENT**

### **Department of Economics**

The Department continues a distinguished record in economics that dates back to Adam Smith (1723-1790), widely renowned as the father of modern economics and a Professor at the University 300 years after its foundation in 1451. Today we excel in research and teaching in a variety of topics including international finance, macroeconomics, financial economics, development economics, econometrics, microeconomics, regional economics and industrial economics. The Department is ranked in the top 10% of UK institutions in Economics research ([RePEc](#), May 2008).

Departmental members have been research collaborators in and consultants to a number of international and government organisations around the world, including the IMF, World Bank, United Nations (UNCTAD, UNDP and UNFAO), United Nations University - World Institute for Development Economics Research, Commonwealth Secretariat, numerous central banks (including the European Central Bank), HM Treasury and the Department for Business, Enterprise and Regulatory Reform of the UK government, the Scottish Government, the Welsh Assembly Government and Northern Ireland Government, European Commission, and a number of government organisations in developing countries.

### *Departmental Research*

The main areas of research in the Department are macroeconomics, financial economics, international finance, development economics and regional economics. For more details see: <http://www.gla.ac.uk/departments/economics/research/>

### **Centre for Public Policy for Regions**

This is a joint venture involving number of departments based in the Universities of Glasgow and Strathclyde with Professor Harris as its Director. He is also an Associate Director of SERC. Details of the work of CPPR can be found on its website: [www.cppr.ac.uk](http://www.cppr.ac.uk).