

Attracting Research Talent to Scotland

Final Report

September, 2006

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Attracting Research Talent to Scotland

Report to the Scottish Funding Council

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Executive Summary

This report presents the findings from the research enquiry '*Attracting Research Talent to Scotland*' conducted for the Scottish Funding Council between January and May, 2006.

The main objectives of the project were to investigate patterns in recruitment into Scotland of HEI staff with research duties (academic and research grades), related HEI policies, recruitment experience within the research pooling initiatives and some contextual issues of interest in relation to public policy.

The data collection was conducted as follows:-

- 1) A survey of research oriented academic staff, previously based either in the rest of the UK or overseas and who had taken up an appointment in Scotland from a base date of 1st August, 2000 (target population 6390).
- 2) Surveys of HEI policy and practice in strategic recruitment both at institutional level and at the level of Deans, Heads of School or equivalent.
- 3) A short interview programme to obtain indicative, qualitative information related to strategic recruitment.

The surveys covered the full spectrum of research carried out in 19 Scottish HEIs across all of:-

- Science, Engineering and Technology
- Arts and Humanities
- Economics and Social Sciences

The interview programme was restricted to the research pooling initiatives, major research groupings in the sciences (excluding clinical subjects) and also business subjects for which recruitment difficulties were reported in the surveys.

The main report provides an overview of the project, the main findings, conclusions and recommendations. The detailed research results are presented in two research reports:-

- | | |
|-------------------|---|
| Research Report 1 | <i>'Survey of research oriented academic staff in Scottish Higher Education Institutions'</i> |
| Research Report 2 | <i>'Strategic staffing and recruitment: surveys and interview programme relating to institutional policy and practice'.</i> |

The report presents conclusions and recommendations under the following headings:-

- Attracting and maintaining research talent
- Discretionary funds for recruitment
- Visibility of the progress of research pooling
- HEI staffing – research and teaching
- Understanding academic labour markets.

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Sir Muir Russell, Principal, University of Glasgow kindly gave his consent to the survey pilots being conducted within the University of Glasgow. Particular thanks in this regard are due to Professor Steve Beaumont, Vice Principal, Research and Enterprise, University of Glasgow and his staff for their practical assistance.

The project team is indebted to the large number of HEI staff who took the trouble to complete the survey of researchers, and to all the members of HEI senior management, Deans, Heads of School and senior members of the research pooling initiatives who readily contributed to the demand side surveys and interview programme. In addition, many members of HEI administrative staff put considerable effort into identifying the survey population for their institution and into ensuring that the best possible response rate was obtained. These contributions have all been essential to the success of the project.

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Section 1 Introduction

This report presents the findings from the research enquiry '*Attracting Research Talent to Scotland*' conducted for the Scottish Funding Council (SFC) between January and May, 2006.

The Steering Group for the project, chaired by the SFC project manager, comprised representatives of the Scottish Executive, Universities Scotland, Scottish Enterprise, the Royal Society of Edinburgh and the Scottish Science Advisory Committee.

The project carried out extensive survey work on both the supply side and demand side of academic labour markets in Scotland. As a single project report would have become rather unwieldy, the project output has been written up in three reports as follows:

- 1) Final Project Report (this document) providing an overview of the project, the main findings, conclusions and recommendations
- 2) Research Report 1 '*Survey of research orientated academic staff in Scottish Higher Education Institutions*'
- 3) Research Report 2 '*Strategic staffing and recruitment: surveys and interview programme relating to institutional policy and practice*'

The Tables of Contents of the two research reports are provided for reference in the Appendix to this document.

1.1 Purpose

The purpose of the project set out by the Scottish Higher Education Funding Council¹ (now the Scottish Funding Council) in autumn, 2005 was '*to gather baseline data to inform policies on how to attract and maintain internationally competitive researchers, across the whole career base, to Scotland. The Attracting Research Talent (ART) study will make recommendations to SHEFC on how to attract and maintain research talent in Scotland*'.

1.2 Objectives

The objectives of the study, as set out in the terms of reference, were:-

- 1 To identify how many researchers at all stages of their career have come to Scotland to work as researchers since 2000, and to identify any trends.
- 2 To identify the reasons why researchers at all stages of their career have come to Scotland to work as researchers since 2000, and to identify any trends.
- 3 To identify the types of researcher that have come to Scotland to work as researchers since 2000 and to identify any trends.
- 4 To consider, in particular:-
 - (i) The provision, nature and funding of specialised packages of support to attract research talent (e.g. fellowship schemes)
 - (ii) The impact of increased resources provided in the 2004 Spending Review
 - (iii) The impact of recent developments in research pooling
 - (iv) The involvement of business and charities
 - (v) The flow of researchers between academia and the rest of the science base
 - (vi) Human resource policies and practice.

¹ Scottish Higher Education Funding Council, 2005. Invitation to Tender: Attracting Research Talent to Scotland Study.

- 5 To report on policies on attracting research talent in a range of competitor countries including the rest of the UK, Europe, US, China and Singapore.

The priority, within fixed project resources, was given to meeting the first four of these objectives.

The project was required to cover the full spectrum of research undertaken in Scottish Higher Education Institutions (HEIs) under the remit of the Scottish Funding Council namely in:-

- Arts and Humanities
- Economics and Social Sciences
- Science, Engineering and Technology

1.3 Project background and strategic context

The strategic goals for the development of Scotland's research capability are firstly to be competitive in the UK and international context dominated by Cambridge, Oxford, London and their international competitors, and secondly to increase its impact both in economic terms and for the public good. In order to achieve these goals, Scotland's research base needs to operate more cohesively and be perceived as an entity of scale, scope and with particular research strengths, albeit distributed across a range of institutions².

The attraction of research talent is central to these strategic goals both in terms of its contribution to the evolution of Scottish research strengths and as a demonstration of the national and international standing of the research base in Scotland. There have been concerns that, at each career stage, Scottish institutions may struggle to attract the most capable and ambitious, despite notable success stories.

The report of the Scottish Executive Higher Education Review published in 2004³ was a key background document for this study. It provides an analysis of the evidence available at that date on the recruitment and retention of academic staff in HEIs, particularly academic staff whose work was biased towards research. This included, for example, HESA data and an informal survey undertaken by Scottish Heads of Personnel which identified key factors affecting staff choice.

The analysis identified significant differences in rates both of staff turnover among different age groups and in mobility among three broad categories of staff:-

- Top academics – the most strategically important and very mobile.
- Established staff - the most stable.
- Younger academics – the most mobile.

While there were records of overseas recruits there was a lack of data on the flows of staff between Scotland and the rest of the UK. The report considered staff flows to be an important indicator of real or perceived improvements in the relative competitiveness of the sector, particularly in comparison with the leading research intensive universities in England.

Despite recent recruitment from Harvard, elsewhere in the US and Cambridge, the Scottish Executive Higher Education Review, 2004 recorded the prevailing view that it is very difficult to attract the very best applicants from North America due to an inability to compete on salary or reward packages. Top academic staff are seen as magnets for each other and for the rising academic stars of the future. Conversely, HEIs are also vulnerable to their loss in terms of losing an individual's expertise, reputation and capacity to generate research income. In the sciences in particular, research groups may relocate along with a Principal Investigator.

² Scottish Higher Education Funding Council, 2004. '*Higher Education in Scotland: A Baseline Report*'.

³ Scottish Executive. *Higher Education Review Phase 3: The Competitiveness of Higher Education in Scotland* 2004.

An important recent development expected to assist the prospects of the Scottish research base is the increased resources provided in the 2004 Spending Review, the period of which runs from FY 2005-06 to FY 2007-08. The main increase in resources in real terms for research is scheduled to start in FY 2006-07. This comprises £30 million, an increase of 13.8% over the research grants for 2005-06, plus an additional £10 million in 2007-08, allocated partly through formula funding and partly through the Strategic Research Development Grant (SRDG)⁴. However, this needs to be viewed in the context of changes in HE funding in England, in particular the introduction of variable tuition fees.

Research pooling, funded via the SRDG, is established in physics (SUPA), chemistry (ScotCHEM), and engineering and mathematics (the Edinburgh Research Partnership between Edinburgh and Heriot Watt Universities). The Scottish Alliance for Geosciences (SAGES) has been awarded funding. Other proposals for research pooling have been assessed: (a) in economics (Scottish Institute for Research in Economics (SIRE) and (b) a wider, pan-Scotland engineering initiative. One of the specific aims is to make Scottish universities more attractive to world class researchers.

In addition to the work of the Scottish Executive and the SFC, issues related to investing in and attracting research talent have also been explored by both the Scottish Science Advisory Committee (SSAC)^{5 6} and the Royal Society of Edinburgh in conjunction with Scotland's Futures Forum⁷.

The environment for strategic recruitment since 2000 has been far from static:-

- The RAE cycle and preparation for RAE 2008
- The introduction of the new pay framework across the sector
- Concerns that academic pay has fallen behind benchmarks in other occupations

Further, a pay dispute and industrial action called by the Association of University Teachers in spring, 2006 occurred during the period of data collection for his project.

1.4 Approach and methods

In order to meet the objectives of the project, original data collection was conducted as follows:-

- 1) a survey of research orientated academic staff
- 2) surveys of HEI policy and practice in strategic recruitment both at the institutional level and at the level of Deans/Heads of School
- 3) a short interview programme to obtain indicative, qualitative information related to strategic recruitment.

The interview programme was restricted to the research pooling initiatives, major research groupings in the sciences (excluding clinical subjects) and business subjects for which recruitment difficulties were reported in the surveys.

The main survey work for the project covered the full spectrum of research carried out in 19 Scottish HEIs across all of:-

- Science, Engineering and Technology
- Arts and Humanities
- Economics and the Social Sciences

The staff population surveyed for the Attracting Research Talent to Scotland project comprised fixed term and permanent staff with research duties, previously based either in the rest of the UK or overseas and who had taken up an appointment in Scotland from August 2000 onward. From HESA data, the target population was established to be 6390 staff in total across all research fields

⁴ Scottish Higher Education Funding Council Main Grant letters for March 2004 and March 2005.

⁵ Scottish Science Advisory Committee. *Investing in Research Talent* 2004.

⁶ Scottish Science Advisory Committee. *Attracting Research Talent.* Workshop Report, June 2005

⁷ Royal Society of Edinburgh. *Attracting, Retaining and Recognising Scotland's Research Talent.* Event Report, September 2005.

and HEIs. The detailed results from the survey are provided in Research Report 1 (appended) and the findings summarized in Section 3 of the present document. Research Report 2 (appended) provides the detailed report of the surveys of HEI policy and practice and also the interview programme. The findings are summarized in Section 4 of the present document.

Section 2 International context

2.1 Introduction

A considerable quantity of material relevant to strategic recruitment, international mobility of researchers and different levels of policy was sourced and scanned for this project, principally from the UK, the US west and east coasts, Canada, Singapore and China. This section summarises some of the key observations

2.2 The recruitment environment

Internationally, HEIs and research institutes operate in a highly competitive environment firstly with respect to their relative national and international standing as academic and research institutions and secondly with respect to access to resources, both national and international.

Comparing HEIs across different countries, there are wide differences with respect to their asset base both in terms of their existing staff complement, culture, strategic capability and overall organisation competences, and in terms of tangible assets such as land, property and endowments. They also have very different degrees of autonomy within their national policy and funding environments. Individual institutions that have accumulated large private assets, notably in the US, have substantial discretionary funds at their disposal. Some places e.g. Singapore⁸ and the main centres in China are rapidly developing their research infrastructure and have invested at a high level in the built environment.

2.3 Maintaining/attracting research talent

Because high calibre staff are critical to research performance, teaching quality, reputation and income, there is widespread concern throughout the HE and research sector internationally over the issues of maintaining and attracting talent. This may apply at institutional, regional and national levels. The loss of such staff is widely identified as a critical risk. However, in practice staff departures provide the opportunity for a rethink and the net outcome once new recruits are in post may be in practice be neutral, or even result in beneficial changes in the focus of research in the fields affected.

At the highest level of the academic labour market, the top institutions worldwide compete to retain and attract the very small number of academics who are established, or emerging, as the leading figures of their generation in the major research fields. The loss of key figures can trigger the exit of other high calibre staff, either following them or going elsewhere. Some recruitment e.g. by Singapore, has targeted those who have a prominent track record at international level in both academic research and business. This has followed on from investments in basic research capability.

At the next level, both the top institutions and a wider set of research intensive universities and research institutes compete nationally and internationally to retain/attract high calibre and 'high impact' staff i.e. those capable of contributing disproportionately to reputation, income and rapid development of an institution's research capacity in their particular field.

The number of cases where individuals have particularly high negotiating power, based on merit and/or the demand for their specialisation, can reasonably be expected to be a very small proportion of the academic community. No reports have been found to date that examine changes of employer and international movements within this group. Recent reports from the UK

⁸ A*STAR, the Singapore Agency for Science, Technology and Research.

and Australia relating to researcher mobility more generally suggest that net gains and losses at national level tend to be small.

2.4 Incentives for key individuals

Institutions and regions actively setting out to recruit international research leaders tend to provide a comprehensive and well developed proposition and one that, at the later stages of negotiation at least, is highly tailored to the individual.

A successful proposition is likely to reflect the nature of their research, support the future research direction they would like to pursue, provide the resources they need, offer attractive personal remuneration and conditions of service, minimise the disruption of relocation and pay attention to the individual's personal circumstances. The prospective recruit may be expected also to give considerable weight to the breadth and depth of the relevant research community when making their decision and the overall standing of the institution seeking to attract them.

In the sciences, the resources required for the research may be particularly costly in terms of space, highly specialised facilities, high cost equipment, and the size of the research team. These may require access to significant discretionary resources at the time of recruitment. Appropriate prior investment in the built environment is also likely to be a substantial advantage.

Where a desired recruitment candidate is already located in a prestigious and well endowed organisation, recruitment attempts will inevitably be vulnerable to counter offers. On the other hand most organisations are reluctant to set precedents that fuel similar demands from other staff or risk other disruptive effects.

It appears that all UK HEIs are at a financial disadvantage relative to the top private research universities in the US. For example the annual income from endowments and investments of the University of Oxford is reported to be around one fifth that of their US counterparts⁹.

It may reasonably be assumed that the detailed nature and overall costs of recruitment in individual cases are not normally disclosed and that press and anecdotal reports cannot be relied upon.

2.5 Competing with leading research institutions

There are various initiatives in different parts of the UK aimed at building research scale at regional level, as well as the major research pools initiated by SFC in Scotland. These include the recent merger of the University of Manchester and UMIST and two initiatives supported by Regional Development Agencies. The N8 is an alliance of eight research intensive universities in Northern England created under the Northern Way economic development initiative. Five research themes were proposed for initial consideration¹⁰. The Great Western partnership in the South West of England has Exeter, Bristol and Bath Universities as lead partners and funds of £14M over five years to 2010. It aims to appoint a total of 145 new researchers (15 post doctoral Research Fellows and 130 post graduate students) to five broad areas of research collaboration¹¹.

An alternative approach is international research alliances of substantial scale and scope. An example is the Worldwide Universities Network¹², in which five of the N8 institutions also participate. The other members are from elsewhere in the UK and Europe (Bergen, Bristol,

⁹ Times Higher Education Supplement, 28th January, 2005.

¹⁰ <http://www.lancs.ac.uk/facilities/pdf/research05.pdf>

¹¹ <http://www.exeter.ac.uk/news/research.shtml>

¹² <http://www.wun.ac.uk/>

Oslo, Utrecht), North America (California (San Diego) Illinois, Pennsylvania State, Washington Seattle, Wisconsin Madison) and the Far East (Nanjing, Zhejiang). The network bills itself as 'an international alliance of leading higher education institutions' and one of its principal aims is to develop collaborations in multi-disciplinary areas of global significance.

Established leading research institutions continually strive to maintain their position in engaging in the most promising areas of research and at the highest level of endeavour. This is illustrated by recent documents from the University of Oxford^{13 14} and for the US by Harvard University¹⁵

2.6 National programmes – an example

The Canada Research Chairs programme funded by the Canadian government was assessed in late 2004 as being unique in scale and scope as a scheme designed to attract/maintain research talent¹⁶. The national context of this programme is one of the most comprehensive and systematic attempts by a government in the developed world to develop the science technology and innovation system.

This \$Can 900 million programme allocated funding for 2000 Research Chairs between 2000-01 and 2004-05, with the universities expected to provide supplementary financial support. It is expected that all posts will be filled by 2007-08. The programme was also supported by \$Can 250 million in infrastructure funding from the Canada Foundation for Innovation

At the fifth-year evaluation, 771 researchers had been in post for at least one year, just under one quarter of whom had been recruited from overseas (a mixture of foreign personnel and expatriates). 84% of the Chair holders from outside Canada who were surveyed in the evaluation viewed the Chair award as important in their decision to accept a position in Canada. However, the decision to remain would depend on multiple considerations including personal factors as well as career ones. The universities stated that the infrastructure funding was critical in attracting some of their top researchers. Continued funding of this type was seen by the universities as critical to long term success.

The evaluation reported both positive and negative effects on other researchers. The main positive effect was the reinforcement of existing research teams. The downsides were negative impacts on other faculty due to the allocation of university resources to support the Research Chairs programme and decreased morale due to segmentation of the research corps.

The Canadian programme was reported to have attracted international interest, probably being used as a model for proposals in the US to establish a Federal Research Chairs Program.

2.7 Developments of global significance

The critical area of competition is not so much in relation to the location decisions of the current top people but in terms of long term, national strategies and their effective implementation, of which the attraction of international calibre talent may be part. The outcome of developments in China over the last 20 years in science, technology, innovation and industrialization is now being recognised as the most rapid and largest scale industrialization in history. Its impact internationally is illustrated by China's rapid progress in high-tech exports as documented in longitudinal studies sponsored by the US National Science Foundation^{17 18}.

¹³ University of Oxford Human Resources Strategy 2004-2009

¹⁴ University of Oxford, 2005. *Oxford's Academic Strategy; A Green Paper*'

¹⁵ Report of the Harvard University Task Force on Science and Technology, April, 2005.

¹⁶ Malatest & Associates Ltd, 2004. *Fifth-Year Evaluation of the Canada Research Chairs Program*.

¹⁷ <http://gtresearchnews.gatech.edu/newsrelease/techexports.htm>

¹⁸ <http://www.tpac.gatech.edu/hti.php>

The main programmes of the Chinese government in science and technology in the latest national plan are¹⁹:-

- National High-tech R&D Program
- National Key Technologies R&D Program
- National Program on Key Basic Research Projects
- R&D Infrastructure and Facility Development
- Environment Building for S&T Industries
- Mega Projects of Science: Research for the 10th 5-year Plan.

The aim of China's National Program on Key Basic Research is to build up a solid S&T foundation for the sustainable socio-economic development of the Chinese nation. It includes a talent strategy for basic research in China. This is long term and aims to cultivate '*generations of talents*'²⁰. The broad elements of the strategy are:-

- Stabilise key personnel
- Provide more support to research communities led by young and middle-aged scientists
- Adopt effective measures to create a people-oriented environment
- Introduce high calibre personnel from overseas
- Promote international exchanges and co-operation
- Encourage and support a number of established scientists with organisational skills and international influence to play a role in the global arena in order to raise China's international S&T status.

¹⁹ Ministry of Science and Technology of the People's Republic of China

<http://www.most.gov.cn/eng/>

²⁰ <http://www.most.gov.cn/eng/programmes/programmes3.htm>

Section 3 Findings of survey of academic staff

Recruitment

In total over 46% of staff in place in July 2005 had been recruited since August 2000. There are large differences across the different academic sub-groups represented. Of the category 'researcher' (covering those in research grades from research assistants to senior research fellows and who mostly have fixed term contracts), 76% had been recruited since August 2000. This compares with 46% of the category 'lecturer', 14 % of 'readers' and 20% of 'professors' in the same period.

HESA information on the number of staff by HEI (by grade), for July 2001 and July 2005, shows that there has been a (slight) *contraction* in the employment of staff who engage in research in Scottish HEIs over the period. This strongly suggests that the recruitment of academic staff over the period 2000-2005 was mostly to replace those who had resigned.

Those academic subjects where the survey results show relatively higher rates of recruitment include medicine & dentistry, biological sciences and physical sciences (all of which are likely to have higher use of fixed contract research staff). Those showing the lowest rates of recruitment include mathematical science, computer science & informatics, architecture, business studies, and languages. However, there are some important caveats, such as the relatively high recruitment rate for business studies in the oldest universities.

In general, there is little clear evidence of an overall 'science' versus 'arts' split in the data on recruitment, although it does seem evident that recruitment to many science areas (especially in the oldest universities) is significantly above the average for Scottish HEIs.

The oldest universities have tended to recruit amongst the youngest lecturers available.

In terms of the characteristics of those staff recruited between 2000 and 2005, most research-orientated academic staff in the professor to lecturer sub-groups are permanent staff (although there is evidence that suggests that the oldest universities are more likely to offer fixed-term contracts especially to lecturers – over 30% of those recruited are currently on fixed-term contracts, presumably as temporary lecturers). In contrast, only a small percentage of 'research grade' staff have permanent contracts.

As to gender, some 46% are women, but senior appointments are dominated by men, especially amongst professors. Thus overall, there is evidence that senior (and permanent) positions become harder to obtain for women as they progress from fixed contract researchers to the most senior academics.

In terms of ethnicity, the oldest universities were more likely to employ people from different ethnic backgrounds across all academic grades.

The majority of the research-orientated academic staff recruited since 2000 classify their research as being 'recognised internationally', although there is a significant uncertainty for a minority of staff as to how to rank their research (this is especially true for post-1992 universities where some 47% of respondents could not provide any information).

The oldest universities and the most senior academic staff tend to grade themselves more towards the highest levels of quality in research (e.g. nearly 79% of professors grade their work as being world-leading or internationally excellent, and nearly one quarter of recruits in the oldest universities fall into this category compared to only just over 9% of staff in the post-1992 university sector).

Previous location and occupation

An important objective of this project was to generate data on the location of research-orientated staff prior to joining their current HEI and, in particular, distinguish between Scotland and the rest of the UK.

Overall 41.2% of research orientated academic staff recruited since 2000 were already located in Scotland, 39.1% came from the rest of the UK, 8.1% from the rest of the EU (excluding the UK) and 8.6% from outside the EU, just over half of whom were previously located in the US.

The oldest universities were relatively more likely to recruit from outside Scotland (particularly from the rest of the UK (42.6% of professors/senior lecturers/lecturers compared to 39.1% for the sector as a whole)). In addition, the oldest universities recruited proportionately more staff from a wider range of countries (25.3% from non-UK countries compared to 19.7% for the sector as a whole).

In contrast, the post-1992 universities were much more dependent on the Scottish labour market than other HEIs. This applied across the professorial, lecturing and research grades. Where the four oldest universities have recruited professors externally, only around 21% were previously located in Scotland. This is significantly below the figures for the other HEIs. They were also proportionately less likely to recruit lecturers from Scotland, while over 60% of lecturers for the post-1992 universities were previously located in Scotland.

Overall, the main reason for the oldest universities having less dependence on other Scottish HEIs for new employees was either they recruited more from the rest of the UK (vis-à-vis the newer universities) or more from other countries (vis-à-vis the post-1992 universities).

Most professors/senior lecturers/lecturers had been previously employed in a different university, although the figure is relatively lower for post-1992 universities who recruited a relatively greater percentage of their staff from the public sector, private industry or self-employment (covering some 24% compared to 13.4% for the oldest universities).

For researchers, most of whom are fixed contract staff, overall nearly 43% had previously been employed in a different university or in a research institute, while over 37% had been students.

In terms of the previous type of employment contract for research-orientated academic staff recruited since 2000, for professors, readers/SL and lecturers, only some 40% who joined the oldest universities were permanent staff before joining their current institution, while nearly 61% of those who joined other types of HEIs were permanent. This suggests that the oldest universities recruited as professors, readers/SL and lecturers proportionately more staff who had previously been fixed contract researchers than did other institutions (e.g. of those who are currently professors, etc., some 42.8% had previously been 'researchers', compared to only some 26% in the newer universities).

For 'researchers', the oldest universities employ relatively fewer staff who were previously permanent (13.6%) compared to nearly 37% in the newer universities. This reflects the greater recruitment of previous fixed-term researchers and students in the older university sector, with newer universities recruiting more from the private sector.

In all, there is some evidence that the older universities recruit more people who were previously working on fixed term contracts, both to professor/SL/lecturer grades, and to researcher grades.

The project terms of reference specified that trend data was of interest. The possibility of a trend in the recruitment of staff from outside Scotland was investigated. The results showed that there

was some fluctuation from year to year but that statistically there was a zero-slope trend. Further:-

- Five years is a rather short period on which to examine trend data
- In many staff categories of interest, numbers are small. For example the four oldest universities are estimated to recruit an average of fewer than 5 professors from the US per year. Trend data will not be meaningful and, once the research field is considered, disclosure issues come into play.
- In the interpretation of any trend data, changes in recruitment practice, the nature of the posts advertised and their eligibility to different nationalities, and environmental changes such as greater availability worldwide of information on job opportunities would all require to be considered.

Reasons for taking up current post

Overall, by far the most frequent single fundamental reason given was to achieve better career opportunities by moving (overall some 28% chose this option), followed by the need to renew/start employment after the end of a previous fixed term activity (primarily for research grade staff (23%) and lecturers (11.4%)).

In addition, a relatively large percentage of professors (21%) state that they moved for a promotion, or they moved for personal/family reasons (17.7% compared to 9.2% for all staff categories).

A relatively high percentage of those who moved to the current Scottish HEI from the rest of the UK, or from a Commonwealth country, stated that their major motivation was to pursue a better career opportunity.

Those stating that an improved research environment was their most important reasons for moving were relatively more likely to come from the U.S.A. or another overseas country.

There is also evidence to suggest that personal/family reasons were particularly important for staff previously located outside Scotland, especially moving from the U.S., where nearly 16% of incomers gave this reason. This suggests that this factor can have an important influence both in terms of attracting staff and their propensity to stay. Only 5.3% of staff already based in Scotland cited personal/family reasons as the single most fundamental reason for their job move compared with 9.1% overall.

Type of research and role

There is little difference across institution-type with respect to the proportions that are engaged in single, multi-, or inter-disciplinary research with respect to professors/senior lecturers/lecturers, although there is some evidence that recruits to the newer universities are more likely to be engaged in multidisciplinary research.

There are some major differences in the type of research undertaken by research grades: some 49% in the oldest universities concentrate on single discipline research, while some 43% favour multi-disciplinary research in the newer universities. Interdisciplinary research dominates in the post-1992 university sector and in the smaller, specialised HEIs.

Professors/senior lecturers/lecturers in the oldest universities state that they are relatively more likely to be leading research teams or working as an independent grant holder or researcher.

Professors/senior lecturers/lecturers recruited to newer universities and the post-1992 universities are relatively more likely to take a secondary research role and work as part of a team or independently under supervision as opposed to leading a team or working independently.

As to research grade staff, these are more obviously engaged in working as part of a research team (especially in the older universities) or under supervision (especially in the post-1992 universities).

Overall, the results suggest that there is more of a research emphasis when recruiting by the oldest universities, especially in terms of staff who will lead research teams and research grade staff who contribute to the work of these teams.

Research collaboration

In terms of research collaboration, staff recruited to the oldest and newer universities have proportionately more research links with other HEIs outside (rather than inside) Scotland, while the post-1992 universities collaborate mostly with other HEIs in Scotland. However:-

- The oldest universities are more likely to collaborate with HEIs in North America, health services in Scotland, other HEIs in the rest of the world, and government in Scotland;
- The newer universities are more likely to collaborate with the rest of the institutions listed in the table, including the private sector, non-profit sectors, and non-Scottish government sector;
- The post-1992 universities tend to have a wider range of collaboration (after taking into account their links with other Scottish HEIs), and in particular they focus less on other non-Scottish HEIs. However, they do tend to focus relatively more on Scottish institutions for research collaboration when compared to the other, older HEIs.

Distribution of work hours

In terms of the time spent on research and other academic activities, over 61% of the time of new recruits is spent on research (as opposed to supervising staff, teaching, or administration/management duties). Research grade staff spent most of their time on research, and there is little variation across institutions; however, for professors those in the post-1992 universities had a little more time for research, while teaching took up relatively more time for professors in the newer universities.

The largest differences though were for readers, senior lecturers and lecturers. Readers/senior lecturers in the oldest and newer universities had more time devoted to research, while newer university and post-1992 university staff in this grade did more teaching. For lecturers, teaching was relatively much higher for newer (and especially post-1992) universities.

Expected career moves

Accepting that there is naturally a level of uncertainty attached to making career moves, under the worst case scenario some 88% of those research-orientated academic staff recruited since 2000 expect to have to make a next career move in the foreseeable future (some 52% in the next 2 years).

Nearly all research grade staff will be facing a career move relatively soon.

Professors have the least expectation of making a career move (60% state they are unlikely to move in the foreseeable future). There appears to be little difference between readers/SL's and lecturers with somewhere between around 65% likely to move.

It is the oldest universities that face the largest potential exodus of staff, followed closely by the newer universities. Staff in the post-1992 university sector are the least likely to be considering a career move.

As to why staff may wish to leave, across all academic grades the two most important factors are for a 'better career opportunity' and for a 'better job'. Better career opportunities (rather than promotion) are relatively more important for the most senior staff; 'better jobs' take on more importance for the other staff grades.

Overall, the 'likely to move' sub-group probably have concerns about being able to gain promotions internally (thus they see more of a need to leave for a better career opportunity and/or a better job). In all, the evidence presented in this table suggests there may be a relatively high level of dissatisfaction with their current institutions.

As to where staff are likely to go, overall only about one-quarter expect to move to a Scottish HEI, with the most likely destination being a HEI in the rest of the UK.

Comparing this with where staff were previously located suggests that (i) a relatively large percentage of staff came from outside the HEI sector to their current institution, but most of those (who state they may leave their current employer) expect to stay within the HEI sector; and (ii) a greater proportion of staff expect to leave the *Scottish* HEI sector than originated in Scotland.

Therefore there is evidence to suggest that Scotland may see a 'net' loss of research-orientated academic staff in the next few years, and given the potential size of this loss, there may be some cause for concern.

Staff mobility

As to whether being previously located in Scotland and/or 'brought-up' in Scotland acts as a constraint on making a career move (or not), the survey results suggests that there is little association between either of these broad measures and the likelihood of career movement. The data²¹ shows that there is no discernable drop in the proportion likely to make a career move who were either previously located in Scotland and that the decline in the proportion likely to move who spent their childhood in Scotland is not that large.

However, those likely to make a career move in the foreseeable future tended to have relatively low prior connections to Scotland in terms of 'family and education'. This was especially true for professors and readers/senior lecturers.

There is some evidence that relatively high owner-occupation acts as a deterrent to moving, and the presence of dependent children acts as a barrier to career movement for readers/senior lecturers and research grades, but much less so for lecturers and not at all for professors. However, professors and lecturers are more constrained by the presence of dependent children aged 6-12 years. Thus, dependent children do have an important impact, but different sub-groups are affected by the typical age-group of their children.

In terms of home and private life, this does have an impact on mobility, most especially for research grades (here over 52% who have a 'fully settled' home life would be unlikely to move, compared to less than 37% seeking a career move who are also 'fully settled').

Whether staff have 'fully established' themselves within their current HEI (in terms of being able to access the internal and external resources needed by the staff member) has a larger impact on

²¹ Attracting Research Talent to Scotland, Research Report 1, Table 6.9

mobility. For all grades, and particularly the more junior grades, those who have not 'fully settled' are significantly more likely to say they will seek a career move (especially more junior grades).

In addition, the percentage of staff who state that they are '*fully established*' is low; from some 29.5% of professors, declining to only some 12% of lecturers who believe they are '*fully established*'.

Staff who consider that the research environment of their current institution is 'below' their expectations have a relatively higher propensity to make a career move in the foreseeable future (e.g. some 36% of professors who believe the research environment is below their expectations are likely to move, compared to 12.5% who are not likely to move who also think the research environment is not good).

There are considerable numbers of staff who view their current research environment negatively: over one-third of readers, senior lecturers, and lecturers do so, while around 22% of professors and research grade staff consider the research environment is below their expectations.

Section 4 Findings of institution surveys

4.1 Findings of the high level survey

Strategic staffing issues

Although the great majority of HEIs reported in this survey that they had a written strategy covering staffing requirements, recruitment and retention either for the institution as a whole or at Faculty/School level, this is not consistent with the findings of the Deans/Heads of School survey (See Section 4.2).

All HEIs had recruited in the last three years in order to expand key academic/research fields. In two thirds this had been accompanied by restructuring. Recruitment targeted at individuals with particular experience is widespread. It is less common for institutions to run high profile campaigns to meet a range of recruitment requirements but around half have done so.

There were indications of recruitment difficulties in branches of the sciences and the social sciences, consistent with the Deans/heads of School Survey (see Section 4.2).

Risks and risk management

Only around half of HEIs, spread across all sizes and type of institution appeared to be proactive in assessing and managing the risks of losing key research staff. This was despite the active recruitment of staff at this stage in the RAE cycle and the risks of losing staff to better resourced or more research intensive institutions.

Retention and recruitment

The use of discretionary funds to support recruitment and retention appears widespread and significant in scale. The majority of HEIs do not allocate a specific budget and at least some do not hold data centrally. Consequently these HEIs may not have a clear picture of practice across their organisation. Responding to circumstances, as and when cases arise, would appear to be the most common scenario.

Monitoring staffing issues

The post-1992 universities and specialist institutions as whole appear to have more comprehensive coverage of a range of indicators of their internal labour market and the interaction of the HEIs and their external labour market. By comparison, the practice of the pre-1992 universities appeared to be patchier. The data that the great majority held centrally was on staff progression and forthcoming retirements. The quality of data collected and how it is held is likely to vary considerably across the sector.

4.2 Findings of Deans/Heads of School Survey

HR strategies and data sources

In terms of whether the Deans/Heads of School has access to a written strategy dealing with the recruitment/retention of staff, a high proportion did not possess a formal strategy document.

It is not possible to know whether the use of informal strategies (e.g. in 50% of the social sciences surveyed) is a strength (leading, for example, to more flexibility) or potentially a weakness (especially given the statutory requirements that surround the recruitment of staff).

In terms of access to quality statistical data to support strategic staffing and recruitment decisions, over a quarter of faculties/schools in the 8 oldest Scottish HEIs stated that they did not have such data covering any of the key areas suggested to them.

This is especially an issue in arts-based subjects (some 36% had no access to quality data), rather than in social sciences (only some 8% lacked quality information).

Quality data, on which areas experience the greatest turnover due to staff leaving, the reasons for such resignations, and where staff go to, is generally available to only a minority of Deans/Heads of School.

In all, the quality of information available for strategic planning relating to HR is relatively poor in the oldest Scottish HEIs. Thus it is difficult to know how senior management can plan effectively without access to the type of data that is surely a basic requirement for efficient management in this area.

As to source of the data that is available, some two-thirds of Deans/Heads of School rely on information supplied to them by the departments/subject areas they lead (rather than from centralised HR departments). This presumably indicates issues with centralised data management within the universities, or limited coverage.

Recruitment and staffing issues

Deans/Heads of School were asked to indicate the extent to which the largest research area(s) had been experiencing certain staffing and recruitment issues. Contractions and large turnovers due to voluntary resignations were generally seen as not being a major issue; rather, modest additional recruitment to maintain or expand research capacity (especially in science-based areas) was more of an issue.

Given the results from the individual staff survey we undertook for this project, this suggests that either high (potential) staff turnover is not concentrated in the largest research areas or (more likely) there is an issue of the extent to which staff turnover is 'visible' at the Faculty/School level.

As to whether there has been any major difficulties in recruiting high quality researchers in the last 3 years, Deans/Heads of School believe that overall there has been a limited supply for senior staff (professors, readers, and established lecturer/SL grades), but an adequate labour pool for new posts (including new lecturers and research fellows).

Areas where there appear to have been particular difficulties with recruitment include professors/readers in social sciences and established lecturers/senior lecturers in arts-based subjects.

As to whether Faculties/Schools have had to resort to providing discretionary payments and benefits to secure preferred candidates, this has only been an issue when recruiting the most senior staff (and even here only on average 20-50% of professors and readers in social sciences and arts are offered such inducements).

The overall picture is that Deans/Heads of School in the 8 oldest universities do not face major difficulties in recruiting and retaining (quality) research staff, although the situation is a little more difficult for the most senior staff (and science subjects).

Key fields for recruitment of research staff

A number of questions were asked concerning recruitment in key subject areas or fields. As well as listing the research fields (or key subject areas) where there has been an effort to recruit leaders and 'rising stars', information was also sought on whether the Faculties/Schools had experienced difficulties in converting job offers into acceptances. Overall around 30% of negotiations with research leaders/'rising stars' were unsuccessful.

As to the type of incentives used to attract research leaders/rising stars to the oldest 8 Scottish HEIs, in general the most popular approach was to offer salaries above the 'norm'. The use of extra relocation assistance is also relatively important for science and social science based fields, but not in arts (e.g. between 36-63% of research leaders/rising stars in arts-based fields received none of the inducements covered).

Overall somewhere between 40-60% of all professorial posts for research leaders/rising stars involved 'head-hunting' overseas (although the results from the individual staff survey suggest that the percentage of such staff that originate from overseas is not nearly as high).

A much smaller percentage of readership, SL, lecturer and research fellow posts involved head-hunting. Considerably fewer positions in the arts involved 'head-hunting' overseas.

In key subject areas, there is some evidence to suggest that there has been a shortage of recruits to post-doctoral/research fellow grades in the last 3 years in especially key science fields. However, this contrasts with other information supplied by Deans/Heads of School which stated that there was an adequate labour pool for high quality research fellows (thus presumably shortages are more of an issue in key research fields).

Monitoring the career progression and resignations of research staff

On average the monitoring of permanent staff lies somewhere between being informal and detailed (with science-based areas slightly more likely to take the more formal route).

However, very few Deans/Heads of School review data from exit interviews conducted with permanent staff who resign, which suggests they may be less well informed that they should be about the issues leading to resignations, which in many cases are likely to be closely related to career progression.

Monitoring of the career progression of fixed contract staff is even more informal than that undertaken for permanent staff, and again there is very little data collected from exit interviews with fixed contract staff.

Deans/Heads of School stated that when they learn about the potential/imminent resignation of high calibre research staff, in around 68% of cases when this involves professors/readers, any pay offers are matched by their current institution.

Generally, smaller efforts are made to keep senior staff in arts-based subjects (they are less likely to get more financial resources, or be talked to). Overall, for senior, high-calibre staff it is a little surprising that some 17% of Deans/Heads of School do not personally talk to them to discuss issues.

Significantly less effort is made to provide financial inducements to keep senior lecturers and lecturers, but overall they do seem more likely to get to talk with the Dean/Head of School.

Fixed contract staff who resign rarely are offered financial inducements to stay, and are also much less likely to meet with either the Dean/Heads of School or their own line manager.

4.3 Findings of the interview programme

Strategic recruitment

The experience of both established, highly rated research communities and the research pooling initiatives is that a combination of factors is critical in attracting research talent at the highest level:-

- A leadership role within a prestigious and exciting development with the freedom to develop their research at the cutting edge of their field, and (where relevant) to build their own research group
- The scale and scope of the intellectual community, particularly across traditional discipline boundaries, relevant to their research interests
- Appropriate personal salary and benefits packages
- State of the art research labs and equipment already in place
- Support for their research, including research and support staff, and unique facilities where required
- A location that suits their domestic circumstances (critical) and private interests
- The opportunity to achieve personal aspirations
- Demonstrable commitment to the initiatives, including funding, from government and the HEIs themselves

Retention will depend on a combination of expectations being realised and low incentives (push or pull) to move on.

Experience has shown that a partner's employment and family considerations are often deciding factors in whether or not to make a move. Traditionally academic recruitment has ignored these matters, despite their importance at all career stages. The Schools and pooling initiatives represented in the interview programme may be assumed to rank among the most advanced in this respect within the Scottish HEI sector, at least as far as senior recruitment is concerned but should not be regarded as representative even of practice within their own institutions.

With respect to the question of attracting research talent, it is not sufficient to focus solely on individuals leading cutting edge research in particular fields. Success depends on developing, attracting and retaining those who are able and willing take on the overall leadership and management roles within substantial research communities. A demanding range of experience and attributes is required: a personal track record that commands respect throughout their research community, with HEI Principals and with funders; insight into how the top research groups function and what needs to be done in order to leapfrog others in the competition to improve international standing; and the ability to generate a dynamic within their research community that raises overall achievement to the highest level.

Advantages and possible drawbacks of international recruitment

Accessing the best candidates from the international research community can undoubtedly enrich and benefit the research and educational community based in Scotland. New people invigorate, create new research configurations, build new groups and open up opportunities existing people may not be able to because newcomers are needed in order to bring their particular specialisation and unique experience. Successful recruitment and integration results in cumulative rather than one-off benefits.

On the other hand, overseas recruits may come from a very different educational and research culture and lack the experience and the contacts readily to get involved in the interactions essential to connect the public research base to the wider local and UK environment.

Implementation of research pooling

The implementation of research pooling on the scale that now exists in Physics, Chemistry and Engineering and Mathematics has undoubtedly created a set of opportunities that did not exist before, despite the extent of previous formal and informal collaborations. The fact that different autonomous HEIs have developed different research strengths is now able to be exploited as an asset.

The different models have each enabled the research communities involved to present themselves as having achieved scale and scope with less risk and disruption than any process involving structural organisational change e.g. merging one department with another in a different HEI. The downside is somewhat complex arrangements operating in a political environment.

Recruitment has generally attracted more international interest than before in these fields. However, from experience in the geosciences, this, at least in part, may have happened anyway. Jobs.ac.uk makes it very easy to identify UK opportunities, particularly for people outside existing networks.

The partnerships that have developed to date appear to have been ones within the targeted core disciplines that have been capable of being realised within the relatively short term. Different models have emerged and there are potential advantages and drawbacks of each.

It appears that recruitment efforts have generally tapped into a higher level in the academic labour market than existing research groups, even in the larger institutions, would have expected to achieve on their own. This means that the proposition presented to potential applicants has been substantially more attractive than before. However, the issue remains as to how attractive a base in Scotland is to those emerging or established as the very top people of their generation.

Where posts have been hard to fill, it appears attributable to a general shortage of potential recruits of the calibre sought, any advantages of the posts being insufficient for top people well established in their current location to make a move, or issues related to the particular Scottish location and the candidates' personal circumstances e.g. their partner's employment prospects.

There are indications that other benefits of research pooling are being realised in addition to the progress in recruitment. These include: new opportunities for research collaboration; better use of research facilities in the sciences and engineering; growth of research teams by those appointed to the new posts; and bids for external research funding that those involved are convinced would not have been generated under previous arrangements. These are important but largely incremental changes.

It is realistic to expect from the early progress summarised here that research pooling has created the opportunity to shift the trajectories of the selected research fields in a positive way. The critical issue remains as to what extent these research communities will succeed in developing fast enough in a way that will change their relative standing with respect to the leading UK and international centres, and whether or not their group cultures, aspirations of their members, institutional environment and funding environment within Scotland will act as enablers or constraints.

From the consultations with senior HEI personnel, the main risks to the continuing development of research pooling would appear to include:-

- Failure to create a better dynamic within the research communities and make sufficiently fast progress in improving the overall level in comparison with world leading centres
- Resource, cultural, attitudinal or structural constraints that impede progress and disenchant the most capable and catalytic people

- High calibre people at all career stages leaving if the issue of career management within Scotland is not dealt with effectively, if reduced poaching of staff within Scotland actually reduces progression opportunities and if there is no future in staying longer.
- Failure to ensure that if research leaders do move on, they leave a lasting development behind them, particularly in fields where group members may relocate also.
- Divergence between the pooling initiatives and the HEIs' academic, financial or management interests.

It is understood that this is consistent with SFC's existing risk assessment.

Much responsibility for risk management lies with the pooling initiatives and the HEIs themselves as part of the overall approach to developing these initiatives. At a strategic level, it is a joint responsibility among the HEI Principals at one level and between the Principals and the Scottish Funding Council on another.

Academic groups with strong private sector interactions

Academic groups with particularly strong interactions with the private sector in teaching and research covered by this project (at least briefly) included: management, accountancy and finance, actuarial science and branches of engineering.

The dynamics of research and the essential interaction with the private sector in both teaching and research, and the embedded nature of knowledge transfer, is very different from fields where these interactions are rare or at least less intense.

Experience is that it is liable to be a difficult and protracted process to recruit in any of these fields at Senior Lecturer level and above, particularly where people have a strong track record within their industry. There tend to be small numbers of credible applicants and applicants may seek market supplements higher than the employing department is able and willing to pay, or higher than the HEI is prepared to endorse in the context of a fair regime across the institution.

Competition with leading research centres

Leading institutions such as Cambridge, Oxford, the London colleges and the top US institutions retain high pulling power for people seeking to become top academics and achieve other honours. They may be able and willing to provide significant discretionary benefits in selected cases and are better resourced than even the best endowed Scottish HEIs, as are developing locations such as Singapore.

World leading institutions strive to maintain their position in terms of research culture, being at the cutting edge, and their capacity to manage a whole range of relationships with research funders and more widely with government. The Scottish research communities need to be competitive in all these respects.

Discretionary funds for recruitment/retention

Although salary and benefits are not the only issues in recruitment, retention and international competitiveness, Scotland may wish to have greater ability to attract or retain world class researchers in demand from locations such as Singapore or the major US institutions which have higher levels of discretionary funds compared to even the best endowed of the UK HEIs. If this is considered further, the goals should be a flexible, responsive approach and a low administrative burden.

Other observations relating to academic careers

There appear to be significant drivers for a greater division of labour between teaching and research than in the past, particularly in research fields that require the development and management of large groups. However, senior interviewees regarded teaching and mentoring, in conjunction with research, as a highly important, core part of the academic role. A number of interviewees were concerned that a means be found to elevate the status of teaching and the prospects of those effectively on a teaching track.

Despite the potential in at least some fields for very much higher earnings in the private sector, academic occupations continue to have attractions for those so inclined, and these are three-fold: the process of intellectual enquiry with independence and control of the direction of the work; visibility as an individual and recognition of achievement; passing on knowledge through teaching, supervision and mentoring, thus stimulating the intellectual development of others.

Section 5 Conclusions and recommendations

Attracting and maintaining research talent

Conclusions

The survey of research orientated academic staff (covering staff on either open ended or fixed term contracts of employment) has shown that Scottish HEIs are very active in the UK labour market as a whole and also in international recruitment. Overall 41.2% of research orientated academic staff recruited since 2000 were already located in Scotland, 39.1% came from the rest of the UK, 8.1% from the rest of the EU (excluding the UK) and 8.6% from outside the EU, just over half of whom were previously located in the US.

The four oldest universities were relatively more likely to recruit from outside Scotland; in contrast the post-1992 universities were much more dependent on the Scottish labour market across all staff categories. Where the four oldest universities have gone to the external labour market to recruit to professorial posts, only around 21% of recruits were previously located in Scotland. There is considerable recruitment activity targeted at individuals based outside the UK.

The data indicates a relatively small flow of staff into academia from other types of employer in the public and private sectors, with the post-1992 universities relatively more likely to recruit from outside academia.

Overall, the single most fundamental reason for moving to a post in Scotland was for a better career opportunity. A relatively large percentage of professors cited promotion or personal/family reasons as the single most fundamental factor in their decision.

With respect to maintaining research talent, a high proportion of staff recruited since mid 2000 expect to have to move from their current institution if they wish to maximize their career prospects, or are not confident about prospects within their current HEI. This applies less in the case of professorial staff than for other grades. There is therefore potential for significantly higher turnover than has been the case in the last few years. Senior staff interviewed confirmed that it could be difficult to secure promotions early enough to retain high calibre staff able to obtain a career move via the external labour market, and that generally it was easier for academics to generate career opportunities by moving between HEIs rather than through internal processes.

There is considerable use of discretionary funds in recruitment and retention and, conversely, associated concerns about pay distortions and the need to ensure fair pay regimes. However, pay needs to be competitive for the level of recruitment, and Scotland is likely to be less well placed than other locations in a position to deploy high levels of discretionary funds. External awards have been critical in some senior recruitment cases.

A substantial minority of staff at all grades recruited since 2000 have found that their research environment falls short of expectations. This is both a cause for concern and an excellent opportunity to identify constraints on performance and the competitiveness of the Scottish sector in different research fields based on inside knowledge of other institutions.

While there are likely to be pockets of good practice at departmental and institutional level, overall there is inadequate, systematic monitoring of the reasons for staff leaving and their destinations across the sector.

In seeking to build ‘critical mass’ in research, it is essential to recognise the demanding range of experience and attributes required to lead and manage large, research intensive departments and the research pooling initiatives as they go through the next phase of development. It is critically important for the competitiveness of the sector to develop, attract and maintain this cadre of senior staff.

Recommendations

Policies and practice with respect to career progression and promotion need to be optimized both by HEIs themselves and within the recently established research pooling initiatives to ensure that the most capable and ambitious researchers are not forced to look elsewhere in order to progress their careers.

Best practice in recruitment should be adopted more widely with respect to (a) integrating staff new to their institution and ensuring they can access the internal and external resources they need for their work and (b) recognizing, to a greater extent than is traditional in academic recruitment, that domestic and family matters are critical factors in relocation decisions and settling in.

Feedback should be collected on a non attributable basis from incomers into Scotland on all aspects of relocation to a post in Scotland with a view to informing policy and practice across the sector from direct recent personal experience in the UK and further afield. It would be useful to compare and contrast expectations on arrival with their views, say, one year later.

It needs to be established whether or not current approaches to improving leadership in Scottish HEIs adequately address (a) the professional development of senior staff with major responsibilities for research strategy and staffing and (b) the need to optimize the institutional environment in which they operate, including taking account of the different dynamics of different research fields and the associated staffing issues.

Discretionary funds for recruitment

The level of package offered to research stars by some international locations suggests that establishing a Scottish fund for exceptional recruitment and retention cases that are critical from a strategic point of view may be justifiable.

Recommendation

This question merits further consideration. Models that could be considered to support exceptional cases include:-

- (i) A joint fund among government, the universities and private benefactors for highly prestigious awards. However this could suffer from the drawback of being yet another external scheme for HEI administrations to deal with. All options would need to be considered in the context of existing sources, for example the Wolfson Research Merit Award scheme administered on a UK wide basis by the Royal Society, and similar charity schemes.
- (ii) A publicly funded strategic recruitment start up fund allocated via an annual call for applications by institutions, individually or jointly, with specific recruitment objectives that will otherwise be hard to meet.
- (iii) A publicly funded strategic recruitment start up fund allocated formulaically,
- (iv) Prioritisation within HEI strategic planning and budget processes

The scale of some international schemes e.g. the Canadian Research Chairs programme would need to be taken into account.

Visibility of the progress of research pooling

Given that the overall aim of research pooling is to develop a distinctive, radically new research landscape in Scotland, there needs to be greater visibility, to stakeholders and participants alike, of how that landscape is forming, how the obstacles that emerge on the way are being dealt with and to what extent these larger research communities may be becoming a greater force on the UK and world stage both individually and in totality.

Questions pertinent to the development of the pooling initiatives and their wider impact that cannot be expected to be covered adequately by individual annual reports include:-

- How important is proximity?
- How important is it to include all relevant researchers from the start?
- What are the implications for subject areas outside research pooling?
- What are the potential negative impacts and should anything be done to ameliorate them?
- Where and how do the benefits to Scotland accrue beyond the research communities themselves?

Recommendation

Visibility of the nature and extent of changes occurring with research pooling should be improved and it is now probably a good time to do this unless the Annual Reports due in June are sufficient to assess the extent of the changes to the research landscape that are in progress. Relying on an ex-post review will be too late to have a positive effect on the course of events.

HEI staffing – research and teaching

Issues surfaced in the interview programme concerning the staffing of teaching, the staffing of research, the interaction between the two and the relative status of teaching and research. This leads into questions as to how the educational role of HEIs in Scotland, individually and collectively, will evolve in the future with respect to the education of regionally based and UK students, the education of overseas students studying in Scotland, the provision of education overseas, both face-to-face and by distance learning. There are recruitment difficulties and staff shortages in subjects in demand overseas e.g. business subjects. Questions arising include:-

- What capacity does the sector need to have in teaching and research?
- What should be the balance of funding between public provision and external revenues?
- To what extent are seeds being sown for long term relationships between Scotland and overseas countries via education and research?
- Is the approach to developing countries, China in particular, sufficiently strategic for the benefit of Scotland?
- Is the response to important international opportunities being constrained due to staffing issues that could be ameliorated?

Recommendation

It should be verified to what extent these issues are already being addressed effectively and what else needs to be done.

Understanding academic labour markets

The original survey work for this project provided substantial data sets from which to address the questions raised in the terms of reference for this research enquiry. However, while the response rates were sufficient for analytical purposes, in future it would be better to improve data collection and its integration across the sector rather than use *ad hoc* surveys. Practice across the sector is patchy: some data is not of good quality and where action is being taken to improve the

situation, it is being taken within single HEIs using different methods and, at best, second guessing potential external requirements.

Recommendation

Data collection on academic labour markets (internal and external) and the ability to collate it and analyse it at the Scottish level should be improved in order to improve understanding of the operation of both internal and external academic labour markets. This requires action both by government and its agencies and the sector itself, possibly via Universities Scotland, to agree what is required. This can then be put into a data model for use either by individual institutions in specifying their internal data collection and management processes or in shared data services. Specific recommendations arising from this project are:-

- Basic data on academic staff and researcher mobility should be recorded as a matter of course. As a minimum, this should include:
 - ❖ Recruits' previous employer: location and type; job grade
- Destination of leavers (location and type of employment), reasons for leaving: and promotion, if any, on changing employer
 - ❖ Basic data on recruitment outcomes: type of post grade, academic discipline, research field, level of quality demand, reasons for any pay premia or market supplements, reasons for hard-to-fill vacancies
 - ❖ Data on career progression and the extent to which this occurs through internal promotion or through a change of employer
- Intelligence on recruitment issues in different subject areas and from different geographies should be pooled systematically
- The best points to collect factual information related to mobility are at recruitment and on resignation.

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Research Reports 1 and 2

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Available at:

<http://www.cppr.ac.uk/Reports/researchtalent1.pdf> and

<http://www.cppr.ac.uk/Reports/researchtalent2.pdf>

Attracting Research Talent to Scotland

Research Report 1

Survey of research orientated academic staff in Scottish Higher Education Institutions

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