

Introduction

Academic research performance is judged at an international level and Scotland punches well above its weight. Scotland produces one per cent of the world's research with less than 0.1 per cent of the world's population.

Scotland's performance in the Research Assessment Exercise

As research quality is currently judged at UK-wide level in the Research Assessment Exercise (RAE) it is easy to compare Scotland's performance with that of the rest of the UK. With just 8.5 per cent of the UK population, Scotland has:

- 16 per cent of all UK departments rated in the top three RAE categories
- 12.5 per cent of all 5 and 5* rated departments in the UK
- 12.1 per cent of UK research active staff submitted to the 2001 RAE

Between the Research Assessment Exercise of 1996 and 2001 Scotland improved faster than any other part of the UK and actually overtook the UK average rating to match England's performance. Between 1996 and 2001 Scottish research improved by 18 per cent compared to 15 per cent in England. 85.3 per cent of all academic staff from Scottish institutions that were submitted for assessment in the 2001 RAE were rated as belonging to units of 4 and above and nearly 50 per cent of all staff are located in 5 and 5** units. Comparable rates for the UK as a whole are 79.7 per cent in units rated 4 and above and 54.8 per cent in units rated 5 or 5**.

Research Income

Higher education institutions receive funding from three main sources: the Funding Councils; the UK Research Councils and from private sources such as industry and commerce and charitable organisations. Scottish universities have to compete for funding from the UK Research Councils and other sources against universities and research institutes and organisations in the UK and in some cases Europe. Therefore the level of research income from these sources can be used as a proxy to measure research quality. Scotland's higher education sector performs strongly according to these measures. These figures should be interpreted in the context that Scotland has only 8.5 per cent of the UK's population. In 2005/06 Scotland won:

- 12.5 per cent of all funding allocated to UK universities by the UK research councils
- 12.6 per cent of all funding allocated to UK universities by UK charitable organisations

- 13 per cent of all funding allocated to UK universities by UK industry, commerce and public corporations.

Scottish higher education institutions win £71.60 of income per capita from competitive research grants and contracts (i.e. excluding funding council income). This compares to only £46.50 per capita won by institutions in England, £38.06 in Northern Ireland and £35.70 in Wales.

Income from research grants and contracts 2005/06	Scotland £(000)	UK £(000)	Scotland as a proportion of total UK%
Research Councils	134,298	1,073,372	12.5
UK based charities	91,716	725,665	12.6
UK central government bodies, local authorities, health & hospital authorities	71,727	576,560	12.4
UK industry, commerce and public corporations	33,352	256,423	13.0
EU sources	31,810	259,439	12.3
Other overseas sources	19,343	171,761	11.3
Other sources	6,974	57,386	12.1
Total research grants and contracts (excl funding council)	389,220	3,120,606	12.5

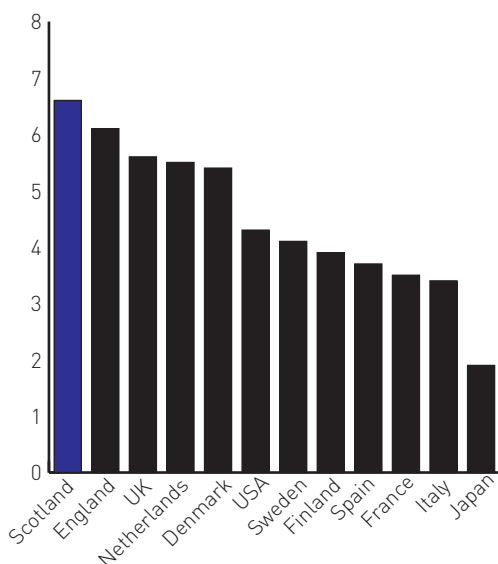
Source: HESA Resources 2005/06

Efficient and effective research

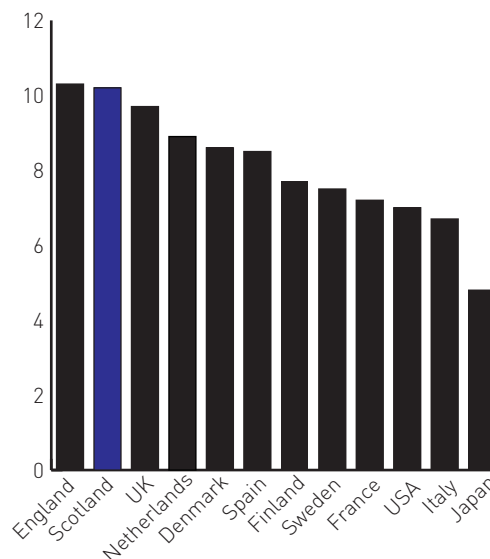
Universities Scotland measured how efficiently Scotland produces research. This calculation was on the basis of the amount of money spent on research per academic paper produced. Scotland emerges as the most efficient of a range of 17 OECD comparators in terms of spend per academic paper. For every million dollars invested in research Scotland produces approximately 6.5 papers compared to only 4.5 in the US, four in Finland and just over two in Japan.

Scotland also leads top European and international competitors in regard to quality as recorded by the number of citations per \$ million spent. Citations are a measure of peer review and therefore an indicator of the quality of research). Scotland averages out at approximately 10 citations per every million dollars invested in research which compares well with Finland and Sweden which manage about eight, the USA which averages at just over seven and Japan which gets about five. In an analysis of the number of academic citations produced by OECD countries per thousand population Scotland came first again.

Academic papers per \$million spent on research



Citations per \$ million spent on higher education research



Source: (ISI Thompson National Science Indicators 2005)

Research Staff

Scotland's higher education institutions employ 5,086 research active Academic Staff which equates to 12.1 per cent of the UK total. In addition there are 3,948 research fellows and assistants working in Scottish institutions.

Of the 14,216 academic professionals in Scottish institutions, 14 per cent are professors, 19 per cent are senior lecturers and researchers, 28 per cent lecturers, 28 per cent researchers and 12 per cent other grades. This compares to 129,997 academic professionals in the whole of the UK, of which 11 per cent are professors, 20 per cent are senior lecturers and researchers, 32 per cent lecturers, 25 per cent researchers and 10 per cent other grades.