

IOP Institute of Physics

The impact of leaving the European Union on physics in Scotland

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We welcome the opportunity to provide evidence to the European and External Relations Committee call for evidence into Scotland's relationship with the EU.

We have compiled below a short set of statistics (based on 2014/15 HESA data) on the impact of the UK's current relationship with the European Union on physics in Scotland, and comparative statistics with other UK nations¹ and subjects. These statistics show that:

- **Scottish physics departments receive a higher proportion of research grants and contracts from EU sources² than physics departments in each of the other UK nations, but this is not the case for comparable STEM subjects.**
- **Scottish physics departments receive higher proportions of undergraduate, master's and PhD students from non-UK EU countries than physics departments in each of the other UK nations.**
- **Scottish physics departments employ lower proportions of professors from non-UK EU countries than departments in all other UK nations, but slightly higher proportions all academic staff members employed in Scottish physics departments are from non-UK EU countries than average UK physics departments.**

Research grants and contracts

Scottish physics departments receive a higher proportion of funds from EU sources than the average for departments across the UK, and more than departments in any other UK nation. In total, 17.95% of income from grants and contracts for Scottish physics departments comes from EU sources. This compared to 17.6% in England, 13.1% in Wales and 17.5% across the whole of the UK.

¹ Due to the low numbers of higher education providers in Northern Ireland, this response does not compare directly with departments in Northern Ireland. However, statistics for the whole of the UK take account of Northern Ireland.

² Within this submission, "EU sources" is taken to include funding from: EU government bodies, EU based charities, EU industry, commerce and public corporations, and "other" EU sources.

Taking funding from EU government bodies alone - which makes up 94% of funding from EU sources - the difference between the proportions received for Scottish departments and other UK departments is greater still. Scottish physics departments receive 17.5% of grants and contracts from EU government bodies, compared to 16.6% in England, 11.4% in Wales and 16.6% across the whole of the UK.

Scottish physics departments are unique in this respect. Across all subjects in Scotland, Scotland actually receives the lowest proportion of grants and contracts from the EU out of total funding out of all UK nations – 12.2% of all Scottish research grants and contracts compared to 14.2% in England, and 18.2% in Wales. The average across the UK is 15.1%. The same is true when looking at funding from EU government bodies alone – 10.3% in Scotland, 12.4% in England, and 16.4% in Wales. The proportion of grants and contracts from EU sources (and EU government bodies alone) in chemistry, biosciences and maths are all lower in Scotland than in all other UK nations.

Scottish physics departments receive a lower proportion (and overall a lower value) of funding from EU-based industry than any other UK nation, though the proportion compared to total funding is very low for all nations – less than 0.1% in Scotland, 0.3% in England, and 1.6% in Wales – an average of 0.3% across the UK.

University students

Students from non-UK EU countries comprise a higher percentage of students in Scottish physics departments than for departments in other UK nations. In total, 12.2% of undergraduate physics students in Scotland are from non-UK EU countries, compared to 4.5% in England and 2.3% in Wales. The average proportion of EU undergraduate physics students across the UK is 5.4%. Higher proportions of physics PhD students in Scotland are also from non-UK EU countries – 27.3% in Scotland compared to 18.8% in England and 16.4% in Wales. The average proportion of non-UK EU PhD students across the UK is 19.7%. Scottish physics departments also see higher proportions of physics master's students coming from non-UK EU countries (although the actual numbers across the UK are very low) – 27.1% in Scotland, 14.4% in England and 10.7% in Wales. A large contributing factor to the higher proportions of undergraduate and master's students in Scotland may be Scotland's policy of not charging tuition fees to Scottish and EU students.

As with physics, across all subjects Scotland receives higher proportions of non-UK EU students than any other UK nation at undergraduate and master's level. However, the proportions of non-UK EU students studying physics are greater than for the average for all subjects. At undergraduate level, 12.2% of all physics students are from non-UK EU countries, compared to 9.3% for all subjects. At master's level, 27.1% of physics students are from non-UK EU countries, compared to 13.1% for all students. And for PhD students, these figures are 27.3% for physics and 15.6% for all subjects.

This pattern is replicated with other STEM subjects, with astronomy, maths, biology, and electronic and electrical engineering also receiving higher proportions of non-UK EU undergraduate students than the average for all subjects in Scotland, and astronomy, maths, chemistry and electronic and electrical engineering receiving higher proportions of PhD students.

University staff

Professors

Scottish physics departments employ a lower proportion of professors from non-UK EU countries than the average for all UK physics departments – 13.6% compared to 17.2% across the UK. This reflects the case for all subjects, where 11.6% of professors in Scotland are from other EU countries, compared to 12.7% across the UK.

All academic staff

Across all academic staff in Scottish physics departments, staff from non-UK EU countries make up a slightly greater proportion than the average across all UK departments. EU staff members make up 28.3% of all academic staff in Scottish departments, compared to 25.3% in England and 25.4% in Wales. The proportion of all academic staff from non-UK EU countries across all UK departments is 26%.

Non-UK EU staff also make up a greater proportion of staff in Scotland than the average across all UK nations when looking at all cost centres – 17.1% in Scotland compared to 15.8% across the UK. The figures are 15.7% for England and 10.2% for Wales. However, physics departments in Scotland rely on a much greater proportion of non-UK EU staff than for the average cost centre. This pattern is replicated when looking at other STEM cost centres, with higher proportions of non-UK EU staff in Scottish maths, biosciences, chemistry and electrical, electronic & computer engineering departments than for all Scottish departments.

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