

Balance of Competences Review: Research and Development
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1. Where has EU action had a positive impact for the UK on research, technological development, innovation or space? What evidence is there for this? Has EU action encouraged national action in any areas?

The EU has given a boost to the exchange of students and academics between Member States. That is positive in principle.

2. Where has EU action had a negative impact for the UK in these fields? What evidence is there for this? Has EU action prevented potentially useful national action in any areas?

Free movement of students has also engendered problems for Austria: Austrian universities are over-run with students from Germany. As universities in Austria are virtually free for students, Austrian tax payers end up paying for German students' education, while those students rarely stay in Austria after graduating to benefit the country's economy. I imagine the UK faces similar problems, given the large number of EU students at British universities. There needs to be a fair compensation of costs, through an EU administered fund, with contributions proportional to the number of Member States' students abroad. So, the solution here is more competence for the EU, not less. Free movement of students in the EU should be maintained, but it must be complemented by an adequate higher education funding system between Member States.

The 2009 EU ban of conventional, incandescent light bulbs is a negative example of the EU choosing "winners" among new technologies, rather than letting the market decide. Energy saving light bulbs are an immature technology: they contain toxic mercury and are hence unsafe; their energy efficiency is disputed; and they produce an unpleasant, white light. Two European producers of the new bulbs profited, but everyone else is annoyed. Such EU intervention, at that level of detail, is market distorting; instead such decisions should be left to the market and consumers' choice.

3. How and where has UK engagement with partner countries or international bodies, both within and outside the EU, been helped or hindered by EU involvement?

4. What benefits or difficulties has the objective of a European research area (ERA)²⁵ delivered for the UK?

The EU's research programmes work well, but need to be complemented by national-level efforts. In particular, member states need to address shortage of venture capital in Europe; securing funding to grow beyond start-up size is the critical challenge faced by research-intensive companies. This is the stage at which many leave Europe for the US or elsewhere. But more EU competence in this area is not necessary; instead we need to harness competition between Member States to generate good policies to boost venture capital. This could be achieved through an inter-governmental growth pact agreed by leaders in the EU Council: Member States would hence commit to increasing venture capital flows in their countries, but would remain flexible in how to do so.

In general, overlapping competences between EU institutions and Member States can be productive in the field of R&D, as national research bodies often focus on niche topics (such as Bavarian history), while EU-level institutions focus on over-arching concerns, such as fundamental research or vital medical research that is not commercially viable (and hence constitutes a market failure of commercial R&D).

5. How has the EU sought to coordinate the policy instruments at its disposal across different policy areas to create an enabling environment for researchers and innovators? How successful has this been?

Future opportunities and challenges

6. What could the EU most helpfully do to promote scientific and technological progress and innovation (including in the space sector)?

- How could the EU use its existing competence differently to deliver more in your area?
- How might a greater or lesser degree of EU competence deliver more in your area?

Lack of venture capital in Europe (UK is a positive exception) is the cause for weak IT sector, and brain drain to the US. We need a European "MIT", initially started with public finance. Austria has done something similar at the national level by creating the ISTA (Institute of Science and Technology Austria) dedicated to fundamental research in the natural and mathematical sciences. We need to do the same at the EU level; we need to put a lot of money into creating a European MIT, focused on IT, because IT is the basis for all forms of research (medical, transport...).

To achieve this, we need to pool national resources in a European fund to finance a European elite, postgraduate university, with large-scale computers and research infrastructure, and seed financing for research. This would not require significant new

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competences for EU institutions; the fund can be inter-governmental, with the EU Commission in a coordinating role. The research institute itself, and its grant allocation, should be run independently and competitively, like a private organisation; the director and supervisory board of scientists should change on a regular basis.

On a similar basis, Member States should fund European academic journals that are able to compete with the dominant American journals. In particular, European researchers must be able to submit articles in their native languages, while the journals would subsequently translate those articles into English to make European research more visible to a global public.

- How could improvements to existing EU activities make them more effective and efficient?

7. Where might future EU level action be detrimental to your work in this area?

8. Where might action at national rather than EU level be more appropriate / effective?

9. How could EU and national policies and funding streams interact better?

10. What impact would any future enlargement of the EU have on this area of competence?

11. Are there any other points you wish to make which are not captured above?

Europe needs a cultural shift in its reward structures for scientists: scientific merits, jobs, and prizes are still biased in favour of research carried out by individuals, rather than by networked teams. However, the latter is increasingly decisive in global, economic competition, as several teams, each working on a small aspect of a shared problem, deliver results more quickly than individuals working on an entire problem on their own. We should consider establishing a major European science prize for networked research and fast results.