The effects of Brexit on UK science and engineering research

With the UK’s potential exit from the EU a current hot topic of debate, we asked Naomi Weir, Assistant Director of the Campaign for Science and Engineering, how Brexit could impact the nation’s science base.

Has there been much press coverage on how leaving the EU could impact UK science?

Most of the coverage has, perhaps understandably, focused on areas that are central to renegotiation. I suppose when thinking about the EU referendum, unless you work within science and engineering, it probably isn’t at the forefront of people’s minds. However, a letter by Science Minister Jo Johnson was published in the Times and some views from the great and good of science have been heard – but it isn’t headline news.

The Campaign for Science and Engineering (CaSE) has recently produced a report highlighting the important role of the EU in UK science and engineering research. Could you draw out some of the key points from this?

Rather than advocating a particular stance, CaSE aims to inform the much wider debate on the UK’s EU membership. Our report asked about the EU as it is now, not about future scenarios, as there is little information available on future possibilities for science. But from our work it is clear that UK scientists and engineers consider EU membership to be beneficial to UK research. A lot of the discourse around science has focused on funding; this report found that 50 per cent of the increase in funding for research in UK universities between 2007 and 2013 can be attributed to EU sources. This means that while UK funding has been reducing in real terms for science, the EU has been increasing its funding for research and innovation, and UK researchers have benefited from that increased resource.

Our work also found that some regions of the UK are more dependent on EU funding than others; thus any change to the UK’s relationship with the EU could cause these regions to suffer disproportionate adverse effects if that funding is withdrawn.

Another important consideration is the ability of the UK to attract scientists and engineers to the nation through free movement of people.

To what extent does UK science and engineering research currently depend on EU funding? How would ‘Brexit’ affect the funding streams?

If you look across all disciplines, EU sources of funding for research are increasingly important to the UK. In 2013-14, they made up 16 per cent of research income in universities overall.

However, while UK science gets back more than it puts into the EU, that isn’t the case across all the nation’s EU contributions. And in any future scenario it’s likely we will still be able to access EU funding as a non-member state, but to what extent and how it would work remain unknowns. A valid argument for supporting Brexit on the basis of science funding could be that the UK Government may choose to put more money into research if it didn’t have to put money into the wider EU pot for which we don’t receive as much back – but there’s no guarantee that the Government would choose to do that. Yes, they invest in their priorities, but we don’t know where science would sit in the case of a Brexit vote. There are too many hypotheticals involved to say precisely how funding streams would be affected if the UK voted to leave the EU.

It is important to remember that it’s not just the funding that will be affected. We must also consider collaboration, impact of research, movement of people and matters of regulation.

Do UK researchers predominantly see advantages or disadvantages with the EU membership?

We surveyed over 400 individuals, primarily from academia but also from industry, and 93 per cent agreed that EU membership is beneficial to UK science and engineering research. Furthermore, they articulated that the benefits are much broader than just funding for research that EU projects bring to the UK. Respondents highlighted the improvement in quality, reach and impact of UK research facilitated by EU collaboration and coordination helps to solve global grand challenges, such as those around...
infectious diseases and climate change, in a way that would be much harder for any one country to achieve alone.

**In terms of science and innovation, how do you think the UK’s exit would affect not only the research community but also the wider public?**

The health of the UK science base directly impacts the wider public. There’s a lot of evidence showing that a thriving science base contributes to the health of our economy, the creation of high-value jobs and healthier, happier lives for everyone. It leads to improvements in public policy on everything from energy to health to transport, new medical treatments, new products or technologies, and the creation of companies – which all benefit the public.

I think another area to consider is the UK’s position within the high tech global economy: how attractive is the UK as a location for global companies or national companies to base their headquarters? At present, the UK does quite well in attracting overseas investment in R&D – but it could do much better. Anything that would damage the UK’s position in this regard would be a significant problem for the nation, both in terms of jobs and the economy.

**At present, the nation is renowned for producing world-leading science research. Could the UK be at risk of losing this status if it left the EU?**

If the UK public were to vote to leave the EU, along with many other areas, it would be essential that regulations, funding and agreements for trades and movement of people were put in place to ensure that UK science and engineering can thrive. But none of the solutions we may want to put in place are guaranteed. In theory, it would be possible to stay world-leading in science, but it would require a lot of groundwork, and many years of uncertainty, to make the UK a more attractive place to do science.

**Many supporters of ‘Brexit’ believe that the UK is being held back by the EU. How would you respond to this stance in reference to the nation’s science research base?**

CaSE endeavours to inform the debate around how the UK science base interacts with the EU ahead of the EU referendum. Within the UK there are many who care about science, some of whom are passionate about the UK staying a member of the EU, others who are not so sure and others who strongly agree that the nation should leave. But according to our research, the majority see the benefits of UK science outweighing the downsides of staying within the EU.

I think one of the key benefits of remaining in the EU for UK science is that we have a seat at the table when decisions are being made about EU priorities on science funding and investment. This means that as a member of the EU the UK has more influence on decisions of EU funding allocation in science.

Overall, it’s very difficult to know what the effect of Brexit would be for science. But, whatever the outcome of the referendum, it will be extremely important to make sure that UK science is protected and able to thrive under whatever system we’re in.

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**How do UK researchers value EU membership?**

The Campaign for Science and Engineering surveyed around 400 people from academia and industry to find out what they thought of the EU’s role in UK science. The key findings below indicate that the vast majority of respondents believe EU membership brings numerous advantages to the nation’s science base.

- **93%** of researchers asked agreed that EU membership is beneficial to UK science and engineering research
- **95%** of researchers asked agreed that EU membership supports and maintains academic collaborations
- **76%** of researchers asked agreed that EU membership facilitates access to specialist skills