

Creating a new relationship in research, science and innovation with the EU

Vassiliki Papatsiba and Ludovic Highman

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A new, deep and special partnership in science and innovation between the EU and the UK must be agreed upon as a matter of urgency. The continuity of high quality research, innovation and ultimately the status of the UK as a leading knowledge economy depends on it.

Although the UK government's commitment to underwrite current arrangements guarantees awards made by Horizon 2020 after the UK leaves the EU, research collaboration relies on interaction, consistency and trust forged over long timeframes. Furthermore, with the EU considering doubling its research and innovation budget to a whopping €160 billion (European Commission, July 2017), missing out in the future could be more disadvantageous than past and current levels of awarded EU funding suggest.

Theresa May reiterated in January 2017 that the UK was to be one of the 'best places in the world for science and innovation'. Along with an assertive vote of confidence in the academy and science, the speech proposed continuous collaboration with European partners. Eight months later, the government developed its embryonic position on post-Brexit collaboration in science and innovation with the EU in a paper entitled 'Collaboration on science and innovation: a future partnership paper', directly echoing May's earlier speech. The paper expresses a desire for a 'more ambitious and close partnership with the EU than any yet agreed between the EU and a non-EU country'. Yet it fails to propose concrete plans and actions for realising this new relationship.

▪ Where's the money coming from?

In recent decades, during which the UK has held a leading role within European research initiatives, the UK's scientific excellence has flourished. Between 2007 and 2013, the UK received roughly

€48 billion from the EU, of which €8.8 billion was for research, development and innovation, one fifth of the total funds. The UK contribution to the EU's R&D budget during this time period was in the region of €5.4 billion. In the UK research system, the net €3.4 billion from the EU R&D budget can be compared to the equivalent of receiving more than a year's worth of funds from the UK's seven research councils.

The details of the research funding distribution, however, expose different types of vulnerabilities. In absolute terms, EU research funding is crucially important to those UK universities heavily engaged in research. The interim 2014-16 evaluation of Horizon 2020 announced that four out of five of the top recipients of EU research grants were Oxford (€174.5 million), Cambridge (€172.1 million), UCL (€159.1 million) and Imperial (€120 million). But dependency is actually larger in some of the middle players. Over 40 mid-sized UK universities have received income exceeding 20 per cent of their total income from EU government bodies.

The 'Collaboration on science and innovation' paper favoured STEM disciplines. The 'hard' sciences, including health and life sciences, engineering, nuclear research, quantum technologies, space exploration, marine science and clean energy were firmly placed at the heart of the new partnership, while there was no mention of the arts, humanities and social sciences. Although in 2014-15 subjects allied to medicine, sciences, and engineering attracted nearly five times the amount of research funding earned by social

sciences, humanities, arts and education from EU sources (£497.5 and £100.4 million respectively), the latter are dependent on EU research funding for between a fifth and a quarter of their overall research funding and are, therefore, relatively more vulnerable.

According to the paper, the UK is particularly interested in the Research and Innovation Framework programmes, the space programmes, nuclear R&D and defence R&D. Unsurprisingly, these fields are the ones with the biggest budgets, and where economies of scale and pooling of infrastructure and resources are the most cost effective. However, the paper fails to answer questions such as 'what size of financial contribution will the UK be in a position to make?' and 'how will it secure its participation?'

▪ **The underpinning conditions**

Equally unresolved remains the issue of researcher mobility. The freedom of movement of people is mentioned just once in the paper, where it is bluntly stated that although it will end, the UK 'will continue to welcome the brightest and best'. However, the leaked draft Home Office post-Brexit immigration policy document (5 September 2017) suggests that an alignment of immigration laws for EU citizens with non-EU nationals is foreseeable. In this scenario, EU citizens will be treated the same as non-EU citizens, meaning reduced rights to stay and an inevitable drop in mobility and therefore in numbers. This is bound to have implications for the UK's attractiveness. Although the paper emphasises researchers' individual freedom, when choosing with whom to collaborate these 'researcher-to-researcher links, independent of intergovernmental platforms' are nonetheless influenced by broader policies and perceptions.

The future partnership paper acknowledges that associated countries have no voting rights over the thematic directions of the EU Work Programmes nor can they shape funding allocation rationales. The UK has been a strong advocate for funding instruments based purely on excellence. Without the UK, those member states currently supporting an approach focusing only on excellence will have lost their most vocal supporter and are also aware of the opportunities presented by the UK's departure.

▪ **Still too many 'ifs'**

The position paper relies on too many 'ifs'. *If* the rules on association are modified to allow for the UK to join, and to enable the UK to influence the direction of the framework programmes; *if* the UK agrees to review its post-Brexit immigration policy for EU academics, or rather *if* the EU agrees to review its core freedoms to fit the agenda of a departing member state; *if* no member state blocks a potential association agreement, and *if* both parties agree on an appropriate UK contribution, then perhaps the EU and the UK can build a (re)new(ed) partnership in research, science and innovation. However, will it be as beneficial as the one enjoyed by British universities up to now? Or the one that might have been available to them in the future if the UK stayed within the EU with an increased research and innovation budget?

In any case, viewed from Brussels, the days of negotiating UK 'opt outs' to secure British membership will soon be over. We are now talking about 'opt ins', a different policy framework in which the EU no longer has any reason to do special deals for a difficult but valued member. The UK needs to secure continued and sustainable cooperation in research, not demand concessions on the assumption that the EU needs the UK more than the UK needs the EU.

Dr Vassiliki Papatsiba is a Co-Investigator at the ESRC/HEFCE-funded Centre for Global Higher Education, and is based at the University of Sheffield.

Email: v.papatsiba@sheffield.ac.uk

Dr Ludovic Highman is a Senior Research Associate at the ESRC/HEFCE-funded Centre for Global Higher Education, and is based at the UCL Institute of Education.

Email: l.highman@ucl.ac.uk

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