

## RSE RESPONSE TO THE HOUSE OF COMMONS SCIENCE AND TECHNOLOGY COMMITTEE INQUIRY: PREPARATIONS FOR A 'NO DEAL' BREXIT IN THE CONTEXT OF SCIENCE AND INNOVATION

### Summary

- *The greatest risk, arguably, of a No Deal Brexit is the high level of uncertainty associated with this outcome and the potentially deleterious effect this could have on the UK's research endeavour.*
- *While the UK Government has sought to reassure the science and innovation community with commitments to underwrite UK participation post-Brexit in EU research and exchange programmes, there is a significant lack of clarity and detail on how the underwrite will operate in practice.*
- *Third country status does not extend to mono-beneficiary parts of Horizon 2020, including the European Research Council (ERC) grants and the Marie Skłodowska-Curie actions. At this stage there are no firm details on what the contingency arrangements will look like.*
- *The RSE has been clear that securing direct and full participation in Horizon 2020 and its successor Framework Programme, Horizon Europe, should be a priority. While the UK Government is keen to explore options for the UK's association post-Brexit to European science and innovation programmes, the negotiating terms, timeframes and costs underlying association makes this very uncertain and unpredictable territory.*
- *The UK Government must provide additional, ring-fenced funding to UK Research and Innovation (UKRI) for the purposes of underwriting UK participation in Horizon 2020 in the event of a no deal. UKRI's existing budgets for supporting national R&D must not be used to compensate for the loss of EU research funding in the event of a no deal. In this context, it will be important to ensure that the needs and particular circumstances of the devolved nations are taken account of.*
- *The RSE is clear that the UK and Scottish Governments should work together and with their EU counterparts to ensure that students and staff in Scotland and across the UK continue to be able to participate fully in Erasmus+, both in the immediate and longer term, including securing access to the successor programme from 2021. Continued UK participation in Erasmus+ post-Brexit will be reliant on an agreement being reached between the UK Government and the EU.*
- *There is a great deal of uncertainty about what future immigration rules will apply to EU nationals seeking to enter the UK after the 29 March 2019 under a no deal scenario. A proportionate and flexible immigration system is required to support the UK's research and innovation sectors. UK immigration policy will need to take account of the distinctive needs and circumstances of the devolved nations. This would include ensuring that any salary thresholds are not arbitrarily defined; rather, they need to take account of regional salary differentials. A sufficiently long lead-in period will be required to enable institutions, staff and students to plan for changes to the UK's future immigration system.*

## Introduction

1 The Royal Society of Edinburgh (RSE) welcomes the opportunity to respond to the House of Commons Science and Technology Committee Inquiry into Preparations for a ‘No Deal’ Brexit in the context of science and innovation. As Scotland’s National Academy, the RSE has actively sought to inform and influence Brexit developments, especially in relation to research, innovation and tertiary education. Within our comments we have provided Scottish-specific information to help ensure that the Committee is able to take account of the impact of Brexit for Scotland as a devolved nation, as well as the UK. The RSE would be pleased to elaborate on our comments and provide oral evidence to the Committee. The Committee may wish to note that in November 2018, the RSE signed a joint statement with universities, colleges, trade unions and the Scottish Government with a view to working together to safeguard research collaboration and education relationships with Europe.<sup>1</sup>

## Context

### *Collaboration in EU funded research programmes*

2 The EU Framework Programmes for research and innovation, including Horizon 2020, have been crucial to strengthening the UK’s research base. The complementarity of the respective UK national and EU research funding systems has made the UK an excellent place to have a research career. The key features underpinning the success of the existing relationship between the UK and the EU for research and innovation can be summarised as follows:

- Multi-centred research collaborations and networks based on excellence and underpinned by the interchange of researchers and students between the EU and the UK.
- Critical mass and strategic coordination of research endeavour, particularly in terms of funding and access to shared research infrastructure and facilities that could not otherwise be provided by a country working alone. This has increased efficiency and reduced unnecessary duplication.

- A long-term approach and funding environment for research.
- Common policy and regulatory frameworks.
- The range and scale of research programmes and funding available, supporting: disciplinary and interdisciplinary research, including that aimed at addressing major societal challenges; fundamental research and innovative developments; and researchers at various stages of their careers.
- Competition and a focus on excellence has driven-up research quality.

3 Scottish organisations have secured €558m from the Horizon 2020 programme so far – more money per head than England, Wales or Northern Ireland.

### *UK academic and research skills base*

- 4 Recognised as internationally leading, the competitiveness of the UK’s research and innovation base is highly reliant on its ability to attract and retain the highest quality staff from across the world. It is crucial, therefore, that, following the UK’s withdrawal from the EU, UK research maintains the ability to attract global talent as well as continuing to develop the domestic skills base.
- 5 Around 30% of academic staff in the UK are non-UK nationals (18% EU and 13% non-EU) with Scotland employing proportionally more EU and non-EU academic staff compared to the UK as a whole. In Scottish universities, 20.7% of staff with research, or teaching and research, contracts are EU nationals, while 27% of all research-only staff are EU citizens.<sup>2</sup> It should be noted that in some disciplines the proportion of EU nationals is even higher. For example, EU nationals make up around 26% of biological, mathematical and physical sciences’ academic staff at Scottish universities.

1 Joint Statement on Leaving the EU, 22nd November 2018 <https://www.gov.scot/publications/leaving-the-european-union/>

2 EU Exit and Scottish colleges and universities, Scottish Funding Council, December 2018 <http://www.sfc.ac.uk/publications-statistics/corporate-publications/corporate-publications-2018/SFCCP012018.aspx>

## Students

**6** EU students studying in Scotland enrich and diversify the learning and intercultural experiences at Scotland's higher education institutions. International students comprise 22% of the student cohort at Scotland's universities, compared to 19% of the UK student population as a whole. Around 9% of all university students in Scotland are EU domiciled. Notably, 16% of the UK's total cohort of EU students are studying at Scottish universities.<sup>3</sup> The proportion of non-UK EU students varies between courses and level of study. For example, 27% of physics PhD students in Scotland are non-UK EU; this compares to 20% across the UK as a whole.<sup>4</sup> These figures reflect the attractiveness of Scotland as a place to study for international students, particularly for those from the EU. The Scottish Government has extended the free tuition status to the cohort of EU undergraduate students entering in 2019-20 for the duration of their courses. However, the fee status for future academic years is currently unknown.

## Erasmus+

**7** The UK is one of the most popular destinations for Erasmus exchange programme participants from the EU, including being the third most popular destination for higher education student exchanges.<sup>5</sup> In this way, Erasmus contributes to the UK's 'soft power' by supporting the UK's international relations and influence.

**8** Erasmus+ provides Scottish students with opportunities to gain valuable insights into other cultures and enhances their graduate employment prospects. The programme is particularly important to students and others who would not otherwise be able to access opportunities to study abroad. The number of young people and students from Scotland, as well as staff in education, training and youth work benefitting from Erasmus+ was 6,190 in 2016, with Scottish participants comprising 12% of the

total UK figure (51,000).<sup>6</sup> The number of Scottish students participating in Erasmus+ has increased by 50% over the last seven years.<sup>7</sup> Scottish organisations have been very successful in bidding for Erasmus+ funding. Since the programme started in 2014, Scotland has secured more than €90m worth of Erasmus+ funding. This represents 13% of the total Erasmus+ funding (€677m) awarded to the UK between 2014 and 2018 and is greater than Scotland's 8.2% share of the UK population.<sup>8</sup>

## Implications of a 'No Deal' Brexit for Science and Innovation

**9** The greatest risk, arguably, of a No Deal Brexit is the high level of uncertainty associated with this outcome and the potentially deleterious effect this could have on the UK's research endeavour. While the UK Government has sought to reassure the science and innovation community with commitments to underwrite UK participation post-Brexit in EU research and exchange programmes, there is a significant lack of clarity and detail on how the underwrite will operate in practice. We highlight some key concerns in the sections that follow.

### *EU Framework Programmes, including Horizon 2020*

**10** In the event that the Withdrawal Agreement is not ratified and the UK leaves the EU without concluding an agreement (i.e. a no deal scenario), the UK Government has committed to underwrite all competitive bids for EU funded projects submitted before exit, even if they are notified of their success after exit, for the lifetime of the projects. The UK Government has extended the guarantee so that in a no deal scenario, following the UK's exit from the EU, UK researchers would be able to participate in all those Horizon 2020 calls open to third country participants.

<sup>3</sup> HESA Statistics 2016/17

<sup>4</sup> Students and Graduates in UK Physics Departments, Institute of Physics, July 2017 [http://www.iop.org/policy/consultations/file\\_69759.pdf](http://www.iop.org/policy/consultations/file_69759.pdf)

<sup>5</sup> Erasmus+ in the UK if there's no Brexit deal, UK Government, August 2018 <https://www.gov.uk/government/publications/erasmus-in-the-uk-if-theres-no-brexit-deal/erasmus-in-the-uk-if-theres-no-brexit-deal>

<sup>6</sup> Erasmus data tables, 18 September 2018 <https://www.erasmusplus.org.uk/statistics>

<sup>7</sup> EU Exit and Scottish colleges and universities, Scottish Funding Council, December 2018 <http://www.sfc.ac.uk/publications-statistics/corporate-publications/corporate-publications-2018/SFCCP012018.aspx>

<sup>8</sup> Erasmus results and statistics: <https://www.erasmusplus.org.uk/results-and-statistics#factsheets>

- 11** However, there are considerable questions on the detail of how the guarantee will operate in practice to support the UK's participation in Horizon 2020. Since the guarantee covers only the funding for UK participants, there is a lack of clarity as to how it would apply in circumstances where UK participants lead a consortium and are responsible for disbursing funding to other participants. Similarly, the UK's change in status from Member State to third country could result in a consortium no longer meeting the threshold for Member State and/or Associated Country participants. While the UK Government has stated that it is seeking to discuss these issues with the EU, it remains unclear if or how these issues will be addressed.
- 12** Notably, third country status does not extend to mono-beneficiary parts of Horizon 2020, including the European Research Council (ERC) grants and the Marie Skłodowska-Curie actions. In his letter to the Science and Technology Committee, the Minister for Universities, Science Research and Innovation indicates that work is ongoing to identify appropriate measures that can be put in place to address UK participation in these areas.<sup>9</sup> However, at this stage there are no firm details on what the contingency arrangements will look like.
- 13** Notwithstanding UK Government reassurances that funding for UK research will not suffer as a result of the UK's withdrawal from the EU, this cannot compensate for the potential loss of the added value gained from full UK participation in EU programmes. This is especially the case for highly prestigious and competitive awards such as ERC grants which would be very difficult to replicate on a domestic basis.
- 14** In his recent letter to the Committee, the Science Minister reaffirmed the UK Government's desire to explore options for the UK's association post-Brexit to European science and innovation programmes. The RSE has been clear that securing direct and full participation in Horizon 2020 and its successor Framework Programme, Horizon Europe, should be a priority for the UK Government. Based on existing precedent, 'associated status' is currently the only means of securing the UK's direct participation in EU research funding programmes following the UK's withdrawal from the EU. The terms of association would need to be agreed between the UK and EU-27, including, significantly, the need to reach an agreement on the financial contribution that the UK would be expected to make to enable it to participate in framework programmes post-Brexit. While other associate countries make financial contributions in proportion to their GDP, the scale of the UK's research base in comparison to other associate countries, coupled with the fact that the UK is presently a net beneficiary of Horizon 2020 funding, a position which is very unlikely to remain should the UK and EU conclude an agreement on future access, makes this very uncertain and unpredictable territory. Additionally, and importantly there is the issue of timing. The UK cannot formally explore future association options with the EU until it ceases being a Member State, nor can it discuss with the EU the UK's formal association with Horizon Europe until the new programme has been adopted by the EU institutions. This not only emphasises the uncertainty and complexity of the negotiations, but also demonstrates that if the UK does seek association, it is likely to take a significant amount of time to conclude the UK's future relationship on research with the EU.
- 15** In determining the UK's relationship in current and future EU framework programmes, the UK Government needs to look beyond the direct economic costs and benefits. Both the tangible and intangible benefits that accrue from close connectivity with EU frameworks for research and innovation, such as those summarised in paragraph 2, need to be taken into account by UK Government. Collaboration between UK and international researchers is a key factor in research quality. Nearly 50% of the UK's scientific publications have non-UK authors and the impact of these papers is significantly higher than the average impact of UK papers.<sup>10</sup> Almost 60% of these international collaborations are with European partners.<sup>11</sup>

<sup>9</sup> Letter to the Science and Technology Committee from the Minister for Universities, Science, Research and Innovation, 11 December 2018 <https://www.parliament.uk/documents/commons-committees/science-technology/Correspondence/181211-Chris-Skidmore-to-Chair-No-deal-preparations.pdf>

<sup>10</sup> Elsevier for the UK's Department of Business, Innovation and Skills; International Comparative Performance of the UK Research Base; 2013 [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/263729/bis-13-1297-international-comparative-performance-of-the-UK-research-base-2013.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/263729/bis-13-1297-international-comparative-performance-of-the-UK-research-base-2013.pdf)

<sup>11</sup> UK Research and the European Union; The role of the EU in international research collaboration and researcher mobility; The Royal Society; 2016 <https://royalsociety.org/-/media/policy/projects/eu-uk-funding/phase-2/EU-role-in-international-research-collaboration-and-researcher-mobility.pdf>

- 16** Given the standing of its research base, the UK has played a prominent role in influencing the EU's research funding agenda. While the UK and the EU may be able to conclude an agreement that enables the UK to participate fully in Horizon 2020 and Horizon Europe, as an associate country, it is currently very doubtful that the UK will have formal decision-making powers over the EU research programmes.
- 17** The potential loss of influence stemming from the UK's withdrawal from the EU is a significant issue. As part of the ongoing negotiations over the future relationship between the UK and the EU, consideration could be given to the merit and feasibility of establishing a joint UK-EU strategic committee that would enable the parties to strategically align their programmes and capital investments in higher education, research and innovation. Clearly, such a development would need to be regarded as being beneficial for both the UK and EU.
- 18** The UK Government has confirmed that UK Research & Innovation (UKRI) will be developing systems to ensure payments to beneficiaries of Horizon 2020 funding can continue in the event of a no deal. This will be important to minimise disruption for participants.
- 19** The UK Government must provide additional, ring-fenced funding to UKRI for the purposes of underwriting UK participation in Horizon 2020 in the event of a no deal. UKRI's existing budgets for supporting national R&D must not be used to compensate for the loss of EU research funding in the event of a no deal. Irrespective of the future relationship between the UK and EU in relation to research, it is important that the UK Government does not reduce the total funding it provides for research and innovation at the UK level, as this would damage the competitiveness of the UK.
- 20** Depending on the role that UKRI will assume in the event of a no deal in terms of the UK's future interaction with EU framework programmes for research and/or international research agreements entered into by the UK, it will be important to ensure that there is Scottish and devolved administration representation in UKRI governance arrangements. This will be required to ensure that the needs and particular circumstances of the devolved jurisdictions of the UK are considered.
- 21** We recognise that the UK Government is working in partnership with UKRI to develop a new International Research and Innovation Strategy with a view to strengthening international collaborations in research and innovation. While an increased number of bilateral schemes would be valuable and, indeed, necessary in the event of a no deal Brexit, they cannot, however, replicate the benefits of the UK's direct participation in Horizon 2020. Multi-country Framework Programmes that provide researchers with opportunities to simultaneously collaborate with multiple international academics and industries will be more attractive and efficient than schemes that allow only for single collaborations. And, so, a multi-country scheme will always – other things being equal – provide better value for money.

### *Erasmus+ student exchange*

- 22** As with EU research programmes, in the event of a no deal the UK Government has confirmed that its underwrite guarantee will cover the payments of awards to UK applicants for all successful Erasmus+ bids submitted before the UK exits the EU. Notwithstanding the financial underwrite from the UK Government, continued UK participation in Erasmus+ post-Brexit will be reliant on an agreement being reached between the UK Government and the EU. Should an agreement for continued participation not be reached, the UK Government has indicated that it will engage with Member States and key institutions to ensure UK participants can continue with their planned activity.
- 23** There are currently no details on what, if anything, could replace the Erasmus+ programme if the UK were not to associate. The Scottish Parliament's EU Home Affairs Sub-Committee recommended that in the event that the UK Government is unable to negotiate the UK's continued participation in Erasmus+ as a programme country, the Scottish Government should explore whether it would be possible to develop a framework that would enable Scotland's continued participation as a programme country in its own right beyond 2020.<sup>12</sup>

<sup>12</sup> Erasmus +, Scottish Parliament's Culture, Tourism, Europe and External Relations Committee, March 2018 <https://sp-bpr-en-prod-cdnep.azureedge.net/published/CTEERC/2018/3/14/Erasmus-/CTEERS052018R1.pdf>

**24** The RSE is clear that the UK and Scottish Governments should work together and with their EU counterparts to ensure that students and staff in Scotland and across the UK continue to be able to participate fully in Erasmus+, both in the immediate and longer term, including securing access to the successor programme from 2021. The EU Commission has proposed to double the Erasmus budget to €30bn for the 2021-2027 programme. This demonstrates the value and esteem in which Erasmus is held by EU member states.

### *Future immigration arrangements*

**25** To remove any ambiguity about their future, the UK Government has said that EU citizens and their family members living in the UK by 29 March 2019 are welcome to stay in the UK in the event of a no deal scenario. However, there is a great deal of uncertainty about what future immigration rules will apply to EU nationals seeking to enter the UK after the 29 March under a no deal scenario. This is a key area of concern given that the UK's research and innovation base is highly reliant on its ability to attract, recruit and retain internationally mobile talent, wherever it may be located, to work and study in our academic and industrial organisations.

**26** A proportionate and flexible immigration system is required to support the UK's research and innovation sectors. UK immigration policy should take account of the distinctive needs and circumstances of the devolved nations. This would include ensuring that any salary thresholds are not arbitrarily defined; rather, they need to take account of regional salary differentials. A sufficiently long lead-in period will be required to enable institutions, staff and students to plan for changes to the UK's future immigration system. The RSE intends to undertake more detailed analysis of the UK Government's recently published White Paper immigration and the implications for Scotland. We would be pleased to keep the Committee updated on our work in this area.

### *Additional Information*

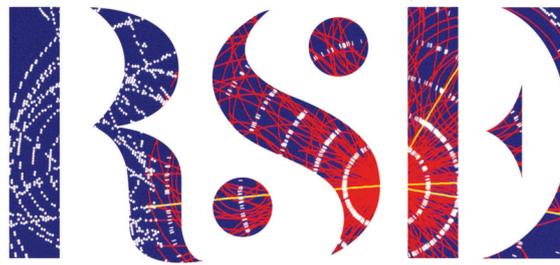
This Advice Paper has been signed off by the General Secretary of the RSE.

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