Summary

- Leaving the EU will create significant challenges for Universities. We recognise that there is a great deal of uncertainty surrounding the decision to leave the European Union.

- The University of Cambridge is a global institution in its philosophy, attitude, reach and ambition. It has an international academic community and will remain committed to and driven by excellence.

- The University of Cambridge will work with the Government to ensure it takes steps to safeguard the position of staff and students from the EU, so that they can continue to work and study in this country.

- We will continue to work with European partners to tackle global challenges and to build new collaborations irrespective of borders.

- Cambridge thrives as part of a wide international community of academic staff and students, and we remain deeply committed to global cooperation and our dedicated staff who come from all over the world.

- The political instability post-Referendum raises significant questions for the University - the decision to leave the European Union will affect our staff, students, research and partners. We are particularly concerned for the future of our European staff, undergraduates and graduates in this uncertain climate and by the impact of this uncertainty on:

  1. our recruitment and retention of the brightest and best staff and students regardless of their nationality;

  2. the future of our substantial European research funding;

  3. the extensive global network of the University’s collaborations with both research and industrial partners.

- Research is a global enterprise. It is essential that the UK’s leading Universities and research institutions can engage and collaborate with their fellow world-leading researchers both within and outside Europe.

- UK research is vital to the economic growth of the country and it must be protected and supported. We welcome the Government’s restated commitment to maintain the UK’s status as world leader in research. UK research must continue to be central to the future vision for a successful UK. It is important that the UK Government takes steps to ensure that staff and students from EU countries can continue to work and study at British universities in the long term, and promotes the UK as a welcoming destination for the brightest and best minds.

- It is also important that the UK negotiates for full access to future research framework programmes as well as access to EU funded scientific infrastructure.
Question 1: what the effect of the various models available for the UK’s future relationship with the EU will be on UK science and research, in terms of:

- Collaboration;
- Free movement of researchers and students;
- Access to funding;
- Access to EU-funded research facilities, both in the UK and abroad
- Intellectual property and commercialisation of research

Context

Collaboration

- Research is a global endeavour: it is naturally collaborative, interdisciplinary and international. The major research challenges of our time are cross-border: tackling climate change, managing energy demand, combatting infectious disease and supporting ageing populations.

- As a Member State, the UK can collaborate with other Member States to influence the formulation of EU research priorities. This has enabled the UK to articulate the case for awarding research funding on the basis of excellence and to influence European activity in the other areas with a profound effect on the research environment: policies on research ethics, open access and regulatory principles for example. The outcome of the Referendum means that we face the prospect of losing the ability we have to influence the direction of travel and to form, and modulate, the regulations which would continue to govern how we behave. More broadly, we will be hampered in the exercise of the “soft power” which is a vital component of our current relationship with the EU.

- Three fifths of the UK’s internationally-authored papers are with partners inside the EU. According to the Royal Society, over the last three decades there has been a considerable increase in the percentage of the UK’s international output comprising UK-EU collaborative papers, up from 43% in 1981, to 60% in 2012.¹

- The UK has enjoyed prominent leadership roles in European framework programmes. For example, UK institutions have so far taken the scientific lead in 34% of all health related projects under Horizon 2020.

- In new access agreements - which could be the imperfect products of negotiation - UK participants may only be able to secure partial access to some programmes, resulting in a corresponding decline from the leadership role the UK currently commands.

A powerful counter to the argument that the UK can withdraw and renegotiate its relationship with the EU in the area of access to its research programmes is offered by Switzerland. As a result of its referendum (February 2014) on immigration quotas, the EU revoked Switzerland’s access to Horizon 2020 and Erasmus+ programmes. In terms of research funding, the Swiss are now only able to access the “Excellent Science” portion of Horizon 2020 as an Associated Country (alongside “actions under the specific objective “Spreading excellence and widening participation”, the Euratom Programme and activities carried out by the European Joint Undertaking for ITER and the Development of Fusion for Energy for 2014-2020”2) This negotiated access is only effective until the end of 2016. Swiss scientists are excluded from the full range of research programmes, except on a Third Country basis: this means that they are not automatically eligible for funding and their participation in other bids does not count towards the eligibility criteria for the minimum number of participants in a project. This has caused great damage to the ability of Swiss research groups and organisations to carry out internationally competitive research.

If we assume that the results of the Referendum position place the UK in a similar situation as Switzerland one must also consider that as an Associated Country, in whichever configuration that participation may be, we would lose the ability to actively influence decisions. Although associated countries are able to pay into the system and participate in certain research schemes, they have a very limited say on the decision process and on shaping the research funding landscape.

The Government’s Balance of Competences Review (2014) found that international collaborations with non-EU members are made more difficult by the reliance of researchers in different countries on different funding cycles. Potential UK participants could run into problems in ‘synchronising’ research projects and funding with EU partners, in the event of the UK no longer being a full participant in Horizon 2020.

Free movement

International collaboration with European research partners is underpinned by freedom of movement within the EU. The inherently dynamic nature of research often requires researchers (both UK-born and non-UK EU) to spend short periods of time in different countries: this is made very much easier with EU freedom of movement, which avoids the time and expense involved in securing visas.

In 2014/15, 31,635 non-UK EU nationals were working in UK universities, 16% of the total; 12% of staff were non-EU. 14% of PhD students are non-UK EU nationals, and 36% are from outside the EU. At Cambridge 23% of our academic and postdocs are EU nationals (as of Oct 2015).

In the event of a Brexit, EU researchers may become subject to current immigration restrictions through the Tier 2 (General) route, for skilled migrants, or Tier 1 (Exceptional Talent) route for highly skilled migrants. Currently, the Tier 2 (General) visa route is the most common visa route

Written evidence submitted by University of Cambridge (LEA0042)

for non-EEA Professors, lecturers and researchers seeking to work in the UK. These roles are classified as ‘PhD level’ roles within the Tier 2 route, and during 2015 Home Office statistics indicate that these types of roles accounted for around 8% of all Tier 2 visas issued nationally across all employment sectors. Notwithstanding this current low usage, we are concerned that if EU nationals were then required to use the Tier 2 route, it would be unlikely to have the capacity to absorb the numbers of EU nationals which the sector would require. Therefore, as a minimum, there would need to be a radical upward revision of the Tier 2 ‘cap’ which applies to all new out-of-country applicants using the Tier 2 route, and which currently stands at a maximum of 20,700 per year.

- If EU citizens were required to apply for a visa to work in UK universities and research centres, there is a risk they would not wish to come to the UK, due to the actual or anticipated effort and uncertainty involved in securing a visa. This could have negative implications for the UK’s chances in bidding for competitive EU funding as researchers would not necessarily wish to partner themselves with UK universities if uncertain as to a) whether they would be able to actually obtain a visa/permit to work in UK and b) their rights and entitlements once working in the UK.

- Evidence suggests that the EU researchers whom the UK attracts are at the top of their fields and highly talented. For example, more than half of ERC consolidator grant recipients in the UK in 2014 were non-UK EU. UK institutions risk losing this talent and the accompanying ERC funding should EU researchers no longer flock to the UK (a potential consequence of any restrictions on freedom of movement).

- It should also be noted that membership of the EU (and access to EU funding) makes the UK more attractive to non-EEA researchers. Brexit may adversely affect the position of the UK as a destination for researchers globally.

- The UK “receives” many more leading researchers than it “sends” overseas, which is a considerable competitive advantage for the UK and is supported by EU freedom of movement. It is difficult to see how the UK would be able to easily and immediately “replace” the skills capital represented by the talented EU postgraduates and academics that play such a central role in the UK research community.

Access to funding

Funding from the EU is a valued and significant part of the academic community’s funding portfolio. The UK has had an outstanding level of success in Framework Programme 7 (FP7), winning €6.94 billion. The UK has secured over €520 million in Horizon 2020 grants to date. The UK hosts the highest number of ERC grants of all Member States: 22% of all ERC grants. In addition to its funding for frontier research in the “hard” sciences, the ERC is also one of the key funders in Arts, Humanities and Social Sciences - providing one of the only routes to very substantial funding. The UK was awarded a third of the ERC grants in these disciplines between 2007 and 2014 (171 in total).
• The UK has an exceptional track record in gaining ERC investigator awards at every level. The University of Cambridge has so far been awarded 176 ERC grants, more than any other HEI in Europe. ERC funding encourages novel, risky, researcher-led, ground-breaking research with a strong interdisciplinary focus. Schemes of this kind foster cross-, multi-disciplinary and international collaborations. They enable researchers to undertake innovative research which is not constrained by the need to produce immediately translatable results. This allows researchers intellectual freedom, which often produces unexpected, and highly valuable, results. UK-based researchers’ and institutions’ access to ERC funding is also important aspect of recruitment – and possibly of retention.

• EU funding enables the pooling of Member States’ resources to address global challenges such as climate change and food security, and thus national funding schemes. Even with increased budgets, this could not directly replace or compete with EU research programmes. It is important for the UK to be a key participant in these types of projects as one of the leading scientific nations in Europe.

• The approach of the ERC is especially complementary to the UK’s national approach as it focuses on excellence and does not prescribe policy-driven outputs. The UK’s success in securing ERC grants, which are only awarded to the absolute best in Europe, gives a clear indication to the rest of the EU of the excellence of the UK’s research base.

Access to research facilities

• EU membership enables UK Universities and Companies to gain access to materials, services and expertise that are often not available to individual organisations alone – or even within an individual country.

• The EU invests in key research infrastructures which would not be possible to build at a national level due to the scale of funding needed, the critical mass of usage needed to justify its construction, or because the risk to one nation would be too great. This allows the UK to access and take advantage of large-scale infrastructures and also avoids duplication of efforts.

• An example of this is ELIXIR, the European infrastructure for biological information, which brings together life science organisations across Europe to manage and safeguard the enormous amounts of data being generated every day by publicly-funded research. The ELIXIR hub is based on the Wellcome Trust Genome Campus in Hinxton, Cambridge.

Intellectual property and commercialisation

• The development of the Unitary Patent means that a university, a spin-out, start-up or a larger company can protect its innovation ideas with a single patent that covers 25 different EU countries. The European Commission estimates this will cost the applicant less than €5,000 in
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renewal fees over 10 years compared to the previous level of around €30,000, as well as reducing
the administrative burden of patent applications.

- The UK is participating in the Unitary Patent regulation. Although Brexit is unlikely to have a
  significant impact on this, our future status would need to be clarified in negotiations over Brexit
and there are questions over how enforcement would be maintained outside of the EU.

Impact of models

- **EEA membership.** The EEA agreement allows members to enjoy the four freedoms (the free
  movement of capital, goods, services and people) without being obliged to abide by other EU
policies in certain areas, such as agriculture, fisheries and judicial affairs.

None of their representatives or nationals may participate in the meetings and work of the
European Parliament, the Council of Ministers or the Commission. The latter is particularly
significant given the Commission is in charge of the research programmes – Horizon 2020 and
structural funding. EEA membership also requires significant contributions to the EU budget.

The UK would have to abide by the rule that all EEA EFTA countries speak ‘with one voice’ in
the committee which manages the EEA agreement.

**CONCLUSION:** Clearly the continuation of free movement as an EEA member would be
welcomed by the science and higher education sector. However, the exclusion of UK
representatives and nationals from the work of the European Commission would significantly
constrain the UK’s ability to influence the priorities of the framework programmes and the
criteria (and thus destinations) of the EU’s structural funding.

- **Negotiation of a Free Trade Agreement (FTA) with the EU** - The majority of FTAs do not cover
  services, regulatory convergence or public procurement. The most comprehensive trade
agreement that the EU has ever agreed (though it is not yet ratified) is its agreement with Canada.
However, differences in regulations and standards are to remain under its terms.

**CONCLUSION:** The absence of regulatory harmonisation and free movement could hamper
attempts at research collaboration with EU member states.

- **Swiss model of bilateral agreements with the EU** - Switzerland must also contribute to the EU
  budget. If the UK were to opt out of freedom of movement obligations - as the Swiss did
following a referendum vote in February 2014 - then the EU could respond after a similar
fashion, excluding UK students, staff and universities from Erasmus and EU research
programmes.

**CONCLUSION:** Imposing any limitation on freedom of movement could incur ‘retaliation’ in the
form of the UK being marginalised in research and exchange programmes.
Question 2: What the science and research priorities for the UK Government should be in negotiating a new relationship with the EU.

- The University of Cambridge urges the Government to recognise the importance of free movement in negotiations around the UK’s relationship with the EU. Free movement is crucially important if we are to attract top academics and students for the benefit of the UK economy.

- Priority should be placed on full access to Horizon 2020 (including ERC funds). Clear communication from the Commission regarding the UK’s equal participation would also provide further security for UK Principal Investigators.

Question 3: What science and technology-related legislation, regulations and projects will need to be reviewed in the run up to the UK leaving the EU.

- The UK has played a key role in shaping the design and implementation of the EU’s research programmes to ensure funding is allocated on the basis of excellence rather than diverted to less research-intensive regions of Europe.

- This complements the UK’s national approach which is increasingly focused on policy-driven outputs. The loss in this funding stream puts an imperative on the UK Government to ensure the protection of funding for research in order to maintain our national competitiveness.

Question 4: The status of researchers, scientists and students working and studying in the UK when the UK leaves the EU, and what protections should be put in place for them.

- Researchers, scientists and students working and studying in the UK are vitally important to the sector and the UK economy more generally. International staff and students are highly skilled and, because of this, highly mobile. It is crucial that the UK holds on to these talented individuals by providing security over their status and long-term future. Moreover, EU staff and students should not be deterred from studying and working in the UK by the imposition of visas, work permits and health insurance payments.

Question 5: The opportunities that the UK’s exit presents for research collaboration and market access with non-EU countries, and how these might compare with existing EU arrangements.

- We can only speculate about the impact of withdrawing from the EU, since we have no precedent to guide us. What we know for certain is that our membership of the EU to date has been of significant benefit to science, research and innovation in the UK.

- There are potential threats to UK research from EU regulations in the future, for example potential changes to data protection rules could have serious consequences for research using personal data, making it at best unworkable and at worst illegal. Another example concerns the realisation of the European Research Area (ERA). The ERA is currently being achieved through a voluntary approach between Member States, which allows the UK to maintain its high quality
research practices and share good practice with other countries; but there has previously been
discussion of imposing regulation in this area. Legislating for the ERA could potentially have
negative impacts on the UK’s currently world-class research system by adding bureaucracy,
burden and unnecessary new rules.

Question 6: What other measures the Government should undertake to keep UK science and
research on a sound footing, with sufficient funding, after an EU exit.

- Status of EU staff and researchers in the UK. The Government should take action to clarify the
  status of EU staff and researchers already working in the UK, and ensure that any future
  immigration rules facilitate the migration to the UK of EU academics and their families as a
  matter of priority. The UK also needs to be perceived internationally - both in EU and non-EU
countries - as a welcoming host nation for researchers and students. The latter provide a vital
income stream for UK universities and thus help to sustain the research excellence of UK higher
education institutions.

- Funding and the excellence criterion. In the area of research, the UK gets out more than it
  contributes to the EU budget (3.9% more between 2012 and 2014). Providing in the region of
  c.£500m in funding p/a, EU research awards have been compared to the equivalent of an
  additional Research Council in the UK. The UK Government should pledge to at the very least
  maintain this amount of funding for UK science, if not increase it. Funding should also be
  awarded on the basis of research excellence, in order to best assure the UK’s global reputation in
  science and research and to reap the best return on public investment in science.

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