CaSE submission to the Home Affairs Committee Inquiry on Immigration

20th January 2017

Summary of key points

- Science and engineering are a central pillar of the UK economy and deliver great social, cultural, and health benefits across the UK
- Immigration contributes to the UK's science and engineering strength
- Any future immigration system must support the retention, access and movement of those who lead, undertake and support research and innovation
- The public support immigration of scientists, engineers and students, and pursuing a policy of reducing the number of highly-skilled migrants coming to the UK would be contrary to the views of 88% of the public
- To build more consensus, the Government must lead the way on transparency, use of evidence, and nuance in relation to immigration in policy development and public announcements
- Government statements, domestic immigration policy and international negotiating positions must reflect and support the Government's wider ambitions for science and innovation
- The Government must actively promote the UK as a place to learn, earn and contribute, and work to combat the current hostile climate towards migrants in the UK.

About CaSE

The Campaign for Science and Engineering (CaSE) is the leading independent advocate for science and engineering in the UK. CaSE believes the UK government should support a healthy and flourishing science base in which all parts of this integrated system are well funded and performing optimally. CaSE works to ensure that the UK has the policies, funding and skills to help science and engineering thrive. It is funded by around 800 individual members and 100 organisations including businesses, universities, learned and professional organisations, and research charities. Collectively our members employ 360,000 people in the UK, and our industry and charity members invest around £34.9bn a year in R&D globally[1].

We welcome the opportunity to feed into this consultation. Our response draws on extensive work we undertook in 2015-16 on the role of immigration in UK science and engineering[2]. Since then, the result of the EU referendum has changed the parameters of the discussion. Therefore, this response also draws on discussion forums with our members on Brexit and work with a group of organisations from across our sector to develop a set of core principles for a future immigration system that supports research and innovation in the UK.

[1] Figure calculated in November 2016 from latest available data

[2] Immigration: Keeping the UK at the heart of global science and engineering, CaSE, January 2016

An effective immigration policy is a priority for science and engineering

What are the benefits and problems with different kinds and levels of migration, for the economy and society?

Science and engineering are a central pillar of the UK economy and deliver great social, cultural, and health benefits. The fruits of research and innovation enrich all our lives in countless ways. Nurturing a strong science base is vital for preparing the nation for future challenges, from climate change, food security and future cities, to antimicrobial resistance, national security and meeting the needs of an ageing population. R&D and human capital are universal drivers of productivity[3] and a wide range of industries, from manufacturing and agriculture to digital technology, rely on research to innovate, grow, and create high-value jobs[4].

Immigration contributes to the UK's science and engineering strength

The UK is a global science leader. The Prime Minister has recognised this by including maintaining the UK's science and innovation strength in her flagship Brexit speech in January 2017[5]. Developing an effective migration policy will be an essential component of future success for science and engineering in the UK. This is because immigration is both essential to meet skill demand and because scientific breakthroughs are not developed in isolation – mobility is crucial to the highest standards of performance. Easy movement of researchers, innovators and specialist technicians gives the UK a competitive advantage by opening up access to skills, ideas and international networks.

International movement is a feature of researchers' careers - 72% of UK-based researchers[6] spent time at non-UK institutions between 1996 and 2012[7]. Over 27% of academic staff at universities are from outside the UK – 31,600 from other EU nations and 23,000 non-EU internationals[8]. And the UK's new flagship £650 million Francis Crick Institute in London currently has 65 different nationalities in its 1,500 strong workforce[9]. This international mobility is not because scientists and engineers are particularly fickle about where they live or with whom they work; it is because it is integral to research. Internationalism brings huge benefits to research and to the productivity of science and engineering in academia and industry[10,11,12]. In a survey of scientists and engineers conducted by CaSE, the most highly cited benefit of immigration was supporting international

[3] "On the Robustness of R&D" , Kul, Khan and Theodorodis, Journal of Productivity Analysis, vol. 42 (2014), 137-155

[4] http://www.sciencecampaign.org.uk/resource/whychampionscienceandengineering.html

[5] https://www.gov.uk/government/speeches/the-governments-negotiating-objectives-for-exiting-the-eu-pm-speech

[6] Includes UK and non-UK nationals - only published researchers from academia and industry were analysed

[7] Elsevier, International comparative performance of the UK research base, 2013 (Updated report awaiting government approval)

[8] Staff by geographic region of nationality, HESA 2014/15

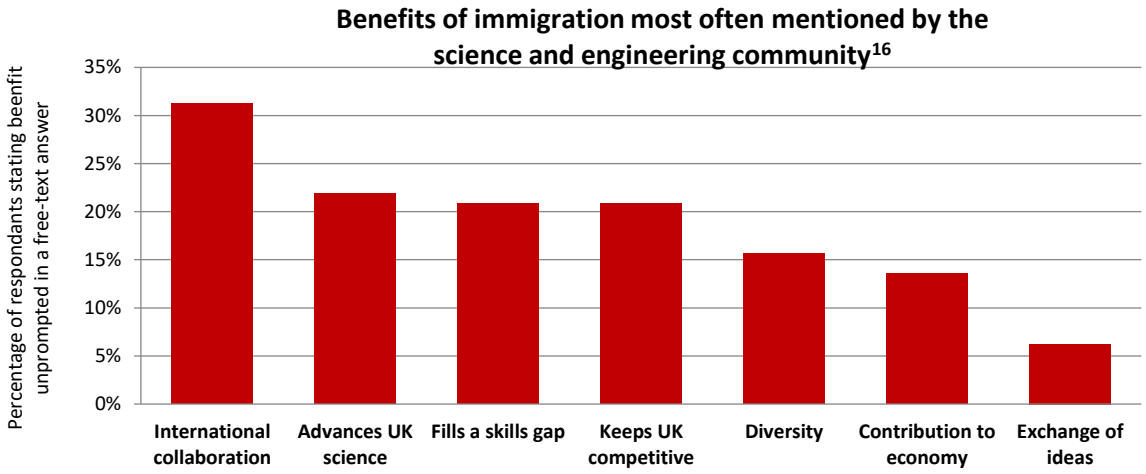
[9] Figures provided by Cancer Research UK

[10] http://www.demos.co.uk/publications/knowledgenomads

[11] http://www.nber.org/chapters/c13405

[12] http://www.nature.com/nature/journal/v497/n7451/full/497557a.html

collaboration, with almost a third (31%) of respondents stating this in a free-text answer[13].



Immigration is inherently necessary in science and engineering but skills shortages also create further need for the freedom to bring in skilled workers from abroad. The UK's science and innovation system is hampered by weaknesses in its science, technology, engineering and mathematics (STEM) talent base[14]. Among engineering, science, and hi-tech firms, nearly half (44%) report difficulties in finding experienced recruits with the right STEM skills, particularly high-level STEM skills[15]. The majority of roles on the Home Office's Shortage Occupation List are in STEM[16]. It is estimated that failure to meet demand for engineering skills will cost the UK £27bn a year from 2022[17].

The first priority must be to ensure our education and skills system is effective in educating, training, and equipping people in the UK. Government, research funders and employers in our sector are committed to domestic skills development and will fully engage with the Government as the new Industrial Strategy seeks to address technical education in particular. Although progress is being made to fill the pipeline of new workers, including essential and widespread work on increasing the number of high-level, high quality apprenticeships, the shortage will take many years to be solved. Addressing the shortage begins at school and has a long time-lag: for those that do choose to continue in STEM, the training period for a PhD-qualified scientist or chartered engineer is around 10 years, and the acquisition of specialist and highly technical skills can take even longer. Migration in the short to medium term will be an essential part of meeting the STEM skill gap[18]. And the two are linked; skilled immigrants will contribute to a longer-term up-skilling of the UK population as they pass on their skills and knowledge to school and university students, trainees, and other workers. Indeed, attracting teachers to the UK was one of the Department for Education's strategies for meeting teacher shortages in STEM subjects - and science teachers remain on the Shortage Occupation List.

Immigration positively contributes to the UK

The most conservative estimates suggest that the fiscal impact of migration in the UK is small (less than +/-1% of GDP) and differs by migrant group (e.g. EEA migrants vs non-EEA migrants, recent

[13] CaSE survey conducted between 14 July and 14 August, 2015. 96 responses were received, 86 were from individuals and 7 were official responses on behalf of companies or universities.
[14] https://www.gov.uk/government/publications/science-and-innovation-system-international-benchmarking
[15] http://news.cbi.org.uk/reports/education-and-skills-survey-2015/education-and-skills-survey-2015/
[16] Shortage Occupation List 2015
[17] http://www.engineeringuk.com/Research/Engineering_UK_Report_2015/
[18] In the balance, the STEM human capital crunch, Social Market Foundation, 2013

migrants vs all migrants)[19]. CaSE is not aware of studies of the fiscal contribution specifically made by immigrant scientists and engineers to the UK economy but as they are more likely to be higher-skilled and employed in an above-average wage job, it can be assumed that their net contribution is positive.

International students are a major UK export, worth £10.7bn to the UK economy[20] and the geographic spread of the country's universities means that foreign students are particularly valuable to regional economies. EU students alone contribute £3.7bn through fees and wider spending while at UK universities to the UK economy each year and support around 34,000 jobs[21].

The benefits of the global movement of researchers for wider national interests were highlighted in the Government's 2014 *Plan for Growth: Science and Innovation Strategy*: "The shared values of science can be important in diplomacy and keep doors ajar even at times of the greatest divisions between nations[22]", illustrating the power of the UK's science base in soft diplomacy.

The public support immigration of scientists, engineers and students

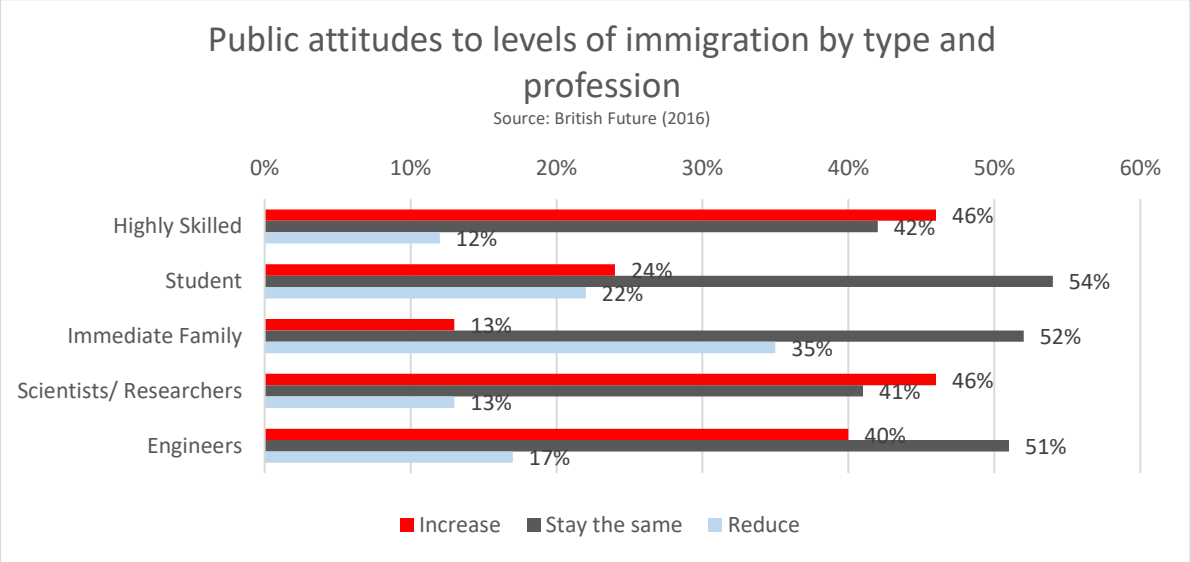
Is it possible to build greater consensus behind immigration policy? What steps would be needed to do so?

Although immigration was a major feature of the referendum debate this should not be assumed to mean the public want to see a blanket reduction in migration. As outlined below, nearly half of those who voted leave in the referendum support increases in skilled migration. The Home Secretary has said "it's only by reducing the numbers back down to sustainable [immigration] levels that we can change the tide of public opinion". We recognise the widespread concerns about immigration, however opinion polls attest that the public are much more nuanced than Government in their views. The public is overwhelmingly in favour of immigration of highly skilled workers and students:

- 88% of the public supported maintained (42%) or increased (46%) migration of highly skilled workers – only 12% wanted a reduction[23]
- These proportions are highly similar between those who voted leave and those who voted remain in the referendum.
- A majority of British adults would like to maintain (44%) or increase (18%) the number of international students in the UK
- 53% say that if the UK adopted a policy to help boost growth by increasing the number of international students coming to their country, they would support this policy
- 70% say it is better if international students use their skills here and work in the UK after graduation in order to contribute to the economy rather than returning immediately to their home country
- A minority consider international students (24%) or EU students (23%) coming to study at a UK university as immigrants[24]

[19] http://www.migrationobservatory.ox.ac.uk/resources/briefings/the-fiscal-impact-of-immigration-in-the-uk/
[20] http://www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2016/parliamentary-briefing-effect-exiting-eu-higher-education-18-november-2016.pdf
[21] http://www.universitiesuk.ac.uk/news/Pages/eu-students-vital-to-regional-economies.aspx
[22] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/387780/PU1719_HMT_Science_.pdf
[23] British Future, What next after Brexit? (2016)
[24] Universities UK poll conducted by ComRes, October 2016

- A different poll showed similar support with 78% of the public wanting to see international student numbers increase or stay the same and only a fifth of the public think of students as immigrants[25]



To build more of a consensus behind immigration policy there must be recognition by Government that concerns are nuanced and complex. Addressing valid concerns and building consensus will similarly require a nuanced approach by Government.

The Government should not develop immigration policy based on a flawed assumption of voter intent in the referendum. For instance, **pursuing a policy of reducing the number of highly-skilled migrants coming to the UK would be contrary to the views of 88% of the public.** Further, a top-level numbers-based approach from Government, such as an overarching policy driver of reducing migration to tens of thousands regardless of type of migrant, does not support or communicate a nuanced approach to migration. Such an approach is in conflict with public opinion and has the potential to be economically damaging to the UK and should not be pursued. Instead, **Government should highlight the nuances of public opinion in its positions and include it in development of migration policy.**

The EU referendum debate provided an opportunity to see the extent to which conflicting 'facts' about immigration were firmly held to be true. The Government could support consensus building by promoting the good use of evidence. There is some room for improvement in this area. For instance, independent reviews by the Migration Advisory Committee have consistently found that there is no evidence of migrants being used to undercut wages in skilled occupations, except in the public sector which the Government should consider addressing separately. Instead there is a migrant premium - on average, Tier 2 (General) migrants earn an extra £3,000 per annum compared to UK workers with similar characteristics[26]. Yet Government has not clearly made this distinction, referring to policy changes to the Tier 2 route for highly skilled workers being "designed to stop businesses using foreign workers to undercut wages[27]". **To build more consensus, the Government must lead the way on transparency, use of evidence, and nuance in relation to immigration in policy development and public announcements.**

[25] British Future, What next after Brexit? (2016)
[26] https://www.gov.uk/government/publications/migration-advisory-committee-mac-review-tier-2-migration (2015)
[27] https://www.gov.uk/government/news/visa-changes-to-reduce-reliance-on-foreign-workers

Align immigration policy with wider government policy and ambition

How should trade-offs between immigration policy and economic policy be handled?

Persisting with the unevidenced view that the public want a blanket reduction in total immigration would be the primary reason for immigration policy to conflict with economic policy. However, as we've already seen, the evidence suggests the public are much more nuanced in their view; with a stronger preference for maintaining or increasing numbers of skilled migrants and students.

The Government should undertake and publish research into public opinion on different types of migration as well as robust evidence on the differentiated economic and social impact of different types of migration. This would enable the government to address genuine concerns, while also informing public opinion and creating a system that operates in the interests of the UK.

Specifically considering science, the Prime Minister has said the Government is committed to "ensuring a positive outcome for UK science as we exit the European Union[28]" and aspires for the UK to be "the global go-to nation for scientists, innovators and tech investors[29]". We support these ambitions, and aspects of government policy and funding demonstrate the Government's commitment to achieve them; such as growing investment in research and development, and the creation of an industrial strategy with science and innovation at its core. However, a restrictive immigration policy and continuing negative rhetoric on immigration will pull in the other direction, limiting the effectiveness of wider public investment and policy. To achieve the Prime Minister's ambition for the UK to be a science and innovation leader, a new migration system should actively support the Government's economic policy of investing in research and development (R&D) as part of the National Productivity Investment Fund[30].

Government statements, domestic immigration policy and international negotiating positions must reflect and support the Government's wider ambitions for science and innovation, actively promoting the UK as a place to learn, earn, and contribute.

A future immigration system

What approach should government take to different kinds of migration?

As the UK prepares for leaving the EU we would like to ensure that the UK remains open and welcoming to researchers, innovators and specialist technicians. In the short-term, we support the recent call by the House of Commons Science and Technology Committee to exempt EU researchers already working in the UK from immigration controls[31]. In the long-term, companies, universities, charities and research institutes alike see the implementation of a fit for purpose immigration system as an essential pillar of securing a positive outcome for science. Along with others in the sector we have developed some broad, top-level principles and features that an immigration system would have to meet if it is to support science and innovation in the UK. We anticipate that some features are the same as those required by other major business sectors, but some are distinct because of the nature of how science and research is done.

[28] http://www.bbc.co.uk/news/science-environment-36915846

[29] https://www.gov.uk/government/speeches/cbi-annual-conference-2016-prime-ministers-speech

[30] Autumn Statement, 2016

[31] http://www.publications.parliament.uk/pa/cm201617/cmselect/cmsctech/502/502.pdf

Features of an immigration system that supports science and innovation

Types of people

There is broad agreement across the sector we represent that any future immigration system must support the retention, access and movement of those who lead, undertake and support research and innovation including:

- Highly skilled people – e.g. researchers, engineers, academics, business founders (characteristics include PhD level roles, Chartered Engineer status)
- Specialist technicians – e.g. data analysts, cell culture specialists, AI experts
- Students – including undergraduate, postgraduate and PhD students
- Dependants of these individuals

Types of movement

The following types of movement are essential to research and innovation in the UK:

Long-term migration with routes to residency

- Recruitment to advertised posts - initiated by the employer
  The strongest candidate is selected, irrespective of nationality
- Relocation of research and innovation talent to the UK - initiated by the individual
  e.g. named holders of research grants or recognised fellowships, investors, business founders, those with skills in short supply

Temporary migration after which the individual will return to their home country

- Short visits (up to 6 months)
  e.g. visit a collaborator, give a lecture, sit on an interview panel
- Temporary work (1-2 years)
  e.g. secondments, placements, training, co-location for collaboration, use of a UK-based facility, staff exchange, addressing an urgent research issue (e.g. disease outbreak)
- Intercompany transfers
- Formal study in approved education establishments with options for remaining in the UK

Features of the system

To support science and innovation in all its settings, a future immigration system must be fair, fast, transparent and flexible to meet the UK's skills needs and research priorities including:

- Simple and proportionate administrative principles and processes for individuals and employers
- Clear guidance on eligibility and use of the system
- Minimal bureaucracy and cost, with efficient and reliable processing of applications
- Reliable and transparent reporting of migrant numbers and characteristics

The non-EEA system could be refined to better support science and engineering

We recognise the willingness in recent years of the Home Office to work closely with the sector to refine and develop migration policy to ensure it is fit for purpose. This has been very welcome and resulted in tangible improvement to processes and policy. Our research published in January 2016 outlined some areas where the visa system for non-EU migration could be refined to support the academic and industry science and engineering sectors. Improvements include fast-tracking peer-reviewed applicants through Tier 1 (Exceptional Talent), abolishing the Tier 2 (General) cap, creating a new Tier 5 (Temporary Worker – Science, Research, and Academia) visa, allowing trusted sponsors

to certify visitor visas for low-risk researchers, extending the international graduate job search period, improving online visa information to make it more user-friendly[32].

What approach should be taken to EU migration as part of the Brexit negotiations – for example, points-based systems, or work permits; and geographical variations?

Students

We know that policy decisions affect the desirability of the UK as a place to study. Recent research has shown a 20% decline in undergraduate level enrolment due to the changes to post-study work options[33]. An impact of exiting the EU could be a diminished view of the UK as a desirable place to choose to study. This could reasonably be seen as an impact on universities and the wider UK rather than on EU students, as they will simply undertake their studies elsewhere in countries actively seeking to increase their share of the valuable and growing education export market. As public attitude surveys show, the wider public concerns around immigration do not extend to student migration. Only a minority even consider international students (24%) or EU students (23%) coming to study at a UK university as immigrants[34]. And yet, the Government have indicated they are looking to crack down on student migration[35] which would be damaging to the UK and our universities. In our opinion, this is a conflation of concerns about overseas students at 'bogus teaching colleges' and the body of students at UK universities. UK universities are awarded trusted-sponsor status to recruit from overseas on strict criteria and the government should make this distinction clear in its positions. To support the UK's £10.7bn education export economy, the government should ensure there is no limit on the number of people choosing to study in UK universities.

The Points Based System

Extending the current points-based non-EEA system would present some serious challenges to science and innovation. An immigration policy that recognises the specialist and economically-important skills of the science and engineering workforce is essential. The current system goes some way to achieving this, including through the Shortage Occupation List and the prioritisation of PhD-level roles. It is important that the principle of these concessions is upheld if the points based system is maintained. Efforts should also be taken to take a broader view of the occupations that the system prioritises.

Salary is not always a good proxy for skill level in science and engineering, especially in the academic sectors, nor does it recognise skill specialisation, for instance of specialist technicians. We are working with others in the sector to get a clearer picture of salary and skill level across our sector to inform government policy making. However existing salary levels within Tier 2 pose serious challenges to the ability of science and engineering employers to recruit the staff that they need. Extending this across the EEA population would pose significant challenges. As highlighted by the MAC[36], based on figures for the year ending March 2015, 30% of applicants in the Standard Occupation Code (SOC) 2119 natural and social sciences professionals n.e.c, one of the most utilised codes across the sector, would have been negatively impacted by an increase of salary levels to £30,000.

Alternative identifiers, other than salary, could include PhD level roles, Chartered Engineer status, peer review by trusted bodies. The SOC review in 2020 also provides an opportunity to enable jobs

[32] Immigration: keeping the UK at the heart of global science and engineering, CaSE 2016
[33] The determinants of international demand for UK higher education, HEPI Report 91, 2017
[34] Universities UK poll conducted by ComRes, October 2016
[35] Rt Hon Amber Rudd, Conservative Party Speech, October 2016
[36] MAC review of Tier 2 - Analysis of salary thresholds, July 2015

or skills currently not reflected in the system to be more accurately classified in a way that would support their use for immigration purposes. This could include introducing codes that better reflect and more tightly define groups such as specialist technicians or different occupations within new and emerging industries which may currently be difficult to robustly take into account.

For small and fast growing organisations in particular, moving to a fully visa-based system could effectively reduce their talent pool as the costs and length of time needed to become a sponsor organisation would prevent participation. This could have knock on effects to the attractiveness of the UK as a place to start and grow a business. Take for instance the tech sector where the UK is currently in a leading position. Businesses are very talent dependent and mobile, and our neighbour countries are keen to attract businesses and founders. To maintain flexibility, visa-less options should be considered.

Abolish the cap on highly-skilled workers

The arbitrary Tier 2 (General) cap of 20,700 sends a strong negative message to global science and engineering talent and business. It also poses a direct threat to the recruitment of the skilled workers needed to support growth, with valuable workers already being turned away. For instance, in summer 2015 the Tier 2 cap was reached and 66 engineers, amongst others, were refused a Certificate of Sponsorship due to the monthly Tier 2 (General) limit[37].This figure may seem small, but it is more than double the 30 higher-level apprenticeships[38] that were completed in 2013/14[39]. With such a short-supply of home-grown engineers, choking off international supply will have serious consequences. Further, as employers must demonstrate that they cannot find suitable workers in the EEA in order to use Tier 2, refusal of these visas due to the cap leaves employers with little option but to leave the position vacant or recruit someone with a skills mismatch, which harms productivity[40].

Therefore, to further Government policy of improving productivity and supporting businesses and science, the Government should reconsider the Tier 2 (General) cap. Bringing net migration down to the "tens of thousands" was in the 2015 Conservative manifesto, as was maintaining the Tier 2 cap until 2020[41]. However, leaving the EU presents the Government with an opportunity reassess the suitability of these policies while the landscape for immigration is being considered in the round. As Government review immigration policy, across EU and non-EU routes, the logic, benefits and costs to the UK of a cap on highly skilled workers should be assessed and the policy reconsidered, informed by the evidence and in line with the Government's economic policy to stimulate productivity.

Dependants

Many organisations and individuals have told CaSE that restricting the right to work for dependants would be a serious obstacle in attracting top global talent, which would, in turn, affect the economy. The Permits Foundation recently surveyed Tier 2 work visa holders, including 222 working in universities and research institutes. Of the 222 academics, more than 40% said that they would definitely not have accepted their current role if their partner did not have the right to work in the UK, and a further 40% said that they would probably not[42]. Respondents to the survey cited concern

[37] http://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2015-09-07/9220/

[38] These are NQF level 4, equivalent to a Foundation Degree

[39] Social Market Foundation, Fixing a broken training system, 2015

[40] http://www.oecd-ilibrary.org/economics/labour-market-mismatch-and-labour-productivity_5js1pzx1r2kb-en

[41] The Conservative Party, Manifesto, 2015

[42] Permits Foundation, The impact of removing unrestricted right of dependants to work in the UK, 2015

for their partners' careers and emotional wellbeing should they not be allowed to work, as well as the struggle to meet the UK's high living costs on one salary.

Highly-educated individuals tend to partner with other highly educated individuals. The Permits Foundation survey found that 37% of Tier 2 visa-holding academic's partners had a master's degree and 33% had a doctorate. As a result, almost 80% of employed partners were working in professional roles requiring a high degree of education and/or training. There is therefore a multiplier effect in attracting these couples, both of whom will be able to make a substantial contribution to the economy and knowledge-base through their skilled employment.

Targeting the dependants of workers and students is a harmful way of discouraging immigration. It would have significant personal and social impacts for the families affected, and would be a strong disincentive for scientists and engineers looking to work in the UK. This would be highly damaging to our scientific and economic success.

The current top-level numbers-based approach fuels and is combined with a persistent negative rhetoric in the UK towards immigrants. The Government must actively promote the UK as a place to learn, earn and contribute, and work to combat the current hostile climate towards migrants in the UK.

We recognise that there are huge hurdles to overcome if the UK is to regain the reputation of being a welcoming and attractive destination for international talent, and significant technical challenges of creating a new immigration system that is fit for purpose and carries the confidence of the UK public. But there is an opportunity to put right those aspects of the system which are currently limiting, and to create a system that is fair, transparent, easy to operate. We will continue to work the with Government and to feed into the work of this Committee so that the is a welcoming 'go-to' destination for global talent, which will help ensure the UK can reap the benefits of a thriving science and innovation base in decades to come.