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CaSE
Campaign for Science and Engineering

# CaSE response to Lords Committee inquiry on international STEM students

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The Campaign for Science & Engineering (CaSE) is a membership organisation aiming to improve the scientific and engineering health of the UK. CaSE works to ensure that science and engineering are high on the political and media agenda, and that the UK has world-leading research and education, skilled and responsible scientists and engineers, and successful innovative business. It is funded by around 750 individual members and 100 organisations including industries, universities, learned and professional organisations, and research charities.

The mobile student population is growing. A recent British Council report projects that the mobile student market globally is set to grow from 3.04 million in 2011 to 3.85 million in 2024 and that the UK could attract an extra 126,000 international students over the next decade.[1]

As well as adding to academic and cultural life, international students bring economic benefits to the UK. A recent (July 2013) report by the Department for Business, Innovation & Skills (BIS) estimated that the 435,235 international higher education students in the UK (in 2011-12) contributed £10.2bn to the UK economy, via tuition fees (£3.9bn) and living expenses (£6.3bn)[2].

The Government wants to 'win the race to the top', as the Chancellor reiterated in his New Year speech[3], backing his 'personal priority' of science to renew our high-tech economy and generate a 'job-rich recovery for all'[4]. The future of the UK's international competitiveness is not low-cost labour, but is high-skilled, high-value jobs in innovative world-leading sectors.

The UK is a world-leading nation in science and engineering and can play to that strength, however, these are international endeavours and so to be a world-leading hub that attracts research-intensive companies, academics, skilled workers and students, we must have a migration policy that actively attracts skilled workers and students to the UK.

There are numerous reports that state that we are seriously short of people with science, technology, engineering and maths (STEM) skills in the UK work force to meet demand. Engineering UK's 2013 report, The State of Engineering[5], claims that we need to double the number of graduates and apprentices in the discipline by 2020 to meet demand. Voicing the concerns of industry, the CBI's Education and Skills Survey[6] shows that 39 per cent of firms "are struggling to recruit workers with the advanced, technical STEM skills they need", with 41 per cent saying that shortages will persist for the next three years. The Social Market Foundation calculates that there is an annual shortfall in domestic supply of around 40,000 STEM graduates[7].

The UK government's 'Shortage Occupation List' for visa applications lists demand for 26 occupations that require STEM-skilled people – three quarters of the total. This list shows that the UK urgently needs to recruit from overseas: engineers in the oil and gas industry, aerospace, nuclear waste disposal, railway signalling and automotive industries; hospital doctors and nurses in a range of specialties; and, crucially, secondary school teachers in science and maths.

**How have the numbers and demographics of international STEM students in the UK changed since the introduction of policy reforms on immigration in this Parliament?**

The Government's international education strategy[8] seems to recognise the need for, and benefits of, increasing international student migration. It states that the Government aim to grow the number of international students in UK universities by up to 20 per cent over the next four years – around an extra 90,000 students.

However, despite actively pursuing an increase in international students in some parts of Government, the number of international students from outside the EU (non-EU students) choosing to study in the UK has dropped for the first time. Since 2010 the trend of increasing international student enrolments has been halted. Instead, as shown in Figure 1, in the last two years there has been a fall in enrolments.

Figure 1 – Percentage change in first year non-EU student enrolments across all courses and levels of study (Source: HESA)

As discussed above the UK has particular need for skilled STEM workers and even the current number of graduates from UK universities is insufficient to meet industry demand. In 2011-12 a third (32%) of Engineering and Technology students were international students[9]. This is the second highest proportion of international students in any subject area, behind Business and Administration. Computer Science and Mathematical Sciences also have an above average intake of international students[10]. Significant drops to student numbers, and indeed any interruption to the growth of international student numbers is likely to have a strong impact on the UK's ability to meet demand for engineers and other STEM skilled graduates.

1 in 5 (18%) of migrants issued student visas in 2006 appear to have legally remained in the immigration system or settled in the UK after 5 years. After 5 years 17% had some form of valid leave to remain and 1% had been granted permission to stay permanently (settlement). This is a reduction from 1 in 4 (25%) of migrants issued student visas in 2004[11]. This shows that the majority of students do not stay in the UK in the long-term, even prior to the 2010 reforms. However as discussed previously, it is in the interests of the UK to retain individuals with STEM skills. These figures relate to students who were granted visas prior to the closure of the post-study work route. The effect of the removal of this route on the number and proportion of skilled STEM graduates who stay and work should be monitored.

**What is the evidence currently available of an adverse effect of the changes to immigration rules on prospective international STEM students choosing to study in the UK?**

In particular, the number of Indian students starting at UK universities is down by 26%on last year and the number of Pakistani students down by 19%. This is particularly concerning as India has historically been one of the non-EU countries sending the most students to the UK. This suggests that the stronger messaging and policy changes linked to the government policy of cutting net migration from the 2010 level of 250,000 a year to below 100,000 a year are having a greater impact than the measures suggested in the international education strategy.

Looking at the International Passenger Survey data from the Office of National Statistics from 2013 show that there was a 5% (-9,750) fall in study visas issued (excluding student visitors) in the year ending June 2013 (204,469) compared with the previous 12 months; in the calendar year 2012 study-related admissions fell 21% (to 211,000) compared with 2011 and over the same period estimates of non-EU long-term immigration for study fell by 23% to 139,000.[12]

The 9,750 (-5%) fall in study visas issued included notable falls for Pakistani (-8,457 or -54%) and Indian (-7,927 or -35%) nationals. Although there has been year on year increases for Chinese students, the increases are not in proportion to the total growth in Chinese student mobility. The UK has lost its market share of Chinese students. In 2004 nearly as many Chinese students came to the UK as to the US. Now, the nearly three times as many Chinese students choose to study in the US compared to the UK and Australia has overtaken the UK as their second destination of choice[13].

The fact that the drop in international student numbers coincides with the year in which UK government immigration policy was changed and that the global picture is one of increasing numbers of international students suggests that the immigration rules are affecting the choices of prospective international students. In particular as mentioned above, there have been dramatic changes in demand from India where UK visa changes were widely publicised in their national press[14].

**What impact might the provisions in the immigration Bill currently before Parliament have on international STEM students?**

CaSE supports the points raised in the Universities UK Parliamentary briefing[15] from the 4th February 2014 which raises concerns around clauses 11 (appeals), 15 (residential tenancies) and 33 (NHS charges).

**Do reforms to immigration policy since 2010 limit the competitiveness of UK higher education institutions in attracting international STEM students?**

UK competitors are actively trying to increase their share of the international student market and our main competitors offer a more generous and flexible post study work period - United States, Canada, France, Germany and Ireland all offer 12 months and beyond.

Importantly the messaging coming from these countries is one of welcome and championing of the value of international students. In contrast, determined and highly publicised anti-immigration messages coming from the UK Government and statements of increasing anti-

immigrant sentiment continually published in the media are not compatible with the aim of communicating that 'Britain is open for business'.

CaSE recently hosted a roundtable event with the Home Office attended by 40 CaSE members and partners including national academies, universities, learned societies and industry. There was widespread concern that the business and university sector's efforts to attract overseas students are being hampered by the Government's messaging on reducing net migration. Specific concerns about negative perceptions abroad included:

- Central Student Agencies are now advising international students to apply to universities elsewhere, as the UK visa system is too complex
- Cancellation of the Post-Study Work Scheme
- Problems over applications for students studying at private HE Institutions
- Delays for processing visas, particularly with the Academic Technology Approval Scheme (ATAS)
- Negative perception of the UK visa system, which is seen as complicated, lengthy, and bureaucratic

Universities present at the roundtable stated that they are making efforts to draw out positives but this is hard to achieve when dealing with negative perceptions from abroad. If this is not rectified international students will look to study elsewhere. Universities need to improve their marketing strategy to international students, but there is also an active role to be played by Government. Universities shouldn't have to market against a negative perception of the UK visa system. There was a call for the Home Office to provide positive marketing material to help with this effort.

Participants at the roundtable raised the need for the Home Office to be more publicly welcoming of skilled migration. The Home Office responded that they do talk of the importance of skilled migration. However, from our monitoring of public messages from the Home Office this isn't the case. Much of the messaging is about fraud which accounts for a small proportion of total cases. CaSE is calling for more balanced and consistent public messaging from the Home Office on welcoming skilled migrants.

**Do higher education institutions and the Government have effective mechanisms in place for communicating the rules arising from immigration policy to prospective international students?**

Higher education institution representatives at the CaSE roundtable with the Home Office raised concerns about the ability of universities to remain up to date with the latest changes to immigration policy, and therefore to communicate the rules to prospective international students. There is need for improved communication between policy and operational levels in the Home Office. It was also raised that a greater administrative burden is being put on universities at the same time as funding cuts. The Home office responded that, due to the returns, despite increased administrative costs it was still in university's interests.

**Are international STEM graduates finding it difficult to pursue employment in the UK after completing their studies at higher education institutions?**

CaSE and others in the sector have previously highlighted potential risks to the sector from the government's immigration reforms. As a result, the Government has made a number of welcome concessions to the science and engineering sector since May 2010. These concessions include:

- Scientists and engineers are now given priority through the Tier 2 visa system in the case of the immigration cap being reached, ahead of virtually every other job in the UK labour market.
- Scientists and engineers are now exempt from the £35k earnings threshold, which prevents workers in other sectors from seeking permanent residency in the UK.
- The Tier 4 Doctorate Extension Scheme (DES) has been created as a replacement for the Post-Study Work Visa and provides PhD students with an additional 12 months to look for and start work in the UK.
- Scientists have now been removed from the Resident Labour Market Test (RLMT), meaning that exceptional scientists from outside the EU can be employed ahead of a UK-resident and without having to advertise in Jobs Centre Plus, as the RLMT requires for other job types.

Considering the significant public investment in STEM graduates and the large and growing need for STEM skilled workers, it would be welcome if the Doctorate Extension Scheme in the UK could also cover Masters courses, and STEM Masters in particular. This would be a welcome incentive, making the UK an attractive place to choose to come and study, particularly considering the widely publicised removal of the post-study work visa route. It would also afford those on a Masters course the time to complete their course and look for suitable employment with enough time to apply for a new visa. With around three-quarters of the Shortage Occupation List made up of STEM skilled workers it would be cost effective and most efficient if we were able to provide every opportunity for STEM skilled graduates trained in the UK to feel welcome and find suitable employment.

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[1] The Future of the World's Mobile Students to 2024, British Council, 2013

[2] International Education: Global growth and prosperity, BIS, 2013

[3] https://www.gov.uk/government/speeches/new-year-economy-speech-by-the-chancellor-of-the-exchequer

[4] https://www.gov.uk/government/speeches/chancellor-george-osbornes-autumn-statement-2013-speech

[5] Engineering UK ‘The State of Engineering’, 2013

[6] The Confederation of British Industries Education and Skills Survey, 2013

[7] The Social Market Foundation, In the balance: the STEM human capital crunch, 2013

[8] https://www.gov.uk/government/news/new-push-to-grow-uks-175-billion-education-exports-industry

[9] UKCISA analysis, using HESA data from 2011-12, 2013

[10] Data.gov.uk, HESA 2008/9 (used as later data were not accessible)

[11] Home Office, Migrant Journey Third Report.

[12] Immigration statistics April-June 2013, Gov.uk

[13] Figure in ‘Paying its way’ using HESA, IIE and UNESCO data, The Economist, 9th Nov 2013

[14] Indian Express, for example had 5 negative stories on UK immigration within 5 months of changes announced in June 2010.

[15] Parliamentary briefing, Immigration Bill: Lord’s Second Reading, 4th February 2014, Universities UK