Impact of international students in the UK: Annexes

Migration Advisory Committee
2nd Floor
Peel Building
2 Marsham Street
London
SW1P 4DF
https://www.gov.uk/government/organisations/migration-advisory-committee

Impact of international students in the UK: Annexes

Migration Advisory Committee

September 2018

Contents

Annex A: Commission to MAC to assess the impact of international students in the UK

Home Secretary
2 Marsham Street London
SW1P 4DF
www.gov.uk/home-office

Professor Alan Manning
Chair of Migration Advisory Committee
2nd Floor- Peel Building
2 Marsham Street
London
SW1P 4DF

24 August 2017

Dear Professor Manning,

I am writing to commission the Migration Advisory Committee (MAC) to assess the impact of international students in the UK. The text of the commission is attached.

This letter provides you with some context to this commission, which I hope you find helpful. It reflects close collaboration with the Department for Education, which like my Department, clearly has an interest in the outcome of this work.

The Government strongly wishes to continue to attract international students to study in the UK. We recognise that they enhance our educational institutions both financially and culturally; they enrich the experience of domestic students; and they become important ambassadors for the United Kingdom in later life. This is evidenced by the fact that we remain the second most popular destination globally for international higher education students, with four UK universities in the world's top 10 and 16 in the top 100 and international student satisfaction at 91 per cent for undergraduates.

The Government is committed to reducing net migration to sustainable levels. Including students in the net migration target does not act to students' detriment or to the detriment of the education sector. There is no limit on the number of genuine international students which educational institutions in the UK can recruit, and, equally importantly, the Government has consistently made clear that it has no plans to limit any institution's ability to recruit international students. As long as students leave at the end of their studies, they should not be significantly contributing to net migration, and therefore there is no conflict between our commitment to reduce net migration and to attract international students. As Home Office analysis published today shows, it is

clear that wide scale reform pursued since 2010 to tackle immigration abuse in the higher education sector is working, and that students are indeed now very largely compliant with immigration rules.

The Government welcomes the work which the Office for National Statistics (ONS) has been doing to improve the quality of statistics relating to international students. The Digital Economy Act provides a unique opportunity to improve understanding of the migration data and as part of this work the Home Office will be working with the ONS and other Government departments to improve the use of administrative data. This will lead to a greater understanding of how many migrants are in the UK, how long they stay for, and what they are currently doing. The ONS will be publishing an article in September setting out this fuller work plan and the timetable for moving towards this landscape for administrative data usage.

The student migration system we inherited in 2010 was too weak, and open to widespread abuse, damaging the UK's reputation as a provider of world-class education. The National Audit Office reported that in 2009/10 up to 50,000 students may have come to work, not study. Student visa extensions were running at over 100,000 a year, with some serial students renewing their leave repeatedly for many years.

Since then, we have overhauled the student visa route with a package of measures to clamp down on immigration abuse from poor quality institutions selling immigration rather than education: since 2010 more than 920 institutions have been struck off from being sponsors of international students. We have also taken necessary action to make sure that students who want to come to Britain really are students. Those applying must now speak adequate English, be able to support themselves financially, and be sponsored by a genuine college or university. These are important safeguards to help prevent immigration abuse which this Government was right to introduce.

The analysis of exit checks data published today shows that the overwhelming majority of students whose visa expired in 2016/17 were recorded as having left in-time.

At the same time as overhauling the student route to eradicate previous abuse, we have also maintained a highly competitive offer for genuine international students who would like to study in the UK at our world-class institutions and the visa process remains straightforward. Visa applications sponsored by universities are 17 per cent higher than they were in 2010, 99 per cent of entry clearance applications are decided within the target of 15 days and the grant rate for Tier 4 (General) visa entry clearance applications has increased every year since 2010, with 96 per cent of such applications granted in 2016.
We also have a highly competitive post-study work offer for graduates seeking to undertake skilled work after their studies. There is no limit on the number of students eligible to switch into Tier 2 skilled work and students are exempt from the resident

labour market test. Any post-study provisions must strike a careful balance between providing competitive options for the brightest graduates from around the globe to remain in the UK to work, whilst also maintaining safeguards against the type of widespread abuse that was seen under former post-study work schemes. We therefore have no plans to re-introduce a post-study work route that does not lead to skilled work.

The Tier 4 visa pilot, which was launched a year ago, reflects our ambition to explore whether we could make our offer to international students even more attractive, without increasing the risk of immigration abuse. The pilot aims to simplify the visa application process for international students and help to support students who wish to switch into a work route and take up a graduate role by extending the leave period following the end of their study to up to six months. The pilot is being carefully evaluated and, if successful, could be rolled out more widely.

As we look to leave the EU, the UK will remain open to the talent we need from Europe and the rest of the world, which includes both EU and non-EU students. To help provide certainty for EU students starting courses as we implement the UK's exit (including those who are not currently living in the UK), we have already confirmed that current EU students, and those starting courses at a university or Further Education institution in the 2017/18 and 2018/19 academic years, will continue to be eligible for student support and home fee status for the duration of their course. We will also ensure that these students have a parallel right to remain in the UK to complete their course.

The MAC has never undertaken a full assessment of the impact of international students, and given the new exit checks data, we would like to have an objective assessment of the impact of international students which includes consideration of both EU and non-EU students at all levels of education. This assessment should go beyond the direct impact of students in the form of tuition fees and spending, including consideration of their impact on the labour market and the provision and quality of education provided to domestic students. This should give the Government an improved evidence base for any future decisions whilst the ONS goes through the process of reviewing the contribution it thinks students are making to net migration.

I trust this is helpful in outlining the Government's position. I am grateful to the MAC for taking on this commission and would be grateful if the MAC could report by September 2018. I shall be publishing this letter.

THE RT HON AMBER RUDD MP

Annex

MAC Commission on international students

The UK is the second most popular destination in the world for international students. Last year we granted over 200,000 student visas to those wishing to study in the UK. The MAC is asked to evaluate the impact made by international students. In particular, what are the economic and social impacts of international students in the UK? As well as considering the overall impact, this should include advice on the following:

- The impact of tuition fees and other spending by international students on the national, regional, and local economy and on the education sector;

- The economic and social impacts beyond education, including on the labour market, housing, transport and other services, in particular, the role they play in contributing to local economic growth;

- Some breakdown of impacts by type and level of course, and institution;

- The impact the recruitment of international students has on the provision and quality of education provided to domestic students.

- The MAC should look at the whole of the UK, including its constituent nations and regions.

The MAC is asked to report by September 2018

Annex B: MAC call for evidence

Our call for evidence set out the following questions for stakeholders. These provided a general indication of the information we would find most useful, but respondents were informed that they could provide us with other relevant information. We asked that responses be evidence-based and, where possible, provide data and/or examples in support of answers. Stakeholders were encouraged to respond to questions that are relevant to their expertise and were not necessarily expected to answer every single question.

We highlighted that we were assessing both EU and non-EU students at all levels of education (i.e. including students in both higher and further education and also those in primary and secondary education). Owing to the paucity of data regarding further education, we were particularly keen to receive data regarding this level of education in order to understand whether there are specific issues.

- What impact does the payment of migrant student fees to the educational provider have?

- What are the fiscal impacts of migrant students, including student loan arrangements?

- Do migrant students help support employment in educational institutions?

- How much money do migrant students spend in the national, regional and local economy and what is the impact of this?

- How do migrant students affect the educational opportunities available to UK students?

- To what extent does the demand from migrant students for UK education dictate the supply of that education provision and the impact of this on UK students?

- What is the impact of migrant students on the demand for housing provision, on transport (particularly local transport) and on health provision?

- What impacts have migrant students had on changes to tourism and numbers of visitors to the UK?

- What role do migrant students play in extending UK soft power and influence abroad?

- If migrant students take paid employment while they are studying, what types of work do they do?

- What are the broader labour market impacts of students transferring from Tier 4 to Tier 2 including on net migration and on shortage occupations?

- Whether, and to what extent, migrant students enter the labour market, when they graduate and what types of post-study work do they do?

Annex C: Call for evidence respondents

Below is the list of organisations from whom we received responses. We received responses from individuals but have not named these respondents. All responses which were not identified as confidential, have been published separately and can be found via the Migration Advisory Committee website:
https://www.gov.uk/government/organisations/migration-advisory-committee

Association of American Study Abroad Programmes United Kingdom
Association of Colleges
Association of Graduate Careers Advisory services
Aston University
Bader International Study Centre Queens University Canada
Bangor University
Birkbeck University of London
Boarding Schools' Association
Bosworth Independent College
Bournemouth & Poole International Education Forum
Bournemouth University
British Academy
British Council
British Medical Association
British Property Federation
Brunel University London
British Veterinary Association, the Royal College of Veterinary Surgeons, and the Veterinary Schools Council
Campaign for Science and Engineering
Cancer Research UK
Cardiff University
Careers Research & Advisory Centre
CATS Colleges and CSVPA
Chartered Association of Business Schools
Commonwealth Scholarship and Fellowship Plan (CSFP)
Confederation of British Industries
Conservatoires UK
Creative Industries Federation
Dental Schools Council
Department for Education
Destination for Education
Direct Travel Journeys
Durham Law School
Edinburgh Napier University
Edinburgh University Students' Association

EEF – The Manufacturers' Organisation
Empiric Student Property plc
Engineering Professors Council
English UK
Equality Challenge Unit
Friends International
Geological Society and University Geoscience UK
Glasgow Caledonian University
Greater London Authority
Goldsmiths University of London
Goodenough College
Guild HE
Harper Adams University
HEPI and Kaplan International Pathways
Heriot Watt University
Higher Education Funding Council for England
Kaplan International Pathways
i-graduate International Graduate Insight Group Ltd
Imperial College London
Independent Higher Education
Independent Schools Council
Institute of Directors
Institute of Physics
Institute of Student Employers
International Association of Maritime Institutions
INTO University Partnerships
King's College London
Law Society of Scotland
London Business School
London First
London Higher
London Metropolitan University
London School of Economics and Political Science
London Southbank University
Mayoral Response
Middlesex University London
Migration Watch UK
Million Plus
National Union of Students (UK)
Natural History Museum
Northern Ireland Executive (Department for the Economy)
Northumbria University
Office for National Statistics
Oxford Brookes University

Queen Mary University of London
Queens University Belfast
Regent's University London
Research Councils UK
Royal Academy of Music
Russell Group
Scottish Government
Sheffield Hallam University
Southampton Solent University
St Clare's, Oxford
Study Group
Swansea University
Taunton School International
The Royal Society
The Royal Society of Edinburgh
UK Council for International Students Affairs
Universities Alliance
Universities Scotland
Universities UK
Universities Wales
Universities West Midlands
University and College Union
University of Bath
University of Bedfordshire
University of Birmingham
University of Cambridge
University of Derby
University of Dundee
University of East Anglia
University of Edinburgh
University of Exeter
University of Glasgow
University of Greenwich
University of Hertfordshire
University of Kent
University of Manchester
University of Nottingham
University of Oxford
University of Plymouth
University of Portsmouth
University of Salford
University of Sheffield & University of Sheffield Students' Union
University of Southampton
University of St Andrews

University of Strathclyde
University of Surrey
University of Sussex
University of the Arts London
University of the West of England
University of the West of Scotland
University of Warwick
Welsh Government
Yorkshire Universities

Annex D: National student survey analysis

Perhaps the best source of information about how students feel about their courses is the National Student Survey[1]. The NSS is an annual survey conducted in the Spring of all third-year undergraduates in UK universities, both domestic and overseas. It asks students to respond to a number of statements about their course on a five-point scale ranging to definitely agree to definitely disagree with the responses to the final question, "Overall, I am satisfied with the quality of the course", often used as an overall evaluation.

The results are available at institution and subject level.[2] For the academic year 2013/14 onwards we obtained from HESA the numbers of students on each degree course who are UK-domiciled, from inside and outside the EU. The subject codes in the NSS and HESA are not exactly the same so the HESA codes were converted to NSS codes.

As a measure of satisfaction, we used the proportion of students who report being in the two most positive categories. We then regressed this on a measure of the share of non-EU and EU students studying that subject in that institution in that year. The precise regression we ran was the following:

$$\Delta SAT_{ist} = \beta_1 \frac{\Delta EU_{ist}}{TOT_{ist-1}} + \beta_2 \frac{\Delta NONEU_{ist}}{TOT_{ist-1}} + yeardummies$$

Where ΔSAT_{ist} is the change in satisfaction in institution i in subject s in time t. The change is used to control for differences in persistent differences in student satisfaction across institutions and subjects. The migrant share variables can be interpreted as the percentage change in the number of students from change in the number of international students[3]. The results from estimating this equation are shown in Table D.1. The questionnaire changed in 2017 with some questions added and some dropped: this analysis uses the original questions only.

The results need to be interpreted with caution. They could be the result of a composition effect – if international students have different levels of satisfaction from domestic students this would show up in the regressions as an 'effect' of international students. There may be unobserved factors which influence both student satisfaction and the share of international students – the estimation of the model in first-differences goes some way to allay these fears but does not eliminate them. It could be that the share of international students responds to student satisfaction rather than the other

---

[1] https://www.thestudentsurvey.com/
[2] http://www.hefce.ac.uk/lt/nss/results/2017/
[3] In line with the practice suggested in Card, David and Peri, Giovanni, (2016), Immigration Economics by George J. Borjas: A Review Essay, *Journal of Economic Literature*, 54, 1333-49.

way round. The sample period is a short one without large changes in the share of international students within courses which this empirical exercise uses. Nonetheless, we do think the exercise a useful one.

All of the estimated effects are extremely small indicating that there is little evidence that international students affect the satisfaction of students on courses in either a positive or negative way. For example, a 10 percentage point rise in the number of EU students (a very large change) is estimated to raise the students who are satisfied by 0.03 percentage points, while a similar rise for non-EU students is estimated to reduce student satisfaction by 0.08 percentage points. There are some estimated coefficients that are significantly different from zero: for EU students they tend to be positive while for non-EU students they tend to be negative; 19 out of 22 estimated coefficients for EU students are positive while 21 out of 22 for non-EU students are negative. None of the estimated effects are large.

One reason why the share of international students may affect student satisfaction is that they affect the total number of students. Regression 2 in Table D.1 shows the result of a regression in which student satisfaction is regressed on the log total number of students in the course. All the estimated effects are negative, some significantly different from zero, but again, all are very small.

There is no evidence in these regressions of any impact of international students on student satisfaction.

Table D.1: The impact of international students on student satisfaction

	Question	Regression 1		Regression 2
		EU students	Non-EU students	Log total Students
22	Overall, I am satisfied with the quality of the course.	0.003	-0.008	-0.004
1	Staff are good at explaining things.	0.004	-0.007	-0.002
2	Staff have made the subject interesting.	0.004	-0.009	-0.004**
3	Staff are enthusiastic about what they are teaching.	-0.002	0.003	-0.002
4	The course is intellectually stimulating.	0.006**	-0.011**	-0.001
5	The criteria used in marking have been clear in advance.	0.002	-0.006	-0.004
6	Assessment arrangements and marking have been fair.	0.001	-0.004	-0.005*
7	Feedback on my work has been prompt.	0.002	-0.007	-0.008***
8	I have received detailed comments on my work.	-0.001	-0.001	-0.006**
9	Feedback on my work has helped me clarify things I did not understand.	-0.004	0.003	-0.006**
10	I have received sufficient advice and support with my studies.	0.007**	-0.015***	-0.006**
11	I have been able to contact staff when I needed to.	0.005**	-0.010***	-0.003*
12	Good advice was available when I needed to make study choices.	0.002	-0.006	-0.003
13	The timetable works efficiently as far as my activities are concerned.	0.002	-0.004	-0.002
14	Any changes in the course or teaching have been communicated effectively.	0.003	-0.008	-0.003
15	The course is well organised and is running smoothly.	0.005	-0.011	-0.004*
16	The library resources and services are good enough for my needs.	0.004	-0.011**	-0.004*
17	I have been able to access general IT resources when I needed to.	0.003	-0.008*	-0.002
18	I have been able to access specialised equipment, facilities or rooms when I needed to.	0.004*	-0.011**	-0.006**
19	The course has helped me present myself with confidence.	0.005	-0.011	-0.004*
20	My communication skills have improved.	0.004	-0.009	-0.005**
21	As a result of the course, I feel confident in tackling unfamiliar problems.	0.001	-0.005	-0.006*

Robust standard errors in parentheses, clustered on the institution-subject-degree level; *** $p<0.01$, ** $p<0.05$, * $p<0.1$. All regressions also include year dummies that are not reported. Total number of observations is about 20411.

Annex E: Analysis of the Community Life Survey

The Community Life Survey[4] has been conducted annually since 2012 to "look at the latest trends in areas such as volunteering, charitable giving, local action and networks and well-being". It asks a wide variety of questions including how people feel about their local area and the facilities available in it.

It also provides some classifications into types of areas, two of which we use here as they indicate communities with relatively large numbers of students. The first, the output area group classification, has two categories 'Students around campus' and 'Inner City Students'. The second, the Acorn group contains a category 'Student Life'. While these are related they are not exactly the same. Most of these students will be domestic students so any results are likely to be about the impact of students in general and not international students in particular. There is no way to tell nor particular reason to believe that the impact of international students will be different from domestic students.

In what follows we see whether there are differences between student and non-student neighbourhoods in various outcomes for non-students. The outcomes we consider are whether people feel they belong to their local neighbourhood, whether they feel they belong to Britain, whether they are satisfied with their local area and whether they trust people in their local area (this being a commonly used measure of social capital).

The estimates reported in the first column of Table 1 are the coefficient on being in a student neighbourhood for different outcomes using the output area classification and Table 2 is the same but using the Acorn group classification. All of the coefficients are significantly negative suggesting that non-students in student neighbourhoods are less likely to feel they belong, to be satisfied with the area and to trust others.

This cannot be interpreted as the students causing these outcomes. The non-student population is likely to have a different demographic profile in student and non-student areas. So, the second column adds controls for personal characteristics (age, gender, education, ethnicity and a quadratic in how long the respondent has lived in the area). The estimated coefficients, while still negative, are reduced in magnitude.

Student areas may also differ in aspects other than the presence of students. The third columns adds controls for the different domains used in the construction of the multiple deprivation indices and the ethnic mix of the area. This further reduces the estimated negative effects of being in a student neighbourhood. Finally, the fourth column adds controls for region. In this specification most of the estimated effects of being in a student area are insignificantly different from zero. The only ones that are not are whether the person feels they belong to the neighbourhood for the output area

---

[4] https://www.gov.uk/government/collections/community-life-survey

classification and also whether they feel they belong to Britain. The latter result might make one cautious about over-interpreting this: these are correlations not causation and it seems somewhat implausible that the sense of belonging to Britain could be strongly influenced by living in a student area. Perhaps people who are less likely to feel they belong to their local area or Britain are more likely to live in student areas.

Table E.1: The impact of living in a student neighbourhood on non-students (Output area classification)					
	(1)	(2)	(3)	(4)	Number of observations
Belong	-0.163*** [0.037]	-0.102*** [0.036]	-0.127*** [0.038]	-0.132*** [0.038]	9011
Belong to GB	-0.126*** [0.027]	-0.096*** [0.027]	-0.089*** [0.028]	-0.090*** [0.028]	8999
Locsat	-0.037 [0.073]	-0.013 [0.072]	-0.056 [0.072]	-0.067 [0.073]	9019
Trust	-0.039 [0.034]	-0.012 [0.033]	-0.019 [0.034]	-0.025 [0.034]	8718

Table E.2: The impact of living in a student neighbourhood on non-students (Acorn classification)					
	(1)	(2)	(3)	(4)	Number of observations
Belong	-0.135*** [0.036]	-0.064* [0.035]	-0.040 [0.036]	-0.045 [0.036]	8973
Belong to GB	-0.107*** [0.026]	-0.074*** [0.026]	-0.050* [0.026]	-0.052* [0.026]	8961
Locsat	-0.184*** [0.070]	-0.129* [0.070]	0.002 [0.068]	0.004 [0.068]	8981
Trust	-0.079** [0.033]	-0.030 [0.032]	0.026 [0.032]	0.024 [0.032]	8680

Standard errors in brackets
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Amenities in Student and Non-Student Areas

The presence or absence of students in an area may also be associated with the presence or absence of various amenities that affect life in the community. We estimate regressions for the presence of various assets on whether the area is a student neighbourhood, controlling for all the variables in the 4th column of Tables E.1 and E.2. The results are in Table E.3. All the provisos to the earlier results apply here:

these are correlations and should be interpreted with caution. But students' areas are, other things equal, significantly more likely to have shops, health and sports facilities, though less likely to have schools (unsurprising given students are unlikely to have children). The results here suggest, if anything, a positive impact of students on local amenities.

Variables	Output Area Classification		Acorn Group Classification	
Shop	0.055***	[0.019]	0.056***	[0.018]
Pub	0.033	[0.026]	0.029	[0.024]
Park	-0.010	[0.026]	0.006	[0.024]
Library	0.170***	[0.038]	0.143***	[0.036]
Community centre	-0.009	[0.038]	-0.001	[0.036]
Sports centre	0.147***	[0.041]	0.039	[0.038]
Youth club	0.058	[0.038]	-0.017	[0.036]
Health centre/GP	0.135***	[0.032]	0.118***	[0.031]
Chemist	0.128***	[0.028]	0.093***	[0.027]
Post office	0.127***	[0.030]	0.110***	[0.028]
Primary School	-0.081***	[0.026]	-0.077***	[0.024]
Secondary School	-0.032	[0.039]	-0.057	[0.037]
Place of worship	0.008	[0.028]	0.040	[0.026]
Public Transport	0.046**	[0.020]	0.013	[0.019]

Table E.3:Comparing Amenities in student and non-student neighbourhoods

The estimated coefficients are the differences between the fraction of student and non-student neighbourhoods reporting the amenity. For example, the 0.055 coefficient on having a shop says that student neighbourhoods are 5.5 percentage points more likely to have a shop.
Standard errors in brackets
*** p<0.01, ** p<0.05, * p<0.1

Annex F: Subjects of Tier 4 to Tier 2 switchers

Table F.1 sets out the key phrases we searched for in the listed subject to get some idea of the subjects studied, as discussed in Chapter 7.

Table F.1: Free text search terms and total number of Tier 4 to Tier 2 switchers in each category			
Category A- "STEM"	**Category B – "Business"**	**Category C – "Other"**	**Category D**
veter	busi	langu	Undertook a course which did not include one of the previous terms
pharm	econom	history	
stem	account	philosop	
robot	finan	sociol	
medicin	manag	media	
physic	market	psychol	
chemi		english	
nurs		pgce	
dentis		music	
electron		law	
biolog		environ	
biomed		fashion	
aerosp		sport	
energy		touris	
clinic		creativ	
physio			
tech			
scien			
engine			
comput			
softw			
math			
health			
statist			
6,550	**7,280**	**2,230**	**4,790**

Source: Home Office CoS admin data matched to CAS admin data, as at April 2018
Note: Some individuals will appear more than once, as course titles include search terms in more than one category e.g. courses containing "scien" and "environ" would appear in categories A and C.

Annex G: Analysis of international students from the Longitudinal Education Outcomes dataset

Using the time-series data published by the Department for Education on graduate outcomes of international students[5], we ran regressions to better understand the earnings of international students. The earnings are provided for the 25th, 50th and 75th percentiles. We could only control for those factors which were included within the dataset, as we do not have access to the underlying dataset with individual records: tax year (coefficients not reported); years and a quadratic in decades since graduation ("yrs" and yrs2"); control for gender ("female"); qualification level ("msc" and "phd"); and whether EU or non-EU ("EU"). In addition, "PSW" is a variable for the new post-study work regime after 2011/12.

The results of the analysis are presented in Table G.1.: Columns 1-3 are EU and non-EU combined; columns 4-6 are non-EU only; columns 7-9 are EU only.

The conclusions of the analysis are discussed in Chapter 7

---

[5] https://www.gov.uk/government/publications/graduate-outcomes-leo-international-outcomes-2006-to-2016

Table G.1: Results from regressions on earnings of international students

Dependent Variable	EU and non-EU combined			Non-EU only			EU only		
	1	2	3	4	5	6	7	8	9
	25th percentile of log earnings	50th percentile of log earnings	75th percentile of log earnings	25th percentile of log earnings	50th percentile of log earnings	75th percentile of log earnings	25th percentile of log earnings	50th percentile of log earnings	75th percentile of log earnings
yrs	1.222***	1.024***	1.106***	1.447***	1.121***	1.100***	0.996***	0.927***	1.113***
	[0.059]	[0.039]	[0.055]	[0.068]	[0.041]	[0.045]	[0.055]	[0.042]	[0.065]
yrs2	-0.761***	-0.505***	-0.480***	-0.955***	-0.580***	-0.511***	-0.568***	-0.429***	-0.450***
	[0.052]	[0.035]	[0.050]	[0.061]	[0.036]	[0.040]	[0.049]	[0.037]	[0.058]
female	-0.193***	-0.139***	-0.203***	-0.163***	-0.093***	-0.110***	-0.223***	-0.185***	-0.296***
	[0.007]	[0.005]	[0.007]	[0.008]	[0.005]	[0.006]	[0.007]	[0.005]	[0.008]
msc	0.111***	0.115***	0.124***	0.003	0.039***	0.018**	0.220***	0.191***	0.231***
	[0.009]	[0.006]	[0.008]	[0.010]	[0.006]	[0.007]	[0.008]	[0.006]	[0.010]
phd	0.468***	0.276***	0.136***	0.510***	0.280***	0.112***	0.427***	0.272***	0.160***
	[0.009]	[0.006]	[0.008]	[0.010]	[0.006]	[0.007]	[0.008]	[0.006]	[0.010]
EU	0.164***	0.072***	0.056***						
	[0.007]	[0.005]	[0.007]						
PSW	0.067***	0.025**	0.008	0.095***	0.051***	0.031**	0.038**	-0.002	-0.014
	[0.017]	[0.011]	[0.016]	[0.020]	[0.012]	[0.013]	[0.016]	[0.012]	[0.019]
Observations	792	792	792	396	396	396	396	396	396
R-squared	0.884	0.908	0.845	0.93	0.948	0.926	0.933	0.947	0.919

Standard errors in brackets

*** p<0.01, ** p<0.05, * p<0.1

Annex H: Taking students out of the net migration statistics

This tries to explain why, even if it was possible to take students out of the net migration figures it would make relatively little difference to the statistics. It is not intended as a model of how one might take them out of the net migration figures, but as an illustration of how hard it would be and how it would most likely make little difference.

Suppose the number of students who immigrate in year t is I_t. If students are taken out of the net migration statistics they would be removed from the immigration figures in the year of arrival. This would be relatively simple but the following adjustments would also be needed:

- Add to immigration figures when they change to a non-student status and remain in the UK
- Remove from emigration figures when they leave the UK.

Assume that s years after arrival a fraction $F_{t,s}$ move to non-student status and a fraction $G_{t,s}$ emigrate. This means that the immigration figures in year t need to be modified in the following way:

$$-I_t + \sum_{s=1} I_{t-s} F_{t-s,s}$$

And the emigration figures changed by:

$$-\sum_{s=1} I_{t-s} G_{t-s,s}$$

Estimates of $F_{t,s}$ and $G_{t,s}$ would be needed and this would be very difficult. They would likely depend on the year of arrival, the country of origin and the course of study. As an illustration we use the numbers in the following table loosely based on figures from the statistics on changes in migrants' visa and leave status[6]. This source only covers non-EEA students.

---

[6] https://www.gov.uk/government/statistics/statistics-on-changes-in-migrants-visa-and-leave-status-2015

Table H.1: Illustrative fractions of students moving into non-student visa category or with leave expiring

	Fraction moving into non-student category	Fraction with leave expiring
Year 1	5%	25%
Year 2	5%	25%
Year 3	0%	10%
Year 4	0%	10%
Year 5	0%	5%
Year 6	0%	5%
Year 7	0%	5%
Year 8	0%	5%

If we apply these probabilities to the IPS numbers for long-term immigration for study we can adjust the overall net migration statistics using the formulae above. The unadjusted and adjusted figures are shown in the following picture.

**Figure H.1: Adjusted and unadjusted net migration figures**
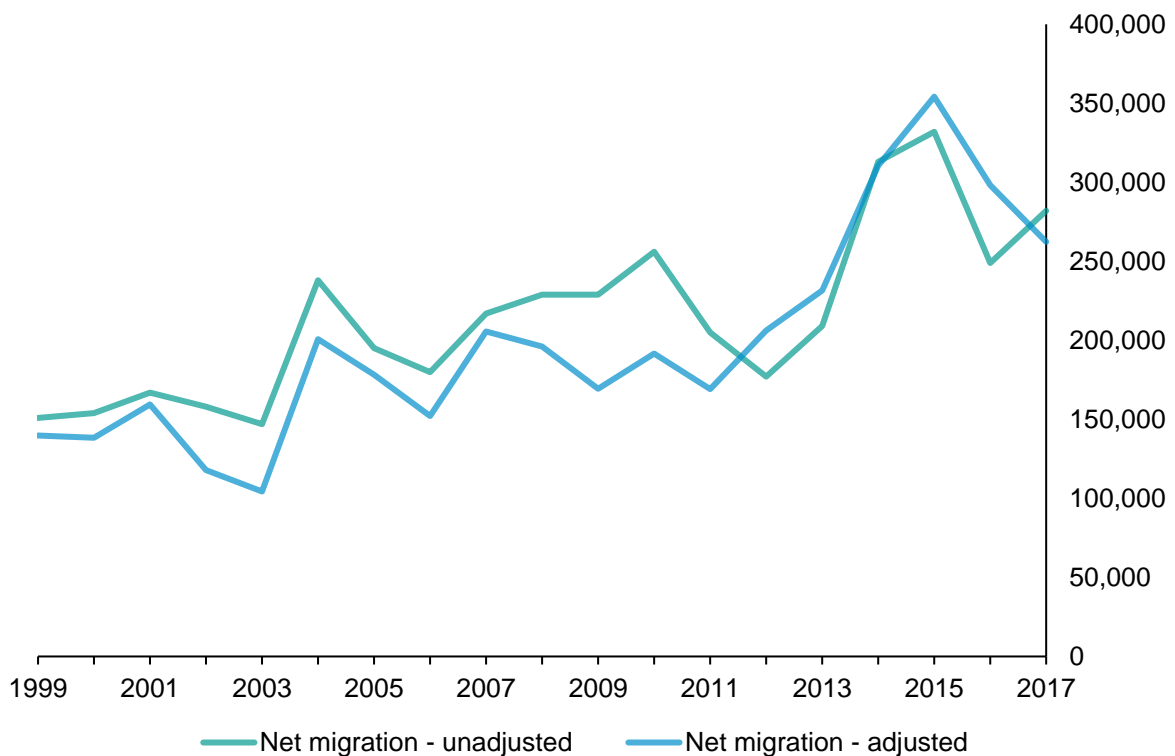
They are very similar because students either leave when they do not affect net migration or become something other than a student when they do. The timing of when they are counted as an immigrant/emigrant changes which accounts for the difference. Note that excluding students from the net migration figures reduces net migration on average but by a modest amount. This is because student growth means that in every

year there are more students arriving than leaving. There are some years when it is higher when they are excluded: these are typically years when student numbers fall.

To get some idea of the magnitude of the impact of growth in student numbers the following figure shows how, if student immigration was currently 200,000 but that past growth had been steady, how net migration varies with the growth rate. If there is no growth the unadjusted and adjusted measures of net migration would be the same. Growth of two per cent a year means the adjusted measure would be lower than the unadjusted measure in the current year by about 10,000. A higher growth rate leads to a larger difference between adjusted and unadjusted measures – if growth was 10 per cent a year the difference would 50,000.   That would be a very fast growth rate by historical standards – a growth rate of 3 per cent per annum is perhaps more realistic.

Figure H.2 Growth rate in international students and the difference between unadjusted and adjusted measures of net migration
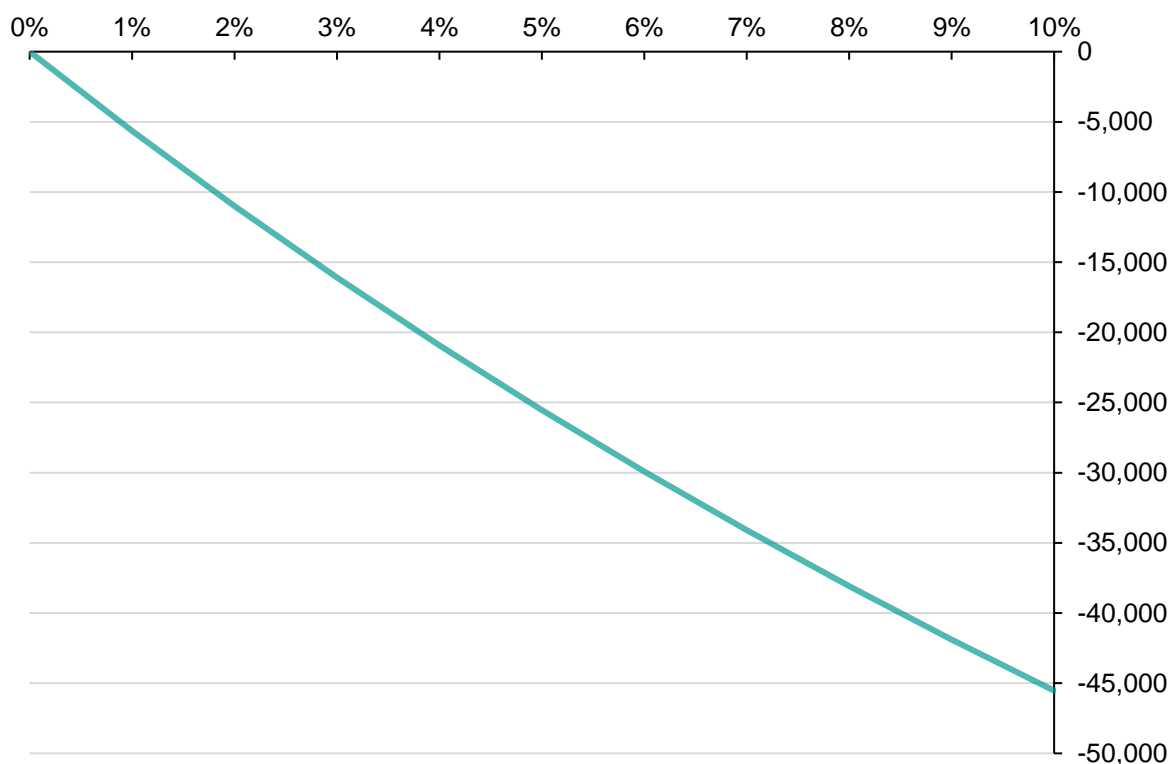
Nothing in this section should be read as a recommendation that anything like this is done. It is intended as an illustration of how difficult it would be to take students out of the net migration figures and how it would likely not make much difference.