CPC-ONS-UUK Survey of Graduating International Students 2017

Technical Report

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CPC CENTRE FOR POPULATION CHANGE

UNIVERSITY OF Southampton

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EXECUTIVE SUMMARY

The 2017 CPC-ONS-UUK Survey of Graduating International Students (SoGIS) is a collaborative effort between the ESRC Centre for Population Change (CPC) at the University of Southampton, the Office for National Statistics (ONS) and Universities UK (UUK). The 2017 SoGIS is an online survey that collects detailed information from international students in UK Higher Education in their final year of study.

The 2017 SoGIS provides valuable information about the post-study intentions of international students, the certainty of these intentions, their travel patterns, use of public services, and working patterns whilst studying of international students approaching course completion.

The survey sampled both undergraduate and postgraduate, EU and non-EU finalist students. The first wave of the survey collected 3,560 responses from 51 participating Higher Education Institutions. This report discusses the representativeness of the sample as well as providing a description of the data collection and the variables collected.

Highlight results include:

- Most international students intend to leave the UK when they finish studying; 33% of respondents in our survey said they plan to leave the UK immediately while a further 36% reported that they would leave the UK within 12 months. Only 15% indicated that they would like to stay in the UK for longer than a year and 16% intend to stay permanently.
- One in five international students (21%) plan to look for a job in the UK when they finish their current studies and just 6% have already secured a job in the UK. 15% of respondents planned to continue their studies in the UK, whilst 11% planned to leave the UK study further. One in five (19%) intended to look for jobs outside the UK after finishing their current course.
- For international students who planned to stay in the UK after their studies, London is the most desirable place to live.
- The majority of international students relied on self-funding (including help from family) to finance their studies in the UK.
- Almost half of the respondents had family or friends living in the UK before arriving.
- 72% of international finalist students were not working while they were studying; of the 28% who were working - the majority had either a part-time job or casual work.

The questionnaire and full details of the results for each question are presented in the Appendix.

SCOPE

3,560 international students in their final year of study

51 participating UK Higher Education Institutions (**13** Russell Group)

60.4% postgraduate students

29.8% undergraduate students (including foundation)

6.8% exchange students

3.0% other

3.5% part-time

96.5% full-time

55.9% female

33.5% male

(**10.6%** other or not stated)

26.4 average age

104 cities of residence across the UK

136+ nationalities

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1. INTRODUCTION

BACKGROUND

The 2017 CPC-ONS-UUK Survey of Graduating International Students (SoGIS) is a collaborative effort between the ESRC Centre for Population Change (CPC) at the University of Southampton, the Office for National Statistics (ONS) and Universities UK (UUK).

The 2017 SoGIS is an online survey that collects detailed information from international students in UK Higher Education in their final year of study.

International student migration, and in particular its impact on net migration, is an area that has received considerable attention and debate in recent years. The UK attracts large numbers of international students each year, second only to the US. Estimates from the International Passenger Survey (IPS) –the primary source of data on migration to and from the UK – show that the number of migrants moving to the UK for study purposes was 132,000 in the year ending December 2016. Over the same period, 63,000 former students were estimated to have emigrated from the UK, suggesting that (assuming immigration has remained steady) some 69,000 students remain in the UK after completing their studies. This gap has been fairly consistent since 2012, although more recently it has started to decline. There is a pressing need for reliable, more detailed data to shed light on what is behind this gap.

The 2017 SoGIS provides valuable information about the post-study intentions, certainty of these intentions, travel patterns, use of public services, and working patterns whilst studying of international students approaching course completion. The survey increases our understanding of students migratory and employment intentions after studying. It also helps us better understand how international students respond to questions on the IPS. By providing rich information on international students in the UK, the 2017 SoGIS improves our knowledge of student migration into and out of the UK and inform public and policy debate on international student migration.

ONS are planning to make SoGIS data available for wider use by researchers in due course. If you would like to receive information about how to access SoGIS data once it becomes available, please email your contact details to MigrationAnalysis@ons.gov.uk.

RESEARCH OBJECTIVES

The Survey of Graduating International Students aimed to:

- better understand what international students intend to do at the end of their studies and how sure they are of their post-study intentions;

- investigate how well the IPS identifies emigrant students and how students interpret the IPS migration questions. In particular, it seeks to test a number of hypotheses about why the IPS estimates for the number of students emigrating look low compared to the numbers we might expect to see if all international students emigrated after their studies;

- gather further data on international student travel patterns, engagement with public services and whether they work while studying;

- explore the potential for running a follow up survey 6-9 months after the initial research to assess whether students' post study intentions match their actual outcomes.

OUTLINE OF THIS REPORT

This report documents the technical details and key findings of the 2017 SoGIS.

Below sections in this report cover various aspects of the survey:

- Design and data collection
- Response rates
- Representativeness of survey respondents
- Summary of survey results

2. DESIGN AND DATA COLLECTION

SAMPLE

The target population for the Survey of Graduating International Students was all international (non-UK) students in UK Higher Education in their final year of study, including undergarduates, postgraduate taught (eg. MSc) and PhD students.

2.1.1. INSTITUTIONAL PARTICIPATION

All recognised Higher Education Institutions (HEIs) in the UK were eligible to participate in the SoGIS. Institutions took part on a voluntary basis. Universities UK was responsible for supporting the dissemination and promotion of the survey to institutions, in conjunction with CPC.

There were two main phases of institutional engagement. At the pre-survey stage, UUK made contact with institutions, explaining the purpose and importance of the survey and providing information about the survey including the target cohort of students. This raised awareness of the survey and its importance and enabled institutions to plan their own local survey dissemination in advance. Through this process, UUK formed a list of institutional gatekeepers that became the main contacts with which CPC engaged. To make it as easy as possible for participating institutions, CPC sent contacts suggested text for survey invitation emails, PowerPoint slides for use as advertisement, and suggested dates and text for reminder emails. After the survey had opened, UUK put an item in their CEO newsletter and Bulletin to announce the launch of the survey, as well as a reminder a fortnight later. In some instances Vice Chancellors and Principals at institutions were contacted directly by the CPC Director to maximise institutional response rate.

Phase	Activity
Pre-launch campaign	*UUK:* • CEO newsletter/direct email to all UUK members • Email sent to International Policy Network — a network of 33 Vice Chancellors focusing on international issues • Email sent to JISCMAIL lists • Email sent to international directors • Email sent to sector bodies[1] • Item placed in UUK Bulletin • CEO's update to UUK all members meeting *CPC:* • Director's direct email to Vice Chancellors and Principals at selected institutions • Suggested text for survey invitation emails sent to university contacts • A PowerPoint slide that could be used to promote student participation sent to university contacts
After-launch campaign	*UUK:* • Item placed in CEO newsletter and UUK Bulletin • Reminder placed in CEO newsletter *CPC:* • Suggested dates and text for reminder emails sent to university contacts

Table 1: SoGIS Dissemination.

A total of 51 HE institutions chose to participate in the SoGIS, including 13 members of the Russell Group and 20 post-1992 universities. In terms of geographic coverage, the resulting sampled HEIs were distributed across England, Wales, Scotland and Northern Ireland.

Country of the UK	N	%
England	38	74.5
Wales, Scotland and Northern Ireland	13	25.5

Table 2: Participating HEIs by Country of the UK.

[1] These bodies include AHUA, ARC, BUILA, GuildHE, Million+, NUS, Russell Group, University Alliance.

2.1.2. STUDENT PARTICIPATION

All students in HE institutions participating in the SoGIS were considered in-scope for the survey if they were:

- enrolled in an undergraduate or postgraduate course, or writing up theses;[2]
  AND
- expected to graduate in the 2016/17 academic year;
  AND
- living in the UK, but had their permanent home ("domicile")[3] outside the UK.

This definition of international finalist student was communicated to participating institutions which used it to identify the eligible sample. Students contacted by the institution were able to choose whether or not to participate in the SoGIS during the survey administration period.

Out of the 51 participating HEIs, 32 communicated to us the number of target students at their institutions. Therefore we do not have the full sample frame for every institution and as a result, calculating the response rate for the SoGIS is not straightforward and required further data. Analysis of survey responses is detailed in Section 3.

DATA COLLECTION INSTRUMENT

The 2017 SoGIS was conducted via an online survey designed using *Limesurvey* – a fully-customisable open-source online survey system. The 10-minute questionnaire was developed by CPC and ONS, and incorporated the feedback obtained during the piloting phase which was conducted on a subset of students at the University of Southampton (see section 2.3 for more information).

[2] Both full-time and part-time students were targeted.
[3] The definition of an international student, which is based on the domicile, is consistent with that used by the Higher Education Statistics Agency (HESA): https://www.hesa.ac.uk/collection/c15051/a/domicile.

2.1.3. QUESTIONNAIRE

The 2017 SoGIS questionnaire (see Appendix A) was designed to collect more detailed information about international finalist students in the UK. There are five main modules:

- Study
- Employment
- Travel and Holidays
- Health Care and Services
- Background Information

In addition to demographic and background information the key areas of interest are:

- Date of first arrival in the UK, when their current course first started and when they plan to leave;
- What students were doing before their studies in the UK, and whether they were domiciled in the UK, or came directly from their home countries;
- Actual travel patterns during studies (e.g. how often they returned home at Christmas/Easter/summer vacation);
- Plans after completing their studies, including where they will live if they plan to stay in UK;
- How they responded to IPS questions on length of stay if they have been out of the UK for short periods of time or had previously studied or worked in the UK;
- Consent to a follow up survey to see how their original responses match what they are actually doing.

The online fieldwork began on 13 March 2017 and lasted until 30 April 2017. A copy of the codebook can be found in Appendix B.

2.1.4. ONLINE SURVEY

The online survey was accessed by clicking on a URL link in the institutional email invitations or email reminders sent out to students, which provided them with information about the survey, the prize draw and an access code for the survey URL link. Students were allowed to withdraw from the survey at any time by clicking the "exit and clear survey" button without their answers being recorded. The survey received ethical approval from the University of Southampton and was reviewed by the Social Sciences Research Ethics Committee (SSREC). The SSREC protocol number associated with this survey is 24947.

Respondents, conditional on completing the survey, were able to enter a prize draw to win a £30 gift voucher. In total 66 students won the prize draw, with at least one individual from each institution receiving a voucher.

PILOTING

The aim of piloting the questionnaire was to assess the clarity and suitability of the proposed question and answer options, check the flow of questions and test the length of online interview. We asked respondents in the pilot study the following feedback questions: a) “Was the survey too long to complete?”; b) “Where any questions unclear to you? If so which one(s)?”; c) “Were you comfortable with replying to all questions? If not, what information you were not happy providing?”

A random sample of 40 students was drawn from all international final year students at the University of Southampton, covering a wide variety of different disciplines and programmes of study. Students in the pilot sample were recruited into the study using invitation emails from CPC which included information about the importance of the study, how the data collected would be used to shape the final data collection tool and access to the survey. The first invitation email was sent on 23 February 2017 and a reminder was sent on 28 February 2017. Of 40 international students contacted, 7 fully completed the pilot survey. The average completion time was 11 min. 27 sec. Feedback from the students reassured us that the questions asked were appropriate and accurately capturing the information we set out to collect. Students in the pilot commented that they generally felt comfortable providing the information that was included in the final questionnaire.

3. RESPONSE RATES

The survey collected a total of 3,560 responses. Calculation of the effective response rate is complicated as we do not have complete information on the number of sampled students at participating institutions; hence it is not possible to establish the exact size of the target sample.

In order to calculate an approximation of the response rate, we used a three-step statistical approach to reconstruct the 2016/17 cohort of international finalist students based on "incomplete" information from participating institutions and previous years' data on international students publicly available on the HESA website. A technical note of this approach is attached in Appendix C. This allowed us to make an estimate of the overall response rate as 3.5%.

In Tables 3 and 4, we also break down the response rates by nationality (EU or non-EU) and by enrolled programme of study (UG or PG).

	Number of Responses	Number of sampled students*	Response rates
EU nationals	995	22,518	4.42%
Non-EU nationals	2,472	78,531	3.15%

Table 3: Response Rates by EU/non-EU Nationality.

Notes: *Numbers in this column are predicted numbers obtained from a three step forecasting approach. See Appendix C for details.

	Number of Responses	Number of sampled students*	Response rates
Undergraduates	1,054	55,060	1.91%
Postgraduates	2,137	45,989	4.65%

Table 4: Response Rates by Programme of Study.

Notes: *Numbers in this column are predicted numbers obtained from a three step forecasting approach. See Appendix C for details.

4. REPRESENTATIVENESS OF SURVEY RESPONDENTS

To assess the representativeness of the SoGIS, we compare the characteristics of survey respondents with those of all final year international students in the UK. As Table 5 shows, shares of EU and non-EU nationals in our study are fairly similar to those in the population. On the other hand, the survey appears to oversample postgraduate students (who have a share of about 67% in the survey and of 45.5% in the population). When looking at the breakdown by (top 7) countries of origin, we note that some countries are somewhat under-represented in our survey (e.g. China), while others are over-represented (US).

EU Nationals		Non-EU Nationals	
Survey respondents	UK international finalists*	**Survey respondents**	UK international finalists*
28.70%	22.28%	**71.30%**	77.72%

Table 5: Comparison of survey respondents with target population by nationality (EU/non-EU).

Notes: *The size of the 2016/17 cohort of international finalist students is derived using a three step forecasting approach. See Appendix C for details.

Undergraduates		Postgraduates	
Survey respondents	UK international finalists*	**Survey respondents**	UK international finalists*
33.03%	54.49%	**66.97%**	45.51%

Table 6 Comparison of survey respondents with target population by Programme of Study

Notes: *The size of the 2016/17 cohort of international finalist students is derived using a three step forecasting approach. See Appendix C for details.

Country	No. of survey respondents	No. of UK international finalists*	Survey respondents	UK international finalists*
China (mainland)	525	53,055	14.91%	26.59%
United States	269	7,320	7.64%	3.67%
Malaysia	182	7,290	5.17%	3.65%
Germany	151	6,110	4.29%	3.06%
Nigeria	129	8,455	3.66%	4.24%
France	126	5,010	3.58%	2.51%
India	119	9,120	3.38%	4.57%

Table 7: Comparison of survey respondents with target population by Country of Origin (Top 7 Countries in Our Sample).

Notes: *These numbers refer to the 2015/16 cohort of international finalist students from each country available from the HESA.

To further document the representativeness of our data, we compared the patterns and trends in international students' enrolment for all UK institutions to those of our participating Higher Education Institutions (HEIs). As the figure 1 and 2 show, the patterns are very similar, further reassuring us about the representativeness of participating HEIs.

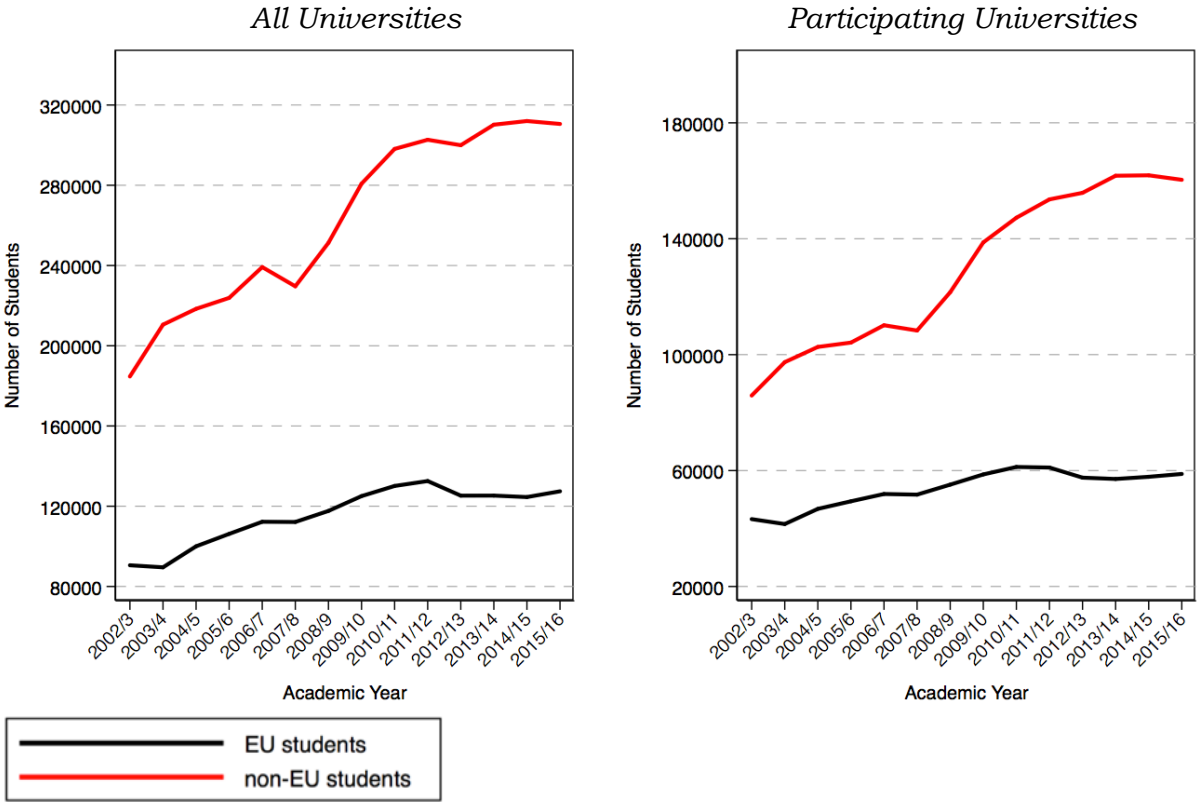


Figure 1: International Students in UK HEIs by EU and non-EU nationality, 2002/03-2015/16.

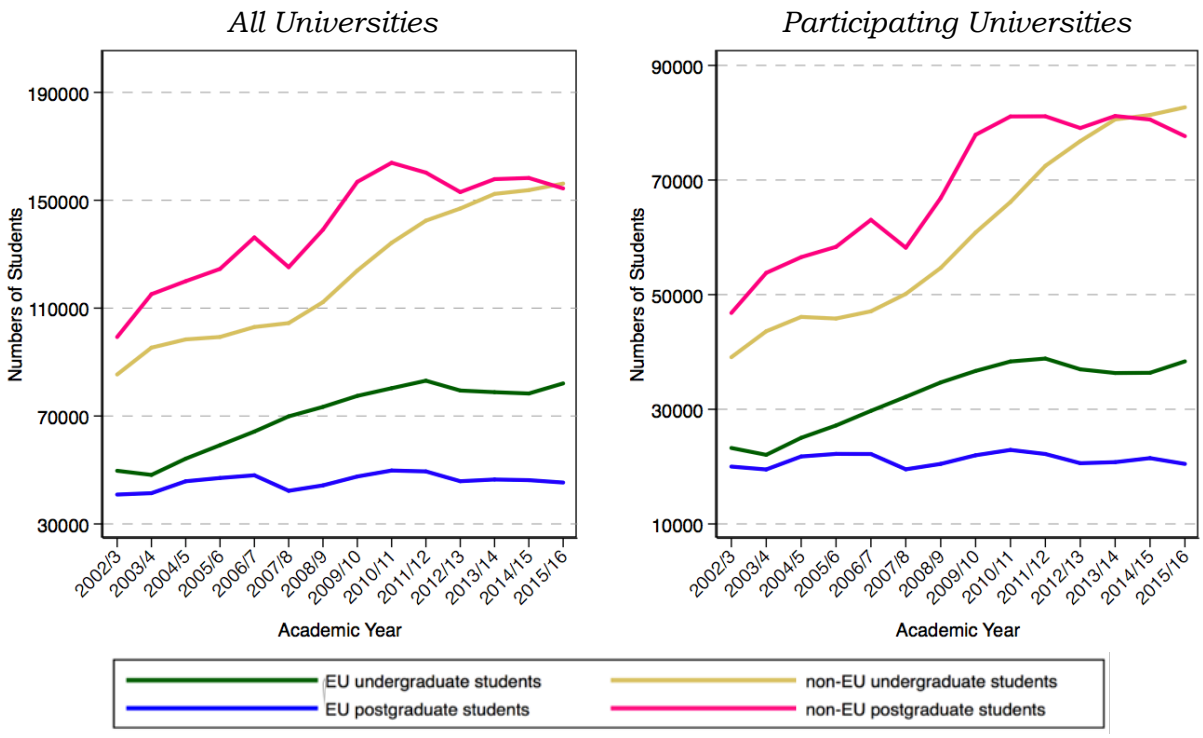


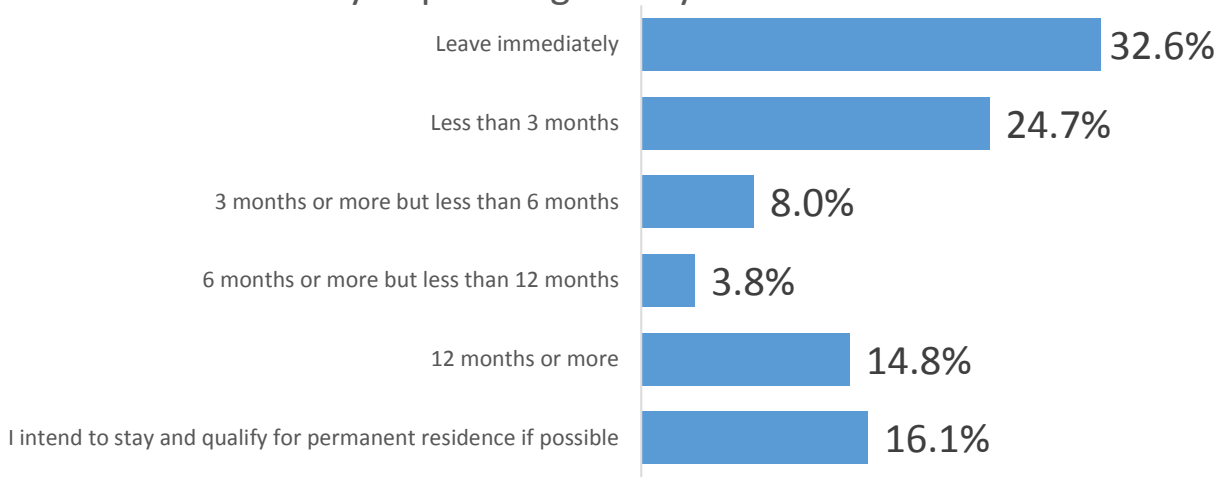
Figure 2: International Students in UK HEIs by EU and non-EU and by UG and PG, 2002/03-2015/16.

5. SUMMARY OF SURVEY RESULTS

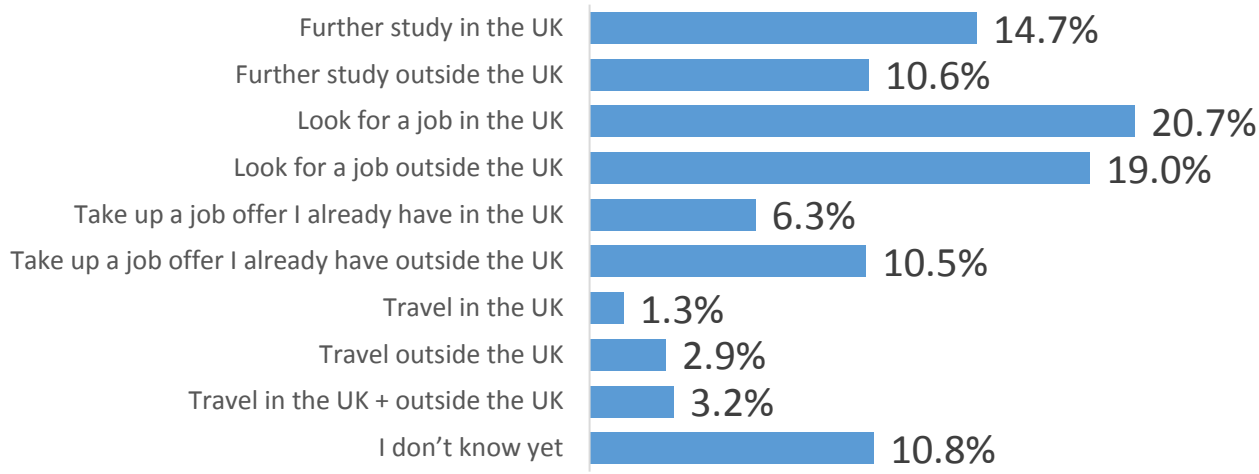
Key findings of the 2017 SoGIS include:

- Most international students intend to leave the UK when they finish studying; 33% of respondents in our survey said they plan to leave the UK immediately while a further 36% reported that they would leave the UK within 12 months. Only 15% indicated that they would like to stay in the UK for longer than a year and 16% intend to stay permanently.
- One in five international students (21%) plan to look for a job in the UK when they finish their current studies and just 6% have already secured a job in the UK. 15% of respondents planned to continue their studies in the UK, whilst 11% planned to leave the UK study further. One in five (19%) intended to look for jobs outside the UK after finishing their current course.
- Slightly more than half of students felt sure of their intended length of stay in the UK.
- Of the respondents who said they would stay in the UK for less than 12 months, almost half (49%) said it was unlikely that they would return to the UK, 30% said it was likely that they would return to the UK within a year and 21% felt unsure if they would return.
- For international students who planned to stay in the UK after their studies, London is the most desirable place to live.
- Many international finalist students had travelled out of the UK during the previous holiday periods, especially during Christmas.
- The majority of international students relied on self-funding (including help from family) to finance their studies in the UK.
- 72% of international finalist students were not working while they were studying; of the 28% who were working - the majority had either a part-time job or casual work.
- Almost half of the respondents had family or friends living in the UK before arriving.
- The majority of students report their general health as very good (40%) or good (41%). Less than 2% report bad or very bad health.
- 43% of international students reported having had a GP consultation during the last 12 months. Just 8% had visited A&E.
- Just under a quarter of final year international students lived in University accommodation (24%, one in eight lived in private student halls (12%) and around half lived in private rented accommodation (48%).

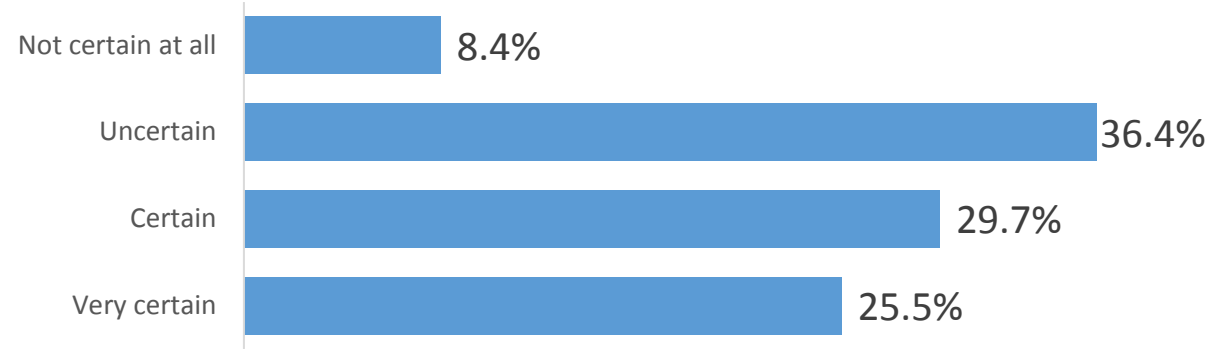
After finishing your current course of study, how long are you planning to stay in the UK?



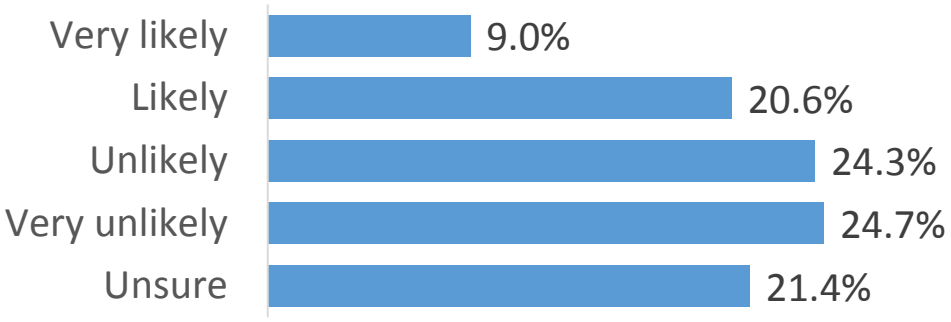
After finishing your current course of study, what are you planning to do?



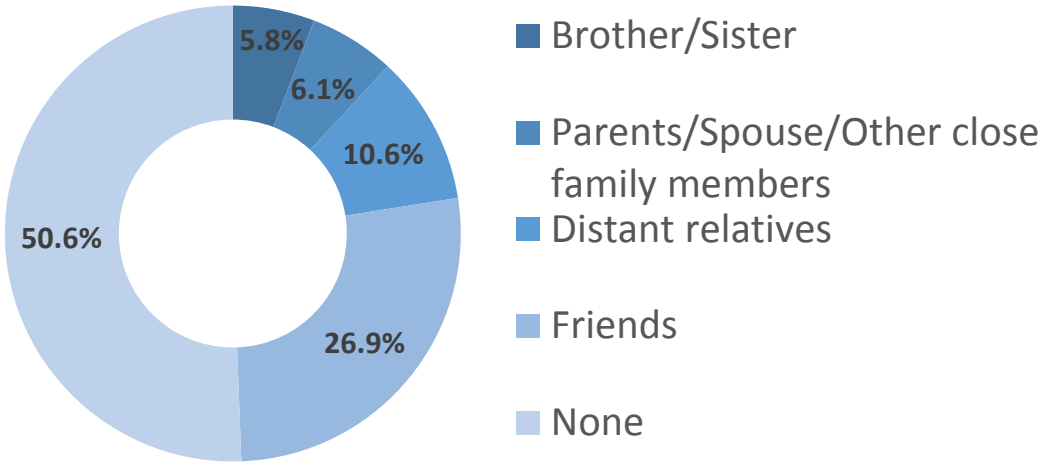
How certain are you about how long you are staying in the UK?



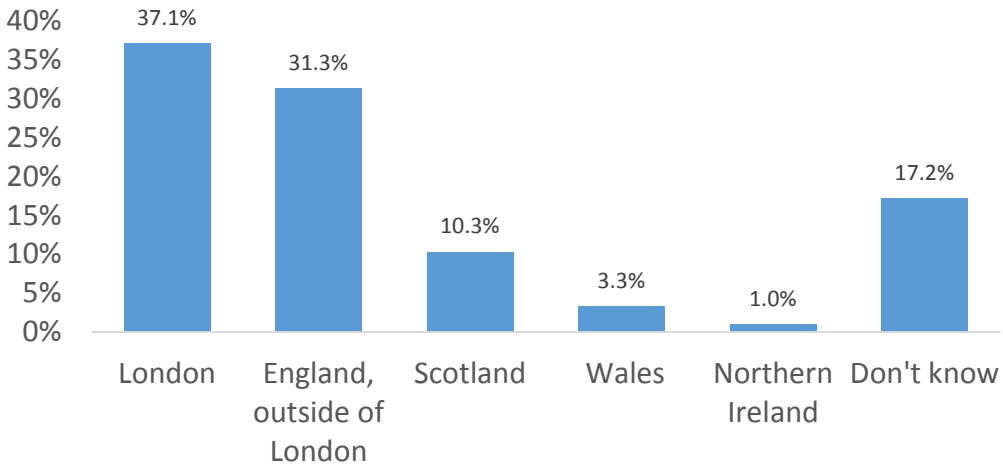
How likely are you to return within 12 months to live, work or undertake further study in the UK?



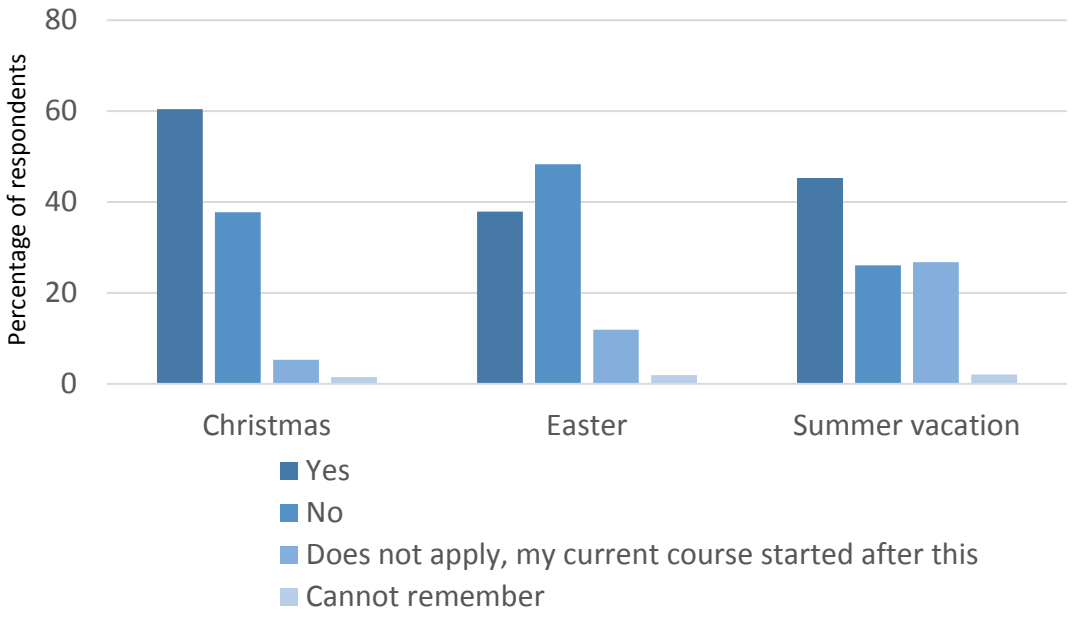
Did you have any family or friends in the UK before arriving?



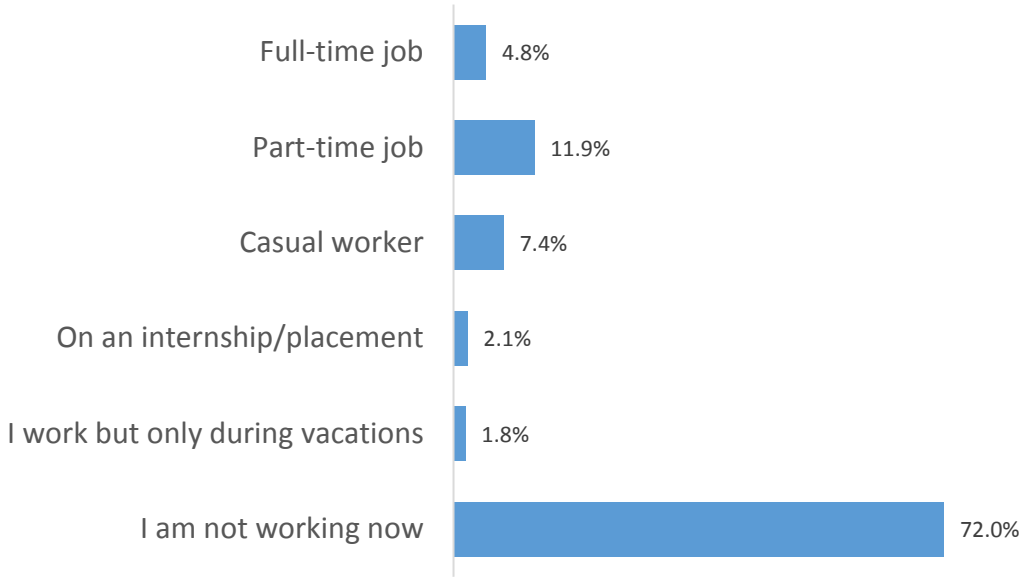
In which part of the UK are you planning to live?



Have you travelled out of the UK during the previous holiday?



Are you currently working alongside your studies?



APPENDIX A

CPC-ONS-UUK Survey of Graduating International Students 2017

Online Questionnaire

This survey is administered to non-UK students in their final year of their current course of study.

March 2017

SECTION A STUDY

[q1] What is the name of the university/college/institution at which you are studying in the UK? (Choose from a dropdown list)

(variable not publicly available)

Applies to all

[q2] What is the subject you are studying in {University Name in [q1]}? (Choose from a dropdown list of all main subjects with JACS code: principal subject (2 digit))

Example: Economics (L1)

Applies to all

[q3] What is the course you are studying in {University Name in [q1]}? (Choose from a dropdown list of all specific courses with JACS code: detailed subject (4 digit))

Example: Applied economics (L110)

Applies if the main subject respondents selected in q2 has detailed courses under its category

[q4] Which of the following best describes your degree/programme of study?

1. Postgraduate research degree (e.g. PhD, DPhil, MPhil)
2. Postgraduate taught degree (e.g. MSc, MA, MBA)
3. Postgraduate diploma or certificate (e.g. PGCE)
4. Undergraduate or foundation degree (e.g. BSc, BA)
5. Other diploma or certificate
6. Exchange programme, 1 term
7. Exchange programme, 1 year
8. Exchange programme, more than 1 year
9. Other, please specify: ____ **[q4_other]**

Applies to all

[q4_1] Are you studying...

1. Full-time
2. Part-time

Applies to all

[q5] Which of the following best describes your expected grade/degree classification?

1. First class honours (1st)
2. Upper second class honours (2:1)
3. Lower second class honours (2:2)
4. Third class honours (3rd)
5. Distinction
6. Merit or credit
7. Pass
8. Fail
9. None of the above applies
10. Don't know
11. Prefer not to say

Applies to all

[q6] When did you arrive for the first time in the UK? (Choose from electronic calendar: MM/YYYY)

Applies to all

[q7] Was this for:

1. Studying – school
2. Studying – pre-sessional course/foundation course
3. Studying – further education (college/institute)
4. Studying – language course
5. Studying – higher education (university)
6. Business/Work
7. Join family
8. Other

Applies to all

[q8] When did you start this current course of study? (Choose from electronic calendar: MM/YYYY)

Applies to all

[q9] How long have you been living in the UK? ____ [q9_1] Years ____ [q9_2] Months

**Note that this excludes short visits away from the UK.*

Applies to all

[q10] What is your main nationality? (Choose from a dropdown list)

(variable not publicly available)

Applies to all

[q11] What type of UK visa do you hold?

1. Study (e.g. Tier4 - Student, Doctoral Extension Scheme)
2. Work (e.g. Tier1, Tier 2, Tier5)
3. Family (e.g. marriage, dependent)
4. Visitor (e.g. business, tourist)
5. I do not need visa to enter the UK
6. Other, please specify: ____ **[q11_other]**

Applies to all

The next few questions are about what you did before coming to the UK to study.

[q12] What were you doing before your current course of study?

1. Studying in the UK
2. Studying outside the UK
3. Working in the UK
4. Working outside the UK
5. Looking for a job in the UK
6. Looking for a job outside the UK
7. None of the above

Applies to all

[q13] How many times have you ever visited the UK before coming to study on your current course of study? ____ Times

**Please indicate "0" if none and → go to q15*

Applies to all

Note: Answers to this question are recoded into q13_dv

[q14] When did you most recently visit the UK before coming to study on the current course of study? (Choose from electronic calendar: MM/YYYY)

Applies if respondents have visited the UK before coming to study on their current course of study: IF q13 > 0

[q15] Did you have any family or friends in the UK before arriving?

1. Brother/Sister
2. Parents/Spouse/Other close family members
3. Distant relatives
4. Friends
5. None

Applies to all

The next few questions are about what you intend to do after finishing your studies in the UK.

[q16] After finishing your current course of study, how long are you planning to stay in the UK?

1. Leave immediately
2. Less than 3 months
3. 3 months or more but less than 6 months
4. 6 months or more but less than 12 months
5. 12 months or more
6. I intend to stay and qualify for permanent residence if possible

Applies to all

[q17] How certain are you about how long you are staying in the UK?

1. Not certain at all
2. Uncertain
3. Neither certain nor uncertain
4. Certain
5. Very certain

Applies to all

[q18] How likely are you to return within 12 months to live, work or undertake further study in the UK?

1. Very likely
2. Likely
3. Unlikely
4. Very unlikely
5. Unsure

Applies to respondents who plan to stay in the UK for less than 12 months after finishing their current course of study: IF q16 = 1 OR 2 OR 3 OR 4

[q19] After finishing your current course of study, what are you planning to do?

1. Further study in the UK
2. Further study outside the UK → go to q21
3. Look for a job in the UK
4. Look for a job outside the UK → go to q21
5. Take up a job offer I already have in the UK
6. Take up a job offer I already have outside the UK → go to q21
7. Travel in the UK
8. Travel outside the UK → go to q21
9. Travel in the UK + outside the UK
10. I don't know yet → go to q21

Applies to all

[q20] In which part of the UK are you planning to live?

1. London
2. England, outside of London
3. Wales
4. Scotland
5. Northern Ireland
6. Don't know

Applies to respondents who will not immediately leave the UK and plan to study/work/travel in the UK after finishing their current course of study: IF (q16 = 2, 3, 4, 5 or 6) AND (q19 = 1, 3, 5, 7 or 9)

SECTION B TRAVEL AND HOLIDAY

[q21_sq001] Have you travelled out of the UK during the previous Christmas holiday?

1. Yes → go to q21_sq001_1 and q21_sq001_2
2. No → go to q21_sq002
3. Does not apply, my current course started after this → go to q21_sq002
4. Cannot remember → go to q21_sq002

Applies to all

[q21_sq001_1] Please specify the name(s) of country(ies)

[q21_sq001_2] How long did you spend overseas on this trip? ____ Nights

Applies if respondents have travelled out of the UK during the previous Christmas holiday: IF q21_sq001 = 1

Note: Answers to q21_sq001_1 are recoded into q21_sq001_country (1-8) and answers to q21_sq001_2 are recoded into q21_sq001_length

[q21_sq002] Have you travelled out of the UK during the previous Easter holiday?

1. Yes → go to q21_sq002_1 and q21_sq002_2
2. No → go to q21_sq003
3. Does not apply, my current course started after this → go to q21_sq003
4. Cannot remember → go to q21_sq003

Applies to all

[q21_sq002_1] Please specify the name(s) of country(ies)

[q21_sq002_2] How long did you spend overseas on this trip? ____ Nights

Applies if respondents have travelled out of the UK during the previous Easter holiday: IF q21_sq002 = 1

Note: Answers to q21_sq002_1 are recoded into q21_sq002_country (1-10) and answers to q21_sq002_2 are recoded into q21_sq002_length

[q21_sq003] Have you travelled out of the UK during the previous summer vacation?

1. Yes → go to q21_sq003_1 and q21_sq003_2
2. No → go to q22
3. Does not apply, my current course started after this → go to q22
4. Cannot remember → go to q22

Applies to all

[q21_sq003_1] Please specify the name(s) of country(ies)

[q21_sq003_2] How long did you spend overseas on this trip? ____ Nights

Applies if respondents have travelled out of the UK during the previous summer vacation: IF q21_sq003 = 1

Note: Answers to q21_sq003_1 are recoded into q21_sq003_country (1-12) and answers to q21_sq003_2 are recoded into q21_sq003_length

SECTION C EMPLOYMENT

[q22] Are you currently working alongside your studies?

1. Full-time job
2. Part-time job
3. Casual worker (i.e. flexible hours)
4. On an internship/placement
5. I work but only during vacations
6. I am not working now → go to q28

Applies to all

[q23] What is your current job? (Choose from a dropdown list of Standard Occupational Classification (SOC))

Applies if respondents are currently working: IF q22 = 1 OR 2 OR 3 OR 4 OR 5

[q24] How long have you had your current job?

1. Less than 3 months
2. 3 months or more but less than 6 months
3. 6 months or more but less than 12 months
4. 12 months or more

Applies if respondents are currently working: IF q22 = 1 OR 2 OR 3 OR 4 OR 5

[q25] On average, how many hours do you work per week? ____ Hours

Applies if respondents are currently working: IF q22 = 1 OR 2 OR 3 OR 4 OR 5

[q26] On average, what is your <u>monthly</u> income from jobs, including salary, tips, and other sources?

1. Less than £100
2. £100-£499
3. £500-£999
4. £1000- £1499
5. £1500-£1999
6. £2000 or more
-

Applies if respondents are currently working: IF q22 = 1 OR 2 OR 3 OR 4 OR 5

[q27] How did you find your current job?

1. My university/college/institut**ion (e.g. Careers Service, noticeboard)**
2. **Media (e.g. advertisement in** newspapers/magazine)
3. Social networking sites (e.g. Facebook, LinkedIn)
4. Personal contacts (e.g. relatives, friends, acquaintances)
5. Job centre
6. Private employment agency
7. I contacted my employer directly
8. My employer contacted me directly
9. Other
-

Applies if respondents are currently working: IF q22 = 1 OR 2 OR 3 OR 4 OR 5

SECTION D HEALTH CARE AND SERVICES

[q28] How is your health in general? Would you say it is…

1. Very good
2. Good
3. Fair
4. Bad
5. Very bad

Applies to all

The next few questions are about your use of health services while you have been studying in the UK.

[q29] In the last 12 months while you have been studying in the UK, which of the following NHS services have you used? (Multiple choices allowed)

1. GP consultations **[q29_1]**
2. Accident and Emergency (A&E) **[q29_2]**
3. Out-of-hours care **[q29_3]**
4. Maternity care **[q29_4]**
5. Contraception and sexual health services **[q29_5]**
6. Dental treatment within the NHS scheme **[q29_6]**
7. Eye tests, glasses or contact lenses **[q29_7]**
8. None of the above **[q29_8]**
9. Other, please specify: ____ **[q29_other]**

Applies to all

[q30] In the last 12 months while you have been studying in the UK, how many times have you talked to, or visited a GP? ____ Times

**Please indicate "0" if none. Note that this excludes consultations made on behalf of others.*

Applies to all

[q31] How much money, approximately, have you spent on health-related costs for the last 12 months, while you have been studying in the UK?
£ ___ **[q31_1]** total health care costs excluding private health insurance and £ ___ **[q31_2]** private health insurance.

**Please indicate "0" if none. If you don't remember the exact amount, please estimate.*

Applies to all

SECTION E BACKGROUND INFORMATION

[q32] What is your gender?

1. Male
2. Female
3. Other
4. Prefer not to say

Applies to all

[q33] What is your date of birth? (Choose from electronic calendar: DD/MM/YYYY)

Applies to all

[q34] What is your legal marital status?

1. What is your legal marital status?
2. Single, that is, never married or never in a legally recognised civil partnership
3. Married
4. In a registered civil partnership
5. Separated from spouse
6. Divorced
7. Widowed
8. Other

Applies to all

[q35] How many children do you have? ____

**Please enter "0" if you do not have any child.*

Applies to all

[q36] Where have you been living in the UK for the last 12 months?

(variables not publicly available)

City/town/village (e.g. Southampton) ____ **[q36_1]**

First part of the postcode (e.g. AB12)

[q36_2_1]	**[q36_2_2]**	**[q36_2_3]**	**[q36_2_4]**

**Please note that only the first part of the postcode, not the full postcode, is needed.*

Applies to all

[q37] What type of accommodation are you living in?

1. University accommodation (e.g. hall of residence)
2. Private Student Halls of residence (e.g. Unite, Urbanest)
3. Rented accommodation (e.g. house/flat/apartment)
4. Home stay (with a UK family)
5. My own home (e.g. property in my name or parent's/spouse's name)
6. Relative's/friend's place
7. Other

Applies to all

[q38] What were your main reasons for choosing the UK for study? (Multiple choices allowed)

1. International recognised qualification **[q38_1]**
2. Shorter duration of courses **[q38_2]**
3. University reputation **[q38_3]**
4. Language **[q38_4]**
5. Prospective job opportunities in the UK **[q38_5]**
6. Family or relationship reasons **[q38_6]**
7. Availability of scholarship/funding **[q38_7]**
8. Culture and life **[q38_8]**
9. Other reasons, please specify: ____ **[q38_other]**

Applies to all

[q39] What are the main sources of funding for your current course of study?
(Multiple choices allowed)

1. Alone **[q39_1]**
2. Self-funding (e.g. savings, part-time job income) **[q39_2]**
3. Provisions from parents/guardian/family/friends **[q39_3]**
4. Grant or award from home **[q39_4]**
5. Grant or award from UK universities/organisations (e.g. university bursary, studentship from UK Research Councils) **[q39_5]**
6. Grant or award from international organisations (e.g. United Nations) [**q39_6]**
7. Student loans **[q39_7]**
8. Other sources, please specify: ____ **[q39_other]**

Applies to all

SECTION F CLOSING SECTION

[q40] Do you agree for us to contact you again as part of a follow-up survey?

1. Yes
2. No → go to q42

Applies to all

[q41] Please enter your <u>personal</u> email address (other than the <u>university</u> email): (variables not publicly available)
E-mail address: _____ **[q41_1]**
Confirm e-mail address: _____ **[q41_2]**

[Soft Check: email is in a valid format and the two email addresses should match]

**Please note that:*

- *If you agree to be contacted for a follow-up, you can always decline the request when contacted.*
- *Your contact information will remain completely confidential and will be replaced by a code so that your real identity will not be linked with any of your survey answers.*
- *Participants who respond to future waves of the survey will be eligible to enter a prize draw for each survey.*

Applies to respondents who agree to be re-contacted: IF q40 = 1

[q42] Do you wish to participate in the draw to win Love2shop gift voucher?

1. I wish to participate in the draw
2. I do not wish to participate in the draw → go to "Submit"
-

Applies to all

[q43] Please provide your email address to enable us to contact you if you win.

1. Please use the email address I provided for the follow-up survey for the prize draw → go to "Submit"
2. I would like to provide another email address for the prize draw

Applies to respondents who wish to participate in the prize draw: IF q42 = 1

[q44] Please enter your email address: (variables not publicly available)
E-mail address: _____ **[q44_1]**
Confirm e-mail address: _____ **[q44_2]** → go to "Submit"

[Soft Check: email is in a valid format and the two email addresses should match]

Applies to respondents who wish to participate in the prize draw and would like to provide a new email address for the prize draw: IF (q42 = 1) AND (q43 = 2)

Submit

This is the end of the questionnaire.

APPENDIX B

CPC-ONS-UUK Survey of Graduating International Students 2017

CODEBOOK

June 2017

1. INTERVIEW INFORMATION

- **id (numeric variable): Respondent's ID**

Unique values:	3,560
Examples:	"2920" "228" "1639" "357"

- **resptype (numeric variable): Type of response**

	Freq.	%
1 Partial answers	560	15.73
2 Full answers	3,000	84.27
Total	3,560	100.00

- **ivmonth (numeric variable): Interview month**

	Freq.	%
3 March	1,447	40.65
4 April	2,113	59.35
Total	3,560	100.00

- **ivday (numeric variable): Interview day**

	Freq.	%
1	19	0.53
2	11	0.31
3	214	6.01
4	239	6.71
5	107	3.01
6	70	1.97
7	68	1.91
8	28	0.79
9	16	0.45
10	28	0.79
11	60	1.69
12	37	1.04
13	26	0.73
14	110	3.09
15	68	1.91
16	87	2.44
17	103	2.89
18	141	3.96
19	57	1.60

20	265	7.44
21	209	5.87
22	307	8.62
23	173	4.86
24	215	6.04
25	113	3.17
26	132	3.71
27	199	5.59
28	141	3.96
29	172	4.83
30	126	3.54
31	19	0.53
Total	3,560	100.00

- **ivtime (numeric variable): Length of interview in seconds**

Mean	Min	Max	Obs
737.50	11.58	51499.36	3,560

2. STUDY

- **q2 (string variable): Subject of study**

Unique values:	150
Missing:	49
Examples:	"(B) Social studies - Economics" "(6) Physical sciences - Chemistry" "(F) Languages - Chinese studies"

- **q3 (string variable): Course of study**

Unique values:	498
Missing:	101
N/A:	787
Examples:	"Applied economics" "Chemistry not elsewhere classified" "Chinese literature studies"

- **q4 (numeric variable): Degree/programme of study**

	Freq.	%
-9 (missing)	20	0.56
1 Postgraduate research degree (e.g. PhD, DPhil, MPhil)	360	10.11
2 Postgraduate taught degree (e.g. MSc, MA, MBA)	1,740	48.88
3 Postgraduate diploma or certificate (e.g. PGCE)	37	1.04
4 Undergraduate or foundation degree (e.g. BSc, BA)	1,054	29.61
5 Other diploma or certificate	10	0.28
6 Exchange programme, 1 term	106	2.98
7 Exchange programme, 1 year	126	3.54
8 Exchange programme, more than 1 year	10	0.28
9 Other	97	2.72
Total	3,560	100.00

- **q4_1 (numeric variable): Studying full or part time**

	Freq.	%
-9 (missing)	34	0.96
1 Full-time	3,401	95.53
2 Part-time	125	3.51
Total	3,560	100.00

- **q5_dv (numeric variable): Expected grade/degree**

	Freq.	%
-9 (missing)	20	0.56
1 First class honours (1st)	493	13.85
2 Upper second class honours (2:1)	927	26.04
3 Lower second class honours (2:2)	142	3.99
4 Third class honours (3rd)	10	0.28
5 Distinction	431	12.11
6 Merit or credit	529	14.86
7 Pass	286	8.03
8 None of the above applies	140	3.93
9 Don't know	481	13.51
10 Prefer not to say	101	2.84
Total	3,560	100.00

- **q6 (string variable): Time of first arrival in the UK [MM/YYYY]**

Unique values:	183
Missing:	82
Examples:	"11/2008" "07/2016" "09/2016" "09/2015"

- **q7 (numeric variable): Reason for first arrival in the UK**

	Freq.	%
-9 (missing)	49	1.38
1 Studying -- school	434	12.19
2 Studying -- pre-sessional course/foundation course	312	8.76
3 Studying – further education (college/institute)	103	2.89
4 Studying – language course	185	5.20
5 Studying – higher education (university)	2,165	60.81
6 Business/Work	82	2.30
7 Join family	57	1.60
8 Other	173	4.86
Total	3,560	100.00

- **q8 (string variable): Time when current course started [MM/YYYY]**

Unique values:	89
Missing:	61
Examples:	"09/2012" "09/2014" "09/2016" "09/2016"

- **q9_1 (numeric variable): Length of stay in the UK [Years]**

Mean	Min	Max	-9 (missing)	Obs
1.68	0	37	183	3,377

- **q9_2 (numeric variable): Length of stay in the UK [Months]**

Mean	Min	Max	-9 (missing)	Obs
5.50	0	12	142	3,418

- **q10_dv (numeric variable): Main nationality**

	Freq.	%
-9 (missing)	93	2.61
1 EU	995	27.95
2 Other Europe	156	4.38
3 Asia	1,463	41.10
4 Africa	272	7.64
5 Latin America	183	5.14
6 North America	356	10.00
7 Rest of the World	42	1.18
Total	3,560	100.00

- **q11 (numeric variable): Type of UK visa**

	Freq.	%
-9 (missing)	44	1.24
1 Study (e.g. Tier4 - Student, Doctoral Extension Scheme)	2,228	62.58
2 Work (e.g. Tier1, Tier 2, Tier5)	27	0.76
3 Family (e.g. marriage, dependent)	30	0.84
4 Visitor (e.g. business, tourist)	28	0.79
5 I do not need visa to enter the UK	1,156	32.47
6 Other	47	1.32
Total	3,560	100.00

- **q12 (numeric variable): Before coming to study: studying or working status**

	Freq.	%
-9 (missing)	38	1.07
1 Studying in the UK	360	10.11
2 Studying outside the UK	1,779	49.97
3 Working in the UK	81	2.28
4 Working outside the UK	1,085	30.48
5 Looking for a job in the UK	9	0.25
6 Looking for a job outside the UK	36	1.01
7 None of the above	172	4.83
Total	3,560	100.00

- **q13_dv (numeric variable): Before coming to study: number of visits to the UK**

	Freq.	%
-9 (missing)	58	1.63
0	1,606	45.11
1	727	20.42
2	386	10.84
3	219	6.15
4	125	3.51
5	126	3.54
6	66	1.85
7	27	0.76
8	23	0.65
9	8	0.22
10	85	2.39
11 (11-15)	41	1.15
16 (16 or more)	63	1.77
Total	3,560	100.00

- **q14 (string variable): Before coming to study: time of most recent visit to the UK [MM/YYYY]**

Unique values:	203
Missing:	100
N/A:	1,606
Examples:	"05/2015" "08/2013" "12/2007" "11/2014"

- **q15 (numeric variable): Before coming to study: any family/friends in the UK**

	Freq.	%
-9 (missing)	47	1.32
1 Brother/Sister	204	5.73
2 Parents/Spouse/Other close family members	213	5.98
3 Distant relatives	373	10.48
4 Friends	944	26.52
5 None	1,779	49.97
Total	3,560	100.00

- **q16 (numeric variable): Intention to stay in the UK**

	Freq.	%
-9 (missing)	67	1.88
1 Leave immediately	1,140	32.02
2 Less than 3 months	863	24.24
3 3 months or more but less than 6 months	280	7.87
4 6 months or more but less than 12 months	132	3.71
5 12 months or more	517	14.52
6 I intend to stay and qualify for permanent residence if possible	561	15.76
Total	3,560	100.00

- **q17 (numeric variable): Certainty about intention to stay in the UK**

	Freq.	%
-9 (missing)	64	1.80
1 Not certain at all	294	8.26
2 Uncertain	648	18.20
3 Neither certain nor uncertain	626	17.58
4 Certain	1,037	29.13
5 Very certain	891	25.03
Total	3,560	100.00

- **q18 (numeric variable): Intention to return to the UK within 12 months**

	Freq.	%
-9 (missing)	78	2.19
-8 (N/A)	1,078	30.28
1 Very likely	216	6.07
2 Likely	496	13.93
3 Unlikely	585	16.43
4 Very unlikely	594	16.69
5 Unsure	513	14.41
Total	3,560	100.00

- **q19 (numeric variable): Plan after finishing current study**

	Freq.	%
-9 (missing)	49	1.38
1 Further study in the UK	517	14.52
2 Further study outside the UK	373	10.48
3 Look for a job in the UK	728	20.45
4 Look for a job outside the UK	665	18.68
5 Take up a job offer I already have in the UK	222	6.24
6 Take up a job offer I already have outside the UK	369	10.37
7 Travel in the UK	45	1.26
8 Travel outside the UK	101	2.84
9 Travel in the UK + outside the UK	112	3.15
10 I don’t know yet	379	10.65
Total	3,560	100.00

- **q20 (numeric variable): Planned place of residence in the UK**

	Freq.	%
-9 (missing)	49	1.38
-8 (N/A)	2,038	57.25
1 London	546	15.34
2 England, outside of London	461	12.95
3 Wales	48	1.35
4 Scotland	151	4.24
5 Northern Ireland	14	0.39
6 Don’t know	253	7.11
Total	3,560	100.00

3. TRAVEL AND HOLIDAY

- **q21_sq001 (numeric variable): Travel out of the UK [Christmas]**

	Freq.	%
-9 (missing)	232	6.52
1 Yes	2,011	56.49
2 No	1,091	30.65
3 Does not apply, my current course started after this	177	4.97
4 Cannot remember	49	1.38
Total	3,560	100.00

- **q21_sq001_country1 (string variable): Country1 [Christmas]**

Unique values:	116
Missing:	380
N/A:	1,317
Examples (shows categories with highest frequency):	"France" "Germany" "Spain"

- **q21_sq001_country2 (string variable): Country2 [Christmas]**

Unique values:	62
Missing:	1,888
N/A:	1,317
Examples (shows categories with highest frequency):	"France" "Germany" "Italy"

- **q21_sq001_country3 (string variable): Country3 [Christmas]**

Unique values:	40
Missing:	2,107
N/A:	1,317
Examples (shows categories with highest frequency):	"Germany" "France" "Switzerland"

- **q21_sq001_country4 (string variable): Country4 [Christmas]**

Unique values:	27
Missing:	2,189
N/A:	1,317
Examples (shows categories with highest frequency):	"France" "Germany" "Spain"

- **q21_sq001_country5 (string variable): Country5 [Christmas]**

Unique values:	16
Missing:	2,224
N/A:	1,317
Examples (shows categories with highest frequency):	"The Netherlands" "Austria" "Belgium" "Italy"

- **q21_sq001_country6 (string variable): Country6 [Christmas]**

Unique values:	9
Missing:	2,235
N/A:	1,317
Examples:	"Czech Republic" "Denmark"

- **q21_sq001_country7 (string variable): Country7 [Christmas]**

Unique values:	3
Missing:	2,241
N/A:	1,317
Examples:	"Norway" " Ukraine"

- **q21_sq001_country8 (string variable): Country8 [Christmas]**

Unique values:	2
Missing:	2,242
N/A:	1,317
Examples:	"Spain"

- **q21_sq001_length (numeric variable): Total nights stayed outside UK [Christmas]**

Mean	Min	Max	-9 (missing)	-8 (N/A)	Obs
15.82	0	365	531	1,317	1,712

- **q21_sq002 (numeric variable): Travel out of the UK [Easter]**

	Freq.	%
-9 (missing)	319	8.96
1 Yes	1,228	34.49
2 No	1,565	43.96
3 Does not apply, my current course started after this	387	10.87
4 Cannot remember	61	1.71
Total	3,560	100.00

- **q21_sq002_country1 (string variable): Country1 [Easter]**

Unique values:	100
Missing:	440
N/A:	2,013
Examples (shows categories with highest frequency):	"France" "Spain" "Germany"

- **q21_sq002_country2 (string variable): Country2 [Easter]**

Unique values:	51
Missing:	1,312
N/A:	2,013
Examples (shows categories with highest frequency):	"Italy" "France" "Germany"

- **q21_sq002_country3 (string variable): Country3 [Easter]**

Unique values:	33
Missing:	1,456
N/A:	2,013
Examples (shows categories with highest frequency):	"Czech Republic" "Italy"

- **q21_sq002_country4 (string variable): Country4 [Easter]**

Unique values:	17
Missing:	1,504
N/A:	2,013
Examples (shows categories with highest frequency):	"Czech Republic" "Austria"

- **q21_sq002_country5 (string variable): Country5 [Easter]**

Unique values:	15
Missing:	1,528
N/A:	2,013
Examples (shows categories with highest frequency):	" The Netherlands" "Slovakia"

- **q21_sq002_country6 (string variable): Country6 [Easter]**

Unique values:	9
Missing:	1,539
N/A:	2,013
Examples:	"Austria" "Belgium"

- **q21_sq002_country7 (string variable): Country7 [Easter]**

Unique values:	6
Missing:	1,541
N/A:	2,013
Examples:	"Czech Republic" "Sweden"

- **q21_sq002_country8 (string variable): Country8 [Easter]**

Unique values:	3
Missing:	1,545
N/A:	2,013
Examples:	"Hungary" "Switzerland"

- **q21_sq002_country9 (string variable): Country9 [Easter]**

Unique values:	2
Missing:	1,546
N/A:	2,013
Examples:	" The Netherlands"

- **q21_sq002_country10 (string variable): Country10 [Easter]**

Unique values:	2
Missing:	1,546
N/A:	2,013
Examples:	"Belgium"

- **q21_sq002_length (numeric variable): Total nights stayed outside UK [Easter]**

Mean	Min	Max	-9 (missing)	-8 (N/A)	Obs
13.72	0	365	545	2,013	1,002

- **q21_sq003 (numeric variable): Travel out of the UK [summer vacation]**

	Freq.	%
-9 (missing)	313	8.79
1 Yes	1,466	41.18
2 No	846	23.76
3 Does not apply, my current course started after this	869	24.41
4 Cannot remember	66	1.85
Total	3,560	100.00

- **q21_sq003_country1 (string variable): Country1 [summer vacation]**

Unique values:	118
Missing:	480
N/A:	1,781
Examples (shows categories with highest frequency):	"France" "Italy" "United Status"

- **q21_sq003_country2 (string variable): Country2 [summer vacation]**

Unique values:	73
Missing:	1,441
N/A:	1,781
Examples (shows categories with highest frequency):	"Spain" "France" "Italy"

- **q21_sq003_country3 (string variable): Country3 [summer vacation]**

Unique values:	56
Missing:	1,623
N/A:	1,781
Examples (shows categories with highest frequency):	"Germany" "Spain" "Greece"

- **q21_sq003_country4 (string variable): Country4 [summer vacation]**

Unique values:	38
Missing:	1,698
N/A:	1,781
Examples (shows categories with highest frequency):	"Belgium" "France"

- **q21_sq003_country5 (string variable): Country5 [summer vacation]**

Unique values:	30
Missing:	1,739
N/A:	1,781
Examples (shows categories with highest frequency):	"Hungary" "Switzerland"

- **q21_sq003_country6 (string variable): Country6 [summer vacation]**

Unique values:	19
Missing:	1,756
N/A:	1,781
Examples:	"Czech Republic" "Finland"

- **q21_sq003_country7 (string variable): Country7 [summer vacation]**

Unique values:	15
Missing:	1,762
N/A:	1,781
Examples:	"France" "Norway"

- **q21_sq003_country8 (string variable): Country8 [summer vacation]**

Unique values:	11
Missing:	1,769
N/A:	1,781
Examples:	"Japan" "Iceland"

- **q21_sq003_country9 (string variable): Country9 [summer vacation]**

Unique values:	6
Missing:	1,773
N/A:	1,781
Examples:	"Thailand"

- **q21_sq003_country10 (string variable): Country10 [summer vacation]**

Unique values:	6
Missing:	1,773
N/A:	1,781
Examples:	"Taiwan"

- **q21_sq003_country11 (string variable): Country11 [summer vacation]**

Unique values:	4
Missing:	1,775
N/A:	1,781
Examples:	"Italy"

- **q21_sq003_country12 (string variable): Country12 [summer vacation]**

Unique values:	2
Missing:	1,777
N/A:	1,781
Examples:	"Switzerland"

- **q21_sq003_length (numeric variable): Total nights stayed outside UK [summer vacation]**

Mean	Min	Max	-9 (missing)	-8 (N/A)	Obs
43.31	0	365	609	1,781	1,170

4. EMPLOYMENT

- **q22 (numeric variable): Current employment status**

	Freq.	%
-9 (missing)	203	5.70
1 Full-time job	162	4.55
2 Part-time job	399	11.21
3 Casual worker (i.e. flexible hours)	247	6.94
4 On an internship/placement	71	1.99
5 I work but only during vacations	59	1.66
6 I am not working now	2,419	67.95
Total	3,560	100.00

- **q23 (string variable): Current job**

Unique values:	71
Missing:	275
N/A:	2,419
Examples:	"(1) MANAGERS, DIRECTORS AND SENIOR OFFICIALS - Chief Executives and Senior Officials" "(2) PROFESSIONAL OCCUPATIONS - Business, Research and Administrative Professionals" "(4) ADMINISTRATIVE AND SECRETARIAL OCCUPATIONS - Other Administrative Occupations"

- **q24 (numeric variable): Length of time at job**

	Freq.	%
-9 (missing)	225	6.32
-8 (N/A)	2,419	67.95
1 Less than 3 months	227	6.38
2 3 months or more but less than 6 months	170	4.78
3 6 months or more but less than 12 months	155	4.35
4 12 months or more	364	10.22
Total	3,560	100.00

- **q25 (numeric variable): Hours of work**

Mean	Min	Max	-9 (missing)	-8 (N/A)	Obs
18.59	0	80	233	2,419	908

- **q26 (numeric variable): Average monthly income**

	Freq.	%
-9 (missing)	229	6.43
-8 (N/A)	2,419	67.95
1 Less than £100	168	4.72
2 £100-£499	371	10.42
3 £500-£999	198	5.56
4 £1000-£1499	57	1.60
5 £1500-£1999	25	0.70
6 £2000 or more	93	2.61
Total	3,560	100.00

- **q27 (numeric variable): Job search method**

	Freq.	%
-9 (missing)	222	6.24
-8 (N/A)	2,419	67.95
1 My university/college/institution (e.g. Careers Service, noticeboard)	269	7.56
2 Media (e.g. advertisement in newspapers/magazine)	75	2.11
3 Social networking sites (e.g. Facebook, LinkedIn)	54	1.52
4 Personal contacts (e.g. relatives, friends, acquaintances)	187	5.25
5 Job centre	30	0.84
6 Private employment agency	24	0.67
7 I contacted my employer directly	165	4.63
8 My employer contacted me directly	43	1.21
9 Other	72	2.02
Total	3,560	100.00

5. HEALTH CARE AND SERVICES

- **q28_dv (numeric variable): General health status**

	Freq.	%
-9 (missing)	244	6.85
1 Very good	1,408	39.55
2 Good	1,452	40.79
3 Fair	395	11.10
4 Bad or very bad	61	1.71
Total	3,560	100.00

- **q29_1 (numeric variable): NHS services: GP consultations**

	Freq.	%
-9 (missing)	221	6.21
1 Yes	1,527	42.89
2 No	1,812	50.90
Total	3,560	100.00

- **q29_2 (numeric variable): NHS services: A&E**

	Freq.	%
-9 (missing)	221	6.21
1 Yes	288	8.09
2 No	3,051	85.70
Total	3,560	100.00

- **q29_3 (numeric variable): NHS services: Out-of-hours care**

	Freq.	%
-9 (missing)	221	6.21
1 Yes	68	1.91
2 No	3,271	91.88
Total	3,560	100.00

- **q29_4 (numeric variable): NHS services: Maternity care**

	Freq.	%
-9 (missing)	221	6.21
1 Yes	32	0.90
2 No	3,307	92.89
Total	3,560	100.00

- **q29_5 (numeric variable): NHS services: Contraception and sexual health**

	Freq.	%
-9 (missing)	221	6.21
1 Yes	398	11.18
2 No	2,941	82.61
Total	3,560	100.00

- **q29_6 (numeric variable): NHS services: Dental treatment**

	Freq.	%
-9 (missing)	221	6.21
1 Yes	255	7.16
2 No	3,084	86.63
Total	3,560	100.00

- **q29_7 (numeric variable): NHS services: Eye tests, glasses or contact lenses**

	Freq.	%
-9 (missing)	221	6.21
1 Yes	280	7.87
2 No	3,059	85.93
Total	3,560	100.00

- **q29_8 (numeric variable): NHS services: None**

	Freq.	%
-9 (missing)	221	6.21
1 Yes	1,454	40.84
2 No	1,885	52.95
Total	3,560	100.00

- **q29_9 (numeric variable): NHS services: Other**

	Freq.	%
-9 (missing)	221	6.21
1 Yes	106	2.98
2 No	3,233	90.81
Total	3,560	100.00

- **q30_dv (numeric variable): Number of GP visits in the last 12 months**

	Freq.	%
-9 (missing)	295	8.29
0	1,592	44.72
1	643	18.06
2	423	11.88
3	256	7.19
4	135	3.79
5	104	2.92
6	31	0.87
7	20	0.56
8 (8-9)	19	0.53
10	25	0.70
11 (11 or more)	17	0.48
Total	3,560	100.00

- **q31_1 (numeric variable): Total healthcare costs (excl. private health insurance) in pounds**

Mean	Min	Max	-9 (missing)	Obs
81.37	0	30,000	438	3,122

- **q31_2 (numeric variable): Private health insurance costs in pounds**

Mean	Min	Max	-9 (missing)	Obs
102.46	0	30,000	770	2,790

6. BACKGROUND INFORMATION

- **q32 (numeric variable): Gender**

	Freq.	%
-9 (missing)	339	9.52
1 Male	1,191	33.46
2 Female	1,989	55.87
3 Other	8	0.22
4 Prefer not to say	33	0.93
Total	3,560	100.00

- **q33_dv (string variable): Year of birth [YYYY]**

Unique values:	46
Missing:	420
Examples:	"1993" "1990" "1994"

- **q34_dv (numeric variable): Marital status**

	Freq.	%
-9 (missing)	344	9.66
1 Single, that is, never married or never in a legally recognised civil partners	2,748	77.19
2 Married	363	10.20
3 In a registered civil partnership	18	0.51
4 Divorced, separated or widowed	34	0.96
5 Other	53	1.49
Total	3,560	100.00

- **q35_dv (numeric variable): Number of children**

	Freq.	%
-9 (missing)	379	10.65
0	2,930	82.30
1	103	2.89
2	96	2.70
3	31	0.87
4 (4 or more)	21	0.59
Total	3,560	100.00

- **q36_dv (numeric variable): Regions living in the last 12 months**

	Freq.	%
-9 (Outside UK or missing)	480	13.48
London	777	21.83
Midlands and North	1,037	29.13
South and East	574	16.12
Wales, Scotland and Northern Ireland	692	19.44

- **q37 (numeric variable): Type of accommodation**

	Freq.	%
-9 (missing)	387	10.87
1 University accommodation (e.g. hall of residence)	848	23.82
2 Private Student Halls of residence (e.g. Unite, Urbanest)	437	12.28
3 Rented accommodation (e.g. house/flat/ apartment)	1,726	48.48
4 Home stay (with a UK family)	31	0.87
5 My own home (e.g. property in my name or parent's/spouse's name)	61	1.71
6 Relative's/friend's place	40	1.12
7 Other	30	0.84
Total	3,560	100.00

- **q38_1 (numeric variable): Reasons for studying in UK: Qualification**

	Freq.	%
-9 (missing)	316	8.88
1 Yes	2,126	59.72
2 No	1,118	31.40
Total	3,560	100.00

- **q38_2 (numeric variable): Reasons for studying in UK: Duration of courses**

	Freq.	%
-9 (missing)	316	8.88
1 Yes	934	26.24
2 No	2,310	64.89
Total	3,560	100.00

- **q38_3 (numeric variable): Reasons for studying in UK: University reputation**

	Freq.	%
-9 (missing)	316	8.88
1 Yes	1,844	51.80
2 No	1,400	39.33
Total	3,560	100.00

- **q38_4 (numeric variable): Reasons for studying in UK: Language**

	Freq.	%
-9 (missing)	316	8.88
1 Yes	1,438	40.39
2 No	1,806	50.73
Total	3,560	100.00

- **q38_5 (numeric variable): Reasons for studying in UK: Job opportunities**

	Freq.	%
-9 (missing)	316	8.88
1 Yes	677	19.02
2 No	2,567	72.11
Total	3,560	100.00

- **q38_6 (numeric variable): Reasons for studying in UK: Family or relationship**

	Freq.	%
-9 (missing)	316	8.88
1 Yes	288	8.09
2 No	2,956	83.03
Total	3,560	100.00

- **q38_7 (numeric variable): Reasons for studying in UK: Scholarship/funding**

	Freq.	%
-9 (missing)	316	8.88
1 Yes	540	15.17
2 No	2,704	75.96
Total	3,560	100.00

- **q38_8 (numeric variable): Reasons for studying in UK: Culture & life**

	Freq.	%
-9 (missing)	316	8.88
1 Yes	1,208	33.93
2 No	2,036	57.19
Total	3,560	100.00

- **q38_9 (string variable): Reasons for studying in UK: Other**

	Freq.	%
-9 (missing)	316	8.88
1 Yes	266	7.47
2 No	2,978	83.65
Total	3,560	100.00

- **q39_1 (numeric variable): Sources of funding: Alone**

	Freq.	%
-9 (missing)	316	8.88
1 Yes	287	8.06
2 No	2,957	83.06
Total	3,560	100.00

- **q39_2 (numeric variable): Sources of funding: Self-funding**

	Freq.	%
-9 (missing)	316	8.88
1 Yes	1,127	31.66
2 No	2,117	59.47
Total	3,560	100.00

- **q39_3 (numeric variable): Sources of funding: Provisions**

	Freq.	%
-9 (missing)	316	8.88
1 Yes	1,638	46.01
2 No	1,606	45.11
Total	3,560	100.00

- **q39_4 (numeric variable): Sources of funding: Grant/award - home country**

	Freq.	%
-9 (missing)	316	8.88
1 Yes	577	16.21
2 No	2,667	74.92
Total	3,560	100.00

- **q39_5 (numeric variable): Sources of funding: Grant/award - UK**

	Freq.	%
-9 (missing)	316	8.88
1 Yes	431	12.11
2 No	2,813	79.02
Total	3,560	100.00

- **q39_6 (numeric variable): Sources of funding: Grant/award - international**

	Freq.	%
-9 (missing)	316	8.88
1 Yes	92	2.58
2 No	3,152	88.54
Total	3,560	100.00

- **q39_7 (numeric variable): Sources of funding: Student loans**

	Freq.	%
-9 (missing)	316	8.88
1 Yes	545	15.31
2 No	2,699	75.81
Total	3,560	100.00

- **q39_8 (string variable): Sources of funding: Other**

	Freq.	%
-9 (missing)	316	8.88
1 Yes	122	3.43
2 No	3,122	87.70
Total	3,560	100.00

APPENDIX C

TECHNICAL NOTES

To calculate the response rates and examine the representativeness of the survey (Sections 3 and 4), one needs to have information on the number of survey respondents, the number of sampled students and the size of the true population (i.e. international finalist students graduating in the 2016/17 academic year) along a series of dimensions. There are two main challenges. First, we have only partial information on the number of sampled students. Second, we are unable to observe the true population of the 2016/17 cohort of international finalists due to data unavailability.[4] Nevertheless, we do have the following three sources of auxiliary information which allow us to forecast the true population and also validate the forecasting approach:

1. The HESA's publicly available information contains headcounts of international students for the past 14 academic years (i.e. from 2002 to 2015). It also breaks down the numbers of international students by higher education institution into:
    a. Undergraduate EU
    b. Undergraduate non-EU
    c. Postgraduate EU
    d. Postgraduate non-EU
2. The numbers of international finalists in the 2015/16 academic year of each higher education institution by EU and Non-EU qualifiers (available from the HESA)
3. The numbers of international finalists who received the survey invitation/reminder emails (provided by 32 institutions).

Given the information above, we propose a three-step approach to forecasting the numbers of finalist international students in the 2016/17 academic year, and assessing the fit of model.

STEP 1: ESTIMATING AND ONE-STEP AHEAD FORECASTING

Using the first source of information from the HESA, for each institution j, $(j = 1, \dots, 52)$ we fit a time series model for four time series variables $\mathrm{X}_{k,j,t}$, $(k = 1, \dots, 4; t = 2002, \dots, 2015)$:

1. number of undergraduates from EU countries ($X_{1,j,t}$)
2. number of postgraduates from EU countries ($X_{2,j,t}$)
3. number of undergraduates from non-EU countries ($X_{3,j,t}$)
4. number of postgraduates from non-EU countries ($X_{4,j,t}$)

Considering that each series has only 14 realisations, one practical way is to fit by the Autoregressive (AR) model with a small number of order. Moreover, by looking at the trace plots and autocorrelation functions, we found that almost all these time series variables have a clear time trend. Some of these

[4] The information on the international finalist students in 2016/17 has not yet become available from HESA's website when writing this report.

variables also exhibit a clear structural break in certain years. Hence, we could filter the process by either first differencing or adding a linear trend. For instance, the first differenced form AR(2) model for the variable $X_{k,j,t}$ $(k = 1, \dots, 4)$ of institution j can be expressed as:

$$\Delta X_{k,j,t} = \beta_1 \Delta X_{k,j,t-1} + \beta_2 \Delta X_{k,j,t-2} + \varepsilon_{k,j,t}$$

where $\varepsilon_{k,j,t}$ is the error term and Δ is the first difference operator.

After estimating the model, we perform a one-step ahead forecasting for $X_{k,j,2016}$ for all k and j.

STEP 2: COMPUTATION OF THE NUMBERS OF FINALIST STUDENTS

From step 1, we have obtained the numbers of undergraduates/postgraduates from EU countries and non-EU countries. As the quantities of interest are the numbers of finalists among them, we make use of the second source of information from the HESA to identify the finalist students $\hat{X}_{1,j,2016}, \hat{X}_{2,j,2016}, \hat{X}_{3,j,2016}$ and $\hat{X}_{4,j,2016}$, denoted by $\hat{Y}_{1,j,2016}, \hat{Y}_{2,j,2016}, \hat{Y}_{3,j,2016}$ and $\hat{Y}_{4,j,2016}$ respectively.

The second source of information provides us with the numbers of EU and non-EU finalist students of each institution in 2015, i.e., we know:

$$Y_{1,j,2015} + Y_{2,j,2015} \quad \text{and} \quad Y_{3,j,2015} + Y_{4,j,2015} \quad \text{for all } j$$

Next, let $\delta_{EU,j}$ and $\delta_{non-EU,j}$ be proportions of all EU and non-EU students who are in their final year of study, respectively. Here we allow $\delta_{EU,j}$ and $\delta_{non-EU,j}$ to vary by institution. Hence, we can obtain two proportions for each institution j by solving:

$$\begin{aligned} \left(Y_{1,j,2015} + Y_{2,j,2015}\right)/\delta_{EU} &= X_{1,j,2015} + X_{2,j,2015} \\ \left(Y_{3,j,2015} + Y_{4,j,2015}\right)/\delta_{non-EU} &= X_{3,j,2016} + X_{4,j,2016} \end{aligned}$$

Then we further assume that $\delta_{EU,j}$ and $\delta_{non-EU,j}$ are fixed between 2015 and 2016. Thus, we could obtain $\hat{Y}_{1,j,2016}, \hat{Y}_{2,j,2016}, \hat{Y}_{3,j,2016}$ and $\hat{Y}_{4,j,2016}$ from the following equations:

$$\left(\hat{Y}_{1,j,2016} + \hat{Y}_{2,j,2016}\right)/\delta_{EU} = \hat{X}_{1,j,2016} + \hat{X}_{2,j,2016}$$
$$\left(\hat{Y}_{3,j,2016} + \hat{Y}_{4,j,2016}\right)/\delta_{non-EU} = \hat{X}_{3,j,2016} + \hat{X}_{4,j,2016}$$

STEP 3: FIT OF THE MODEL

In step 1, we have attempted four different models to forecast, i.e., first differenced AR(1) and AR(2) models, and the level form AR(1) and AR(2) model with a linear trend. Since we used four models in step 1, we also obtained four sets of estimates from the second step.

To choose the best set of estimates, we employ the third source of information. 32 institutions gave the total numbers of international finalists receiving survey invitation/reminder emails. We denote these numbers by $Z_{j^*,2016}$, where j^* indices these 32 institutions. Finally, we compute the root-mean-square error (RMSE) for each set of estimates:

$$\text{RMSE} = \left(\frac{1}{31}\sum_{j^*=1}^{31}\left(\sum_{k=1}^{4}\hat{Y}_{k,j^*,2016} - Z_{j^*,2016}\right)^2\right)^{1/2}$$

After calculating the RMSEs for all four sets of estimates, the first differenced AR(1) model generates the smallest RMSE (about 866.27). Thus, the estimated numbers of final year undergraduates/postgraduates from EU/non-EU countries (i.e., $\hat{Y}_{1,j,2016}, \hat{Y}_{2,j,2016}, \hat{Y}_{3,j,2016}$ and $\hat{Y}_{4,j,2016}$) obtained by the first differenced AR(1) are eventually employed to produce the statistics in Tables 3-7 of Sections 3-4 in the main text.

ONS are planning to make SoGIS data available for wider use by researchers in due course. If you would like to receive information about how to access SoGIS data once it becomes available, please email your contact details to MigrationAnalysis@ons.gov.uk and we will keep you updated.

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