Appendix for: "Perceived Beneficiaries and Support for the Globalization of Higher Education: A Survey Experiment on Attitudes toward International Students"

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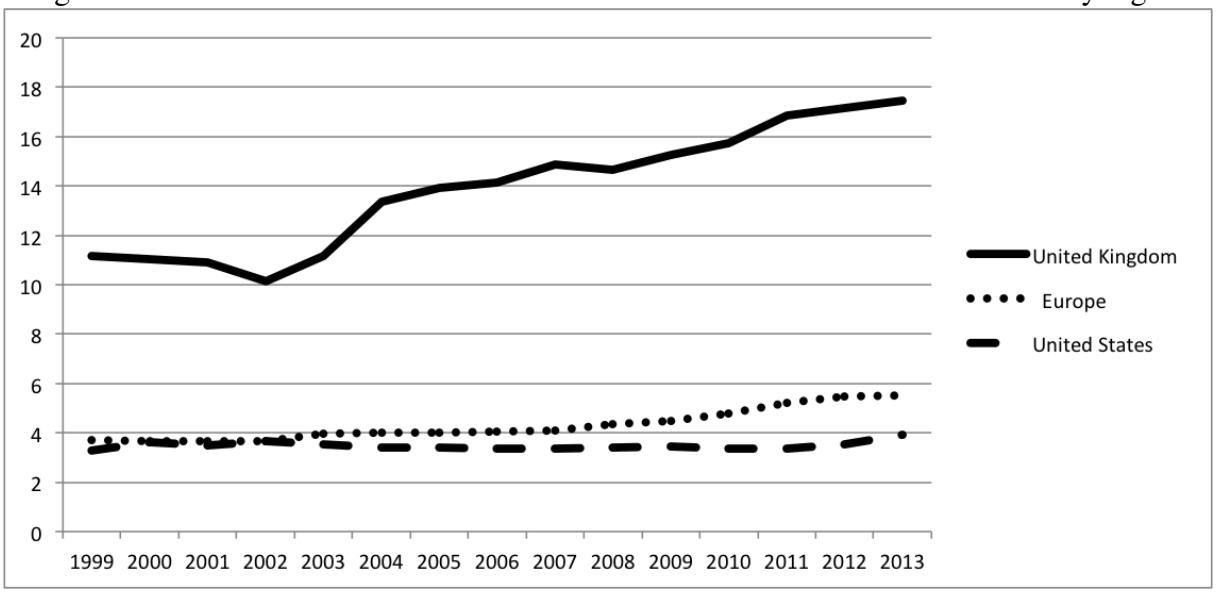
Contents

1 International student trends

Figure 1: International students as a share of total number of students in the country/region



Source: UNESCO (2016). Note: Flow numbers for Europe include the U.K.

2 Treatments

Table A1: Summary of primes each treatment group received (top) and corresponding vignettes (bottom)

Control: [No information] Treatment 1: [Simple foreign student] Treatment 2a: [Simple foreign student][Crowdout][Western] Treatment 2b: [Simple foreign student][Crowdout][Non-Western] Treatment 3a: [Simple foreign student][HC flight][Non-STEM] Treatment 3b: [Simple foreign student][HC flight][STEM]

Simple foreign student: The U.K. is a magnet for foreign university students. At some U.K. universities, more than 50% of the student population is foreign.[1]
Crowdout: Competition for entry to U.K. universities is fierce, with domestic students vying for admissions slots against foreign students
Western: hailing from places like North America and Western Europe.
Non-Western: hailing from places like Asia and Africa.
HC flight: Recent data reveal that 97% of foreign students depart the U.K. after completing their coursework, taking the skills they acquired with them[2]
Non-STEM: in subjects such as art, history, and literature.
STEM: in subjects such as engineering, medicine, and computer science.

1 https://www.timeshighereducation.com/student/news/world-ranked-universities-most-international-students.

2 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/639621/second-report-on-statistics-being-collected-under-exit-checks.pdf. For simplicity, we use this 97% figure—which has been widely reported. (https://monitor.icef.com/2017/08/uk-net-migration-questioned-new-data-shows-97-international-students-leave-time/)—because it signals a significant number of foreign students leaving the U.K. The reality is more complicated, as it only applies to non-EAA students and includes only students who did not extend their visa for other purposes. Recent data, however, indicate that the vast majority of foreign students who do extend their visas do so for further study (80%) rather than work (14%) (https://www.gov.uk/government/publications/immigration-statistics-january-to-march-2017/how-many-people-continue-their-stay-in-the-uk).

3 Summary statistics

Table A2: Comparison with U.K. national figures and balance of the covariates across the different treatment groups

	(0) U.K. Mean	(1) Control Mean	(2) Simple foreign student Mean	(3) (2) - (1)	(4) Crowdout Mean	(5) (4) - (1)	(6) HC flight Mean	(7) (6) - (1)
Female	0.508	0.523	0.494	-0.029	0.496	-0.027	0.532	0.009
		(0.500)	(0.500)	(0.032)	(0.500)	(0.027)	(0.499)	(0.027)
Age	48.332	46.743	46.030	-0.713	46.703	-0.039	46.037	-0.705
		(17.824)	(17.528)	(1.117)	(17.489)	(0.963)	(17.657)	(0.970)
Parent	N.A.	0.623	0.596	-0.027	0.608	-0.014	0.633	0.011
		(0.485)	(0.491)	(0.031)	(0.488)	(0.027)	(0.482)	(0.026)
White	0.870	0.896	0.908	0.012	0.912	0.016	0.908	0.012
		(0.305)	(0.289)	(0.019)	(0.283)	(0.016)	(0.289)	(0.016)
Born in U.K.	0.86	0.922	0.926	0.004	0.926	0.004	0.930	0.008
		(0.268)	(0.262)	(0.017)	(0.262)	(0.014)	(0.256)	(0.014)
University graduate	0.384	0.333	0.356	0.023	0.382	0.048*	0.362	0.028
		(0.472)	(0.479)	(0.030)	(0.486)	(0.026)	(0.481)	(0.026)
Not employed	0.244	0.441	0.418	-0.023	0.435	-0.007	0.446	0.005
		(0.497)	(0.494)	(0.031)	(0.496)	(0.027)	(0.497)	(0.027)
Household income	28,400	32,146	31,460	-0.686	32,932	0.786	31,909	-0.237
		(23.245)	(25.174)	(1.532)	(26.135)	(1.380)	(25.407)	(1.353)
Conservative	0.404	0.265	0.306	0.041	0.298	0.032	0.276	0.010
		(0.442)	(0.461)	(0.029)	(0.457)	(0.025)	(0.447)	(0.024)
Brexit leaver	0.374	0.481	0.430	-0.051	0.419	-0.062**	0.417	-0.064**
		(0.500)	(0.496)	(0.031)	(0.494)	(0.027)	(0.493)	(0.027)
Immigration pct.	0.114	0.121	0.121	-0.000	0.120	-0.001	0.121	-0.001
		(0.107)	(0.098)	(0.007)	(0.102)	(0.006)	(0.108)	(0.006)
Observations		501	500		1,001		998	

Displays mean values of covariates in each of the treatment groups and their difference with the control. Household income is in thousands of pounds. Immigration percentage is the share of immigrants during the period 2007-2016 over the resident population in 2016. UK means source for gender, age, ethnicity and place of birth is ONS (2018a), employment and income is ONS (2018b), university graduate is ONS (2020a), and immigration share in the local authority is ONS (2020b). Conservative reflects answer to the question "What Party do you feel closest to?" in our sample, and average forced voting intentions by party in several national polls in February 2018 (Pack 2020). Brexit leaver reflects answer to the question "Did you vote in the 2016 'Brexit' referendum on whether the United Kingdom should remain in or leave the European Union? If yes, how did you vote?" in our sample, compared to official data from the Electoral Commission (2020). In parentheses, standard deviations for means and standard errors for differences in means. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

4 Disaggregated model with subtreatments

Table A3: Marginal effects of treatments on support for a cap on foreign students, disaggregating Crowdout and HC flight treatments

	(1)	(2)
Crowdout	0.0872***	0.0860**
	(0.0260)	(0.0297)
HC flight	0.0404	0.0474
	(0.0260)	(0.0300)
Crowdout X Non-Western		0.00246
		(0.0296)
HC flight X STEM		-0.0140
		(0.0296)
Observations	3000	3000
R^2	0.083	0.083

Displays results from linear regression models, with individual covariates as described in the text. Model 1 reproduces Model 2 from Table 1. Model 3 disaggregates each of the main treatments into its two component sub-treatments (Western and non-Western for Crowdout, and STEM and non-STEM for HC flight) Robust standard errors in parentheses. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

5 Alternative versions of main models

Table A4: Marginal effects of treatments on support for a cap on foreign students, with no individual covariates

	(1)	(2)
Any treatment	0.0801**	0.0251
	(0.0243)	(0.0315)
Crowdout		0.0874**
		(0.0269)
HC flight		0.0502+
		(0.0271)
Observations	3000	3000
R^2	0.004	0.007

Table analogous to Table 1, with no individual covariates. Model 2 shows the effect of the Simple foreign student treatment (line 1) and the marginal effects of the Crowdout and HC flight treatments (lines 3 and 5, respectively), over and above the Simple foreign student treatment. Robust standard errors in parentheses. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A5: Marginal effects of treatments on support for a cap on foreign students, using post-stratification weights on employment

	(1)	(2)
Any treatment	0.0810***	0.0271
	(0.0244)	(0.0313)
Crowdout		0.0901***
		(0.0267)
HC flight		0.0447+
		(0.0267)
Observations	3000	3000
R^2	0.077	0.081

Displays results from linear regression models, with individual covariates as described in the text, weighing observations to account for differences in the percentage of respondents employed, as compared to the U.K. population. Model 2 shows the effect of the Simple foreign student treatment (line 1) and the marginal effects of the Crowdout and HC flight treatments (lines 3 and 5, respectively), over and above the Simple foreign student treatment. Robust standard errors in parentheses. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A6: Marginal effects of treatments on support for a cap on foreign students, with additional individual political and contextual-level covariates

	(1)	(2)
Any treatment	0.0908***	0.0422
	(0.0245)	(0.0316)
Crowdout		0.0860**
		(0.0269)
HC flight		0.0356
		(0.0268)
Observations	2704	2704
R^2	0.109	0.113

Displays results from linear regression models, with all individual demographics covariates as in Table 1, plus additional Brexit vote variables (Brexit support and abstention), a party allegiance variable (Conservative or not), and an immigration percentage variable. Model 2 shows the effect of the Simple foreign student treatment (line 1) and the marginal effects of the Crowdout and HC flight treatments (lines 3 and 5, respectively), over and above the Simple foreign student treatment. Robust standard errors in parentheses. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A7: Marginal effects of treatments on support for a cap on foreign students, using probit models with individual covariates

	(1)	(2)
Any treatment	0.225***	0.0852
	(0.0630)	(0.0812)
Crowdout		0.242***
		(0.0711)
HC flight		0.111
		(0.0706)
Observations	3000	3000

Displays coefficients from probit models, with individual covariates as described in the text. Model 2 shows the effect of the Simple foreign student treatment (line 1) and the marginal effects of the Crowdout and HC flight treatments (lines 3 and 5, respectively), over and above the Simple foreign student treatment. Robust standard errors in parentheses. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A8: Total (not marginal) effects of treatments on support for a cap on foreign students

	(1)	(2)
Simple foreign student	0.0317	-0.0872***
	(0.0303)	(0.0260)
Crowdout	0.119***	
	(0.0260)	
HC flight	0.0721**	-0.0469*
	(0.0260)	(0.0209)
No primes		-0.119***
		(0.0260)
Observations	3000	3000
R^2	0.083	0.083

Displays results from linear regression models, with individual covariates as described in the text. Omitted categories are the Control group in Model 1 and recipients of the Crowdout treatment in Model 2. Robust standard errors in parentheses. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

6 Additional results

Table A9: Effects of the Crowdout treatment on support for a cap on foreign students, by respondent subgroup

	(1)	(2)	(3)	(4)	(5)	(6)
Crowdout	0.113***	0.185**	0.113**	0.0966	0.0914**	0.0860**
	(0.0323)	(0.0649)	(0.0356)	(0.0725)	(0.0290)	(0.0303)
Crowdout X Female	-0.0527					
	(0.0364)					
Crowdout X White		-0.108+				
		(0.0652)				
Crowdout X Parent			-0.0432			
			(0.0379)			
Crowdout X Born in U.K.				-0.0107		
				(0.0725)		
Crowdout X University graduate					-0.00843	
					(0.0384)	
Crowdout X Not employed						0.00298
						(0.0366)
	(7)	(8)	(9)	(10)	(11)	
Crowdout	0.0894**	0.101***	0.0529*	0.0622+	0.0557*	
	(0.0286)	(0.0306)	(0.0156)	(0.0346)	(0.0255)	
Crowdout X Conservative	-0.00567					
	(0.0398)					
Crowdout X Brexit leaver		-0.0280				
		(0.0354)				
Crowdout X Age			0.000725			
			(0.00104)			
Crowdout X Household income				0.000754		
				(0.000715)		
Crowdout X Immigration pct.					0.246	
					(0.190)	

Estimates show effects of the Crowdout treatment interacted with covariates. The Simple foreign student treatment is the omitted category. Each model includes the corresponding baseline interacted covariate, the other standard demographic covariates as described in the text, and indicator variabless for the control group and the HC flight treatment. Robust standard errors in parentheses.

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A10: Effects of the HC flight treatment on support for a cap on foreign students, by respondent subgroup

	(1)	(2)	(3)	(4)	(5)	(6)
HC flight	0.0147	0.0449	0.0356	0.0248	0.0331	0.0475
	(0.0329)	(0.0663)	(0.0356)	(0.0741)	(0.0291)	(0.0306)
HC flight X Female	0.0473					
	(0.0365)					
HC flight X White		-0.00613				
		(0.0666)				
HC flight X Parent			0.00602			
			(0.0380)			
HC flight X Born in U.K.				0.0156		
				(0.0741)		
HC flight X University graduate					0.0208	
					(0.0386)	
HC flight X Not employed						-0.0164
						(0.0365)
	(7)	(8)	(9)	(10)	(11)	
HC flight	0.0382	0.0439	0.137*	0.0708*	0.0530	
	(0.0284)	(0.0302)	(0.0548)	(0.0346)	(0.0351)	
HC flight X Conservative	0.0101					
	(0.0403)					
HC flight X Brexit leaver		-0.00265				
		(0.0355)				
HC flight X Age			-0.00211*			
			(0.00104)			
HC flight X Household income				-0.000990		
				(0.000729)		
HC flight X Immigration pct					-0.148	
					(0.185)	

Estimates show effects of the HC flight treatment interacted with covariates. The Simple foreign student treatment is the omitted category. Each model includes the corresponding baseline interacted covariate, the other standard demographic covariates as described in the text, and indicator variables for the control group and the Crowdout treatment. Robust standard errors in parentheses.

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

References

ONS (2018a) UK Population estimates. Available at https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates.

ONS (2018b) UK Labour market statistics. Available at https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/uklabourmarket/october2018.

ONS (2020a) Annual population survey dataset. Available at https://www.nomisweb.co.uk/query/construct/submit.asp?forward=yes&menuopt=201&subcomp=.

ONS (2020b) Migration indicators tool. Available at https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/migrationwithintheuk/datasets/localareamigrationindicatorsunitedkingdom.