

Disaggregating Support for a Specific Immigrant Type: Experimental Evidence from U.K. Student Flows¹

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Abstract

Foreign students are a specific immigrant type who bring substantial economic benefits to their host countries. They are not, however, universally welcomed, and many countries restrict - or are considering restricting - their numbers. Building on the political economy of immigration literature, we theorize that self-interested preferences for capping the number of foreign students allowed into a country may be activated by perceived: 1) *competition*, whereby foreign students “crowd out” scarce admissions slots at universities; and 2) *fiscal burdens*, whereby “brain drain” results from foreign students acquiring state-subsidized skills and then leaving the country. Results from a nationally-representative survey experiment in the U.K. show that support for a cap are significantly activated by information about crowding out, not brain drain. Exposure to our primes generally sway groups who otherwise express weaker support for a cap to favor the policy.

Keywords: immigration, higher education, universities, United Kingdom, experiment

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Few public policy areas incite more controversy than immigration.² The issue is at the center of heated debates, as activists on both sides make their case for why immigration should be expanded or restricted. With immigration agendas driving major political outcomes such as Brexit,³ the 2016 U.S. presidential election,⁴ and the rise of extreme right parties in Europe,⁵ understanding citizen attitudes toward the issue is vital. Although voter preferences on the topic have been studied extensively, a specific class of immigrant that has received little attention is foreign students.

Foreign students are a distinctive and important type of immigrant. Several countries in North America and Western Europe, for example, welcome hundreds of thousands of foreign students to their shores each year.⁶ These students are an important source of skills and talent, and overwhelming evidence suggests that they enrich their societies economically.⁷ Yet even despite their well-known benefits, many countries have witnessed increasingly strident calls for imposing caps on the number of foreign students that universities can accept. What explains this behavior?

The question is puzzling because foreign students appear to escape the usual political economy explanations concerning anti-immigrant behavior. In particular, foreign students should not threaten the job prospects of domestic workers because they are only in the country to study.

² See, for example: Fukuyama (2006); Huntington (2004).

³ Clarke, Goodwin, and Whiteley (2017).

⁴ Hooghe and Dassonneville (2018).

⁵ Halla, Wagner, and Zweimuller (2017).

⁶ See, for example: OECD. 2018. "Foreign/International Students Enrolled." Available at: <https://stats.oecd.org/Index.aspx?DataSetCode=RFOREIGN>

⁷ See, for example: Wright, Robert. Jan. 10, 2018. "Overseas Students Add £20bn Boost to UK Economy During Stay." Financial Times. Available at:

<https://www.ft.com/content/48ba148c-f60e-11e7-88f7-5465a6ce1a00>; Homden, Barni. Jan. 11, 2018.

"New Study Reveals the Benefits of International Students to the UK." Available at:

<https://www.kaplanpathways.com/about/news/new-study-reveals-benefits-international-students-uk/>

Moreover, foreign students should not be seen as abusers of public services because they typically pay for their tuition in full. Most signs would seem to point to foreign students being a welcome class of immigrants who add far more to their adopted nations than they subtract from them.

We contend, however, that framing of the effects of foreign students - by the media, pundits, and activists – is not always positive. In fact, communications surrounding the negative impacts of foreign students are often analogous to those applied to standard immigrants. Even if foreign students are not perceived to take away jobs from domestic workers, this does not mean that they cannot pose competition for residents. Furthermore, even if foreign students are not perceived to abuse public services, this does not mean that they cannot impose fiscal burdens on taxpayers.

Building on the political economy of immigration literature, we hypothesize that self-interested preferences among citizens for restricting the number of foreign students may be activated through two main effects. One is a *competition effect*, whereby voters perceive that foreign students “crowd out” scarce admissions slots at universities. The other is a *fiscal burden effect*, whereby voters perceive that foreign students cause “brain drain” by acquiring government-subsidized skills and then leaving the country without contributing to the national economy.

We probe the relative impacts of framing discussions about foreign students along these two dimensions via a nationally-representative survey experiment in the United Kingdom, long one of the world’s top destinations for foreign university students. In a series of treatments, we prime U.K. voters to think about: the large numbers of foreign students in their country; how

these students crowd out scarce admissions slots at universities; and how these students foster brain drain in which they obtain skills but then depart the country without adding to the national economy.

On the whole, only the crowding out prime significantly increases support for a cap on foreign students, compared to neutral information about the large number of foreign students in the U.K., which on its own does not significantly increase support for a cap. The brain drain prime has a smaller effect that is statistically indistinguishable from zero. Directionally, our primes tend to raise support for a cap among segments of the population who otherwise support the policy less. This especially includes younger voters, non-parents, self-identified liberals, and anti-Brexiters.

We also analyze whether specific traits of foreign students condition attitudes toward capping their numbers. We find no significant evidence that voters support a cap more when crowding out occurs by students hailing from regions perceived as culturally “distant” (Asia and Africa) as opposed to “proximate” (North America and Western Europe). Nor does it make a difference whether brain drain occurs by foreign students leaving with higher “value-added” skills (in engineering, medicine, and computer science) or lower value-added skills (in art, history, and literature).

As an extension, we further test if our primes spill over to preferences over government spending. Although knowledge about the large number of foreign students in the U.K. significantly lowers support for state outlays on universities, providing additional information about crowding out and brain drain partially offsets these calls. This may reflect a desire to protect the overall number of admissions slots amid crowding out and to fill the skill shortage

amid brain drain. These results suggest that attitudes toward foreign students can extend to policies beyond just capping their numbers.

Taken together, our study contributes to a rich scholarship on immigration by shedding light on how voters evaluate foreign students. A considerable literature exists in political economy on the sources of anti-immigrant behavior generally.⁸ Evidence suggests that concerns about immigrants taking away jobs and abusing public services can heighten anti-foreigner attitudes. Little effort, however, has been made at analyzing whether analogous effects apply to different categories of foreigners.⁹ By far, one of the most important such categories is foreign students.

Ultimately, many categories of immigrants - from refugees, to migrant workers, to medical tourists - may instigate anti-foreigner behavior. Yet scholars know little about why some citizens call for restrictions on their numbers while others do not. We provide a framework for thinking about the calculations that inform voter preferences that could be adjusted and extended to study attitudes toward other types of immigrants. Doing so unpacks self-interested considerations that go beyond those simply pertaining to job market scarcity or the costs of entitlements.

Foreign Students and Anti-Immigrant Attitudes

Foreign students are a major category of immigrant. Across the world, there are about 2.8 million foreign students.¹⁰ Estimates predict that number to reach 7.2 million by 2025.¹¹ Many

⁸ For a review, see: Hainmueller and Hopkins (2014).

⁹ For a review, see: Ward, Masgoret, and Gezentsvey (2009).

¹⁰ Latest UNESCO figures are from 2013 (<https://en.unesco.org/node/252278>).

¹¹ Bohm et al. (2002).

host nations support this growth because foreign students bring countless benefits.¹² Not only do they contribute to the intellectual dynamism of universities, but they are also economic assets. Foreign students pay rent, purchase consumer goods and services, and pay into the tax base. One national study finds that the economic benefits of foreign students outweigh their costs by roughly 10 times.¹³

Notwithstanding these advantages, calls for caps on the number of foreign students in some countries have become common. In Britain, for instance, a recent poll found that roughly two-thirds of the public supported a cap on foreign students.¹⁴ In Denmark, the minister of education has advocated restricting the number of foreign students who can study at Danish universities.¹⁵ In the United States, the California state university system recently imposed a cap on foreign students.¹⁶ Singapore has also enacted a nationwide limit on the number of foreign students.¹⁷

Why foreign students provoke such controversy remains largely unaddressed in political economy. Extensive scholarship shows that self-interest helps to predict anti-immigrant attitudes

¹² See, for example, an analysis of the U.S. case:

www.nafsa.org/Policy_and_Advocacy/Policy_Resources/Policy_Trends_and_Data/NAFSA_International_Student_Economic_Value_Tool/

¹³ London Economics (2018). Beyond their economic benefits, foreign students may also help to promote the national interests of Western nations by spreading democratic norms (Gift and Krmaric 2017; Spilimbergo 2007).

¹⁴ Parr, Chris. Sept. 17, 2012. "Poll Claims Public in Favour of Cap on Foreign Students." *Times Higher Education*. Available at: <https://www.timeshighereducation.com/news/poll-claims-public-in-favour-of-cap-on-foreign-students/421167.article>

¹⁵ Balslev, Nanna. April 6, 2017. "Minister of Education Wants Fewer International Students." *University Post, University of Copenhagen*. Available at: <https://uniavisen.dk/en/minister-of-education-wants-fewer-international-students/>

¹⁶ Smith, Beckie. May 31, 2017. "UC to Cap Nonresident Student Enrolment." *PIE News*. Available at: <https://thepienews.com/news/university-of-california-cap-non-resident-enrolment-undergraduate-students/>

¹⁷ Tan, Emilia. Aug. 21, 2011. "Singapore: New 'Cap' on Foreign Students." *University World News*. Available at: www.universityworldnews.com/article.php?story=20110819174750326

generally.¹⁸ For example, some research highlights the role of labor market standing in immigration preferences,¹⁹ whereas other research discovers that the generosity of the welfare regime is negatively associated with support for immigration.²⁰ Little attention, however, has been paid to understanding opinions toward specific types of immigrants, including foreign students.²¹

Although debates over immigration have reached a fever pitch globally,²² one might expect foreign students to be immune to backlash. The typical critiques of immigrants - that they take away the jobs of domestic workers and abuse public services - would seem not to apply to foreign students. Given that foreign students also tend to possess many other desirable characteristics - like smarts, a strong work ethic, and a desire to attain a better life - one might even expect voters to welcome foreign students with open arms. Yet the opposite is frequently the reality.

There is reason to suspect that citizens view foreign students as distinct from standard immigrants, and many observers call for them to be counted differently. What few studies exist on attitudes toward foreign students, however, are mostly in psychology and sociology and focus on how ethnocentrism and stereotyping fuel biases toward students from abroad.²³ Some of this work recognizes how self-interest can heighten anti-foreign-student attitudes. Yet these studies

¹⁸ For a review, see: Hainmueller and Hopkins (2017).

¹⁹ See, for example: Scheve and Slaughter (2001).

²⁰ See, for example: Hanson, Scheve, Slaughter (2007).

²¹ For a review, see: Ward, Masgoret, and Gezentsvey (2009), who note that “[t]here has been a paucity of empirical research on attitudes toward international students.”

²² Consider, for example: Ipsos (2016).

²³ Charles-Toussaint and Crowson (2010); Krahe et al. (2005); Spencer-Rodgers (2001); Spencer-Rodgers and McGovern (2002).

give scant, if any, attention to policymaking, including caps on foreign students, the simplest method to curb their participation.

Our analysis helps to fill this void. We argue that negative attitudes toward foreign students may be activated through framing that is similar to that expressed by the media, pundits, and activists. This framing has similarities to, but also differences from, framing applied to standard immigrants.²⁴ Foreign students may not take away jobs from domestic workers or abuse public services, but they can still pose competition for - and be a fiscal burden on - domestic residents. When these narratives get filtered through the public discourse, people may turn against foreign students.

Expanding on the political economy of immigration literature, we posit below that preferences for caps on foreign students may be activated via two main effects. One - a competition effect - is when voters believe that foreign students crowd out access to university admissions. The other - a fiscal burden effect - is when voters believe that foreign students capitalize on state-subsidized education but then leave the country without contributing to the national economy. We claim, moreover, that these effects may be conditional on the specific characteristics of foreign students.

Regarding competition, many studies find that citizens dislike immigrants more if they are thought to pose a threat to national identity.²⁵ As such, citizens may be more averse to crowding out in university admissions when they perceive foreign students as being culturally “distant.” Similarly, in terms of fiscal burdens, research indicates that people oppose the use of

²⁴ For a discussion on policy framing in the context of immigration, see: Allen (2016) and Haynes, Merolla, and Ramakrishnan (2016).

²⁵ See, for example: Alesina, Miano, and Stantcheva (2018); Hainmueller and Hiscox (2007); Hainmueller and Hopkins (2015); Hainmueller, Hiscox, and Margalit (2015); Sniderman, Hagendoorn, and Prior (2004).

entitlements not just because of losses to them, but because of benefits to others.²⁶ Consequently, citizens may resent brain drain more when they think that the skills gained by other countries are in higher “value-added” areas.

-Competition Effect (“Crowding Out”) The first main condition under which voters may call for a cap on foreign students is if they believe that foreign students compete with domestic students for finite university admissions spots.

A sizeable literature finds that competition is a primary motivator of anti-foreigner attitudes generally. The explanation relies on an economic logic in which rivalry exists for scarce labor market opportunities. If citizens think that immigrants have certain skills that challenge their employment or wages, they will oppose more immigration.²⁷ This notion is derived from basic factor production models in which there exists zero-sum competition for a fixed number of job opportunities. The concern is that immigrants crowd out employment positions, leaving citizens with worse job prospects.

Extending this logic to foreign students, people may think that foreign students undercut their well-being. Just as immigrants can crowd out job openings, foreign students can crowd out scarce admissions slots at universities.²⁸ If there exists a fixed number of admissions places, citizens may think that foreign students reduce the chances of domestic students getting accepted. As citizens perceive that it is increasingly difficult for them, their relatives, and others

²⁶ See, for example: Becker (1957); Tajfel (1974).

²⁷ Mayda (2006); Scheve and Slaughter (2001).

²⁸ In actuality, the empirical evidence on whether foreign students crowd out domestic students is mixed. See, for instance: Borjas (2004), Machin and Murphy (2014), and Zhang (2009).

close to them to gain entry to universities, they may become more supportive of a cap on foreign students.

H1: *Support for a cap on foreign students should increase when citizens are primed to think about foreign students crowding out scarce admissions slots.*

Even if citizens call for a cap on foreign students due to crowding out in university admissions, their attitudes may depend on who is doing the crowding out. In particular, citizens may be more supportive of a cap on foreign students if they perceive that they are losing out to foreigners who are unlike themselves. Extensive evidence indicates that people do not treat all minorities and immigrants as a monolithic bloc.²⁹ Due to their nationality or race, some foreigners are treated with respect and deference, whereas others are treated with disdain or bigotry.

As with other immigrants, citizens may distinguish between foreign students based on their relative cultural distance. They may be especially averse to foreigners whom they perceive as eschewing social norms.³⁰ Race and ethnicity may parallel - or reinforce - these effects. In much of North America and Western Europe, non-whites often encounter discrimination.³¹ Although in principle it should not matter which foreign students attend universities - since crowding out can occur regardless - citizens may feel more anger toward culturally distant foreign students.

H1b: *Support for a cap on foreign students should be amplified when citizens are primed to think about crowding out as occurring by culturally distant foreign students.*

²⁹ Ford (2011); Kalkan, Layman, and Uslaner (2009).

³⁰ Ivarsflaten (2005); Lee and Fiske (2006).

³¹ Bertrand and Mullainathan (2004); Lang and Lehmann (2012).

-Fiscal Burden Effect (“Brain Drain”): The second main condition under which people may call for a cap on foreign students is if they believe that foreign students introduce a fiscal burden on taxpayers.

Skeptics of immigration frequently charge that foreigners impose a fiscal cost. Some research, for example, shows that citizens are more likely to reject immigration when they think that foreigners are net “takers” from society.³² In this vein, citizens may harbor anti-immigrant attitudes if they perceive foreigners as abusers of public services who do not contribute sufficiently to society. This speaks to the basic tenet of reciprocity in which people expect recipients to fulfill certain functions in exchange for benefits. These include working hard and paying into the tax base.

Applying this logic to foreign students, citizens may think that foreign students do not pay their fair share because they typically leave the country after pursuing their studies.³³ A central justification for investments in higher education is that it leads to positive economic spillovers, including a more productive labor pool. When foreign students acquire skills but then depart without contributing to the national economy, this brain drain essentially amounts to subsidizing the workforce of other countries.³⁴ Citizens may resent this out-migration and advocate for a cap on foreign students.

³² Hanson, Scheve, and Slaughter (2007); Facchini and Mayda (2009).

³³ For studies looking at the return of foreign students, see, for example: Rosenzweig (2008) and Bijwaard and Wang (2013).

³⁴ It is true that many universities charge foreign students more for their educations. Although this may compensate partly for how much citizens subsidize their schooling, tuition and other fees generally only cover a fraction of the true costs of a university education, particularly given the fixed costs of infrastructure and programming. Consequently, citizens may still feel aggrieved by the fiscal burden imposed on them by foreign students.

H2: *Support for a cap on foreign students should increase when citizens are primed to think about foreign students inducing brain drain by acquiring skills and then leaving the country.*

Although citizens may call for a cap on foreign students due to brain drain, their feelings may again be conditional. Specifically, citizens may consider not only the total amount of state investments expended on educating foreign students, but also the estimated gains of those investments by other nations. Even if in theory this did not matter - because foreign students generally pay for similar proportions of the marginal cost of their education - citizens may resent it more if they think that the skills with which foreign students leave the country are in higher value-added disciplines.

As with all students, foreign students can opt into an array of courses, some of which have clearer economic utility than others. Students who track into higher value-added subjects - often in the STEM and pre-professional fields - should be more likely to generate positive economic spillovers.³⁵ This means that the foregone benefits to the domestic economy are greater. Because the economic gains to other economies are more obvious when foreign students depart with higher value-added skills, citizens may be more apt to advocate for a cap on foreign students.

H2b: *Support for a cap on foreign students should be amplified when citizens are primed to think about brain drain as occurring in higher value-added subjects.*

³⁵ Peri, Shih, and Sparber (2014); Ray (2015); Winters (2014).

Theoretical Predictions

Figure 1 summarizes our theory. It shows that political messaging surrounding foreign students can provoke calls for a cap on their numbers via a competition effect (crowding out) and a fiscal burden effect (brain drain). The competition effect may be influenced by whether foreign students are perceived as culturally distant; the fiscal burden effect may be influenced by whether foreign students leave the country with higher value-added skills.

<p><u>Effect Type</u> <u>(average effects)</u></p>	<p><i>Competition (Crowding out)</i> ↑ support for cap</p>	<p><i>Fiscal Burden (Brain Drain)</i> ↑ support for cap</p>
<p><u>Moderators</u> <u>(marginal effects)</u></p>	<p><i>Cultural distance of foreigner</i> -Distant = ↑ support for cap -Proximate = ↓ support for cap</p>	<p><i>Value-added of skills</i> -Higher = ↑ support for cap -Lower = ↓ support for cap</p>

Figure 1: Summary of predictions

-Conditional Effects by Subgroup

We predict that exposing citizens to information about the competition and fiscal burden effects will activate preferences for a cap on foreign students differently across the population. Some groups - because of the news sources they consume, their social networks, their stake in higher education, and so on - are more likely have to been exposed to information previously about how foreign students hurt their self-interest. As such, priming may have less impact to the extent that it reiterates points that these groups already know or simply reinforces pre-existing

attitudes.³⁶ Groups who should already be more supportive of a cap on foreign students - and hence should have less elastic attitudes in response to priming on competition and fiscal burden effects - include: (in terms of demographics) whites, parents, older citizens, and native born residents; (in terms of politics) right-leaners, Conservatives, and Brexiteers; and (in terms of demographic context) residents of areas with small immigrant populations.

The Survey

To test our theory, we conduct an original survey experiment in the U.K. The survey primes people to think about the large number of foreign students who enter the country, as well as the competition and fiscal burden effects that they can cause. We chose to run an experiment, rather than simply ask respondents to state why they want more or fewer foreign students in the U.K., because we are primarily interested in how preferences for a cap are activated through primes that resemble those communicated in the real world (e.g., through the media or political rhetoric).

We also use an experiment because otherwise people might be reluctant to state their true feelings. For example, people may not admit that they have a problem with foreign students taking away admissions slots from domestic students or that they favor immigration from, say, North America over that from Africa. Additionally, a survey experiment is useful because citizens may not have well-defined reasons for desiring a cap on foreign students. Respondents may react to concepts like crowding out or brain drain, but may not be able to articulate precisely why.

³⁶ See, for example: Gaines, Kuklinski, and Quirk (2007).

-The U.K. Case

We leverage the real-world policy case of public higher education in the U.K. because of its extremely high rates of foreigner usage. The U.K. - which boasts renowned universities such as Oxford, Cambridge, and many others - has for generations been a sought-after destination for foreign students. Figure 2, for example, charts the percentage of foreign students educated in the U.K. relative to the United States and Europe from 1999 to 2013. In 2013, the share of foreign students in the U.K. was roughly three times the European average and nearly five times that in the United States.

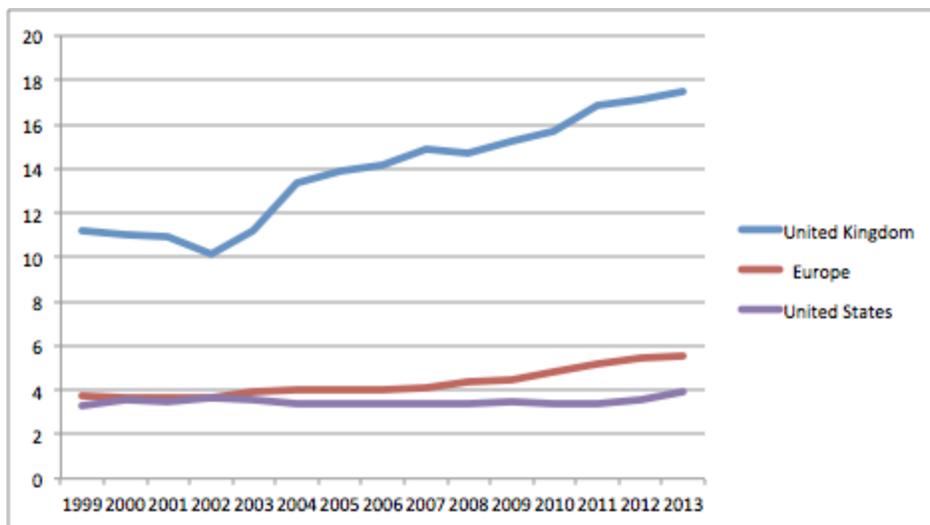


Figure 2: Share of international students over total number of students in the country

(Source: UNESCO, Global Flow of Tertiary Level students)

Although the U.K. does not officially cap the overall number of foreign students who can study at its universities,³⁷ the issue has been a flashpoint for controversy. A major ongoing

³⁷ Medical schools, however, are limited in the number of foreign students they can accept.

debate in the U.K. is whether foreign students should count toward standard immigration statistics. Prime Minister Theresa May, for instance, has been an ardent defender of the current policy to include foreign students in immigration totals, whereas critics have argued they should be exempt.³⁸ By counting them in these numbers, foreign students are subject to overall limits on the inflow of immigrants.

More explicit efforts to impose a cap on foreign students in the U.K. have been discussed and debated. In 2012, for example, polling data by the organization Migration Watch UK found that considerable majorities in Britain supported a cap on foreign students.³⁹ Additionally, in 2013, 40 Tory MPs released a document urging the U.K. government to restrict the number of foreign students allowed into the country, except at the U.K.'s very best universities.⁴⁰ At the time, Prime Minister David Cameron referred to the document containing the recommendation as "valuable."⁴¹

The Sample

We fielded our survey in the U.K. in February 2018. Survey Sampling International (SSI), a global survey company, collected the data online from a panel of respondents who

³⁸ Buchan, Lizzy. Jan. 2, 2018. "Theresa May Defends Plan to Count Foreign Students in Immigration Data." *Independent*. Available at: <https://www.independent.co.uk/news/uk/politics/theresa-may-immigration-data-foreign-students-count-defend-plan-a8138206.html>

³⁹ Ford, Richard. Sept. 17, 2012. "Call for Cap on Student Influx from Abroad." Available at: <https://www.thetimes.co.uk/article/call-for-cap-on-student-influx-from-abroad-2kh9wjrwff5>

⁴⁰ Paton, Graeme. Sept. 12, 2013. "Xenophobic Britain Drives Foreign Students Away, Claims Professor." *The Telegraph*. Available at: <https://www.telegraph.co.uk/education/educationnews/10304634/Xenophobic-Britain-drives-foreign-students-away-claims-professor.html>

⁴¹ Matthews, David. July 15, 2013. "Tory MPs Want Overseas Students Cap." *Times Higher Education*. Available at: <https://www.timeshighereducation.com/news/tory-mps-want-overseas-students-cap/2005735.article>

agreed to participate in surveys on various topics. U.K. citizens 18 years of age and older were eligible to take the questionnaire. Our final figures were nationally representative according to age, sex, and statistical regions of the overall population in the U.K.⁴² Our survey included completes for 3,000 respondents, from a base of 3,505 eligible individuals who started the survey.

Treatments

Respondents were randomly assigned to one of six groups: The *Control* group received no prime. Respondents assigned to *Treatment 1* received information that simply referred to the large number of foreign students who attend university in the U.K. This was designed to test for a residual foreign student effect. To tease out whether specific information on competition and fiscal burden effects shape citizen attitudes, we included several additional treatments.

Respondents assigned to these treatments all received the same information as in *Treatment 1*, so they knew the large number of foreign students at U.K. universities. On top of this, they received information relating to crowding out and brain drain.

Respondents assigned to *Treatment 2* received a prime highlighting the fierce competition for entry into U.K. universities, in which domestic students must compete against foreign students for admission. This enables testing for crowding out effects whereby foreign students could make it harder for domestic students to gain a place at universities. We introduced two variations of *Treatment 2*. In *Treatment 2a*, respondents were primed to think about foreign students coming from locations such as North America and Western Europe. In *Treatment 2b*,

⁴² <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates>

respondents were primed to think about them coming from locations such as Asia and Africa. By introducing these variations of *Treatment 2*, we can capture the average competition effect by collapsing both *Treatment 2a* and *2b* into one treatment. We can also test whether the competition effect is predicated on the cultural distance of foreigners. Because North America and Western Europe might be considered more culturally proximate to the U.K., citizens may be less averse to crowding out by foreign students from these regions than from places seen as culturally distant such as Asia and Africa.

Respondents assigned to *Treatment 3* received a prime noting that most foreign students leave the U.K. after completing their coursework and take their skills with them. This allows testing for brain drain effects in which foreign students obtain skills in the U.K. but then leave without contributing to the national economy. There were again two variations of *Treatment 3*. In *Treatment 3a*, respondents were primed to think about foreign students leaving with skills in subjects like art, history, and literature. In *Treatment 3b*, respondents were primed to think about them leaving with skills in subjects like engineering, medicine, and computer science. By using these variations of *Treatment 3*, we can measure the average fiscal burden effect by collapsing both *Treatment 3a* and *3b* into one treatment. We can also probe whether the fiscal burden effect depends on whether foreign students leave the country with higher or lower value-added skills. Since subjects like art, history, and literature might be deemed lower value-added, citizens may be less averse to foreign students leaving with these skills than with higher value-added skills in subjects like engineering, medicine, and computer science.

A summary of the treatments and the precise language used in the primes is below:

Summary of Treatments

Control: [No information]

Treatment 1: [Simple Foreign Student]

Treatment 2a: [Simple Foreign Student][Crowding Out][Culturally Proximate]

Treatment 2b: [Simple Foreign Student][Crowding Out][Culturally Distant]

Treatment 3a: [Simple Foreign Student][Brain Drain][Lower Value-Added]

Treatment 3b: [Simple Foreign Student][Brain Drain][Higher Value-Added]

Simple Foreign Student Prime: The U.K. is a magnet for foreign university students. At some U.K. universities, more than 50% of the student population is foreign.⁴³

Crowding Out Prime: Competition for entry to U.K. universities is fierce, with domestic students vying for admissions slots against foreign students

Culturally Proximate Prime: hailing from places like North America and Western Europe.

Culturally Distant Prime: hailing from places like Asia and Africa.

Brain Drain Prime: Recent data reveal that 97% of foreign students depart the U.K. after completing their coursework, taking the skills they acquired with them⁴⁴

Lower Value-Added Prime: in subjects such as art, history, and literature.

Higher Value-Added Prime: in subjects such as engineering, medicine, and computer science.

⁴³ See:

<https://www.timeshighereducation.com/student/news/world-ranked-universities-most-international-student>
s. U.K. universities with more than 50% international students are the London School of Economics (69.7%), Imperial College London (50.7%), and City University London (50.1%).

⁴⁴ See:

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 (see, for example, footnote 33) - 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%) as opposed to work (14%)

(<https://www.gov.uk/government/publications/immigration-statistics-january-to-march-2017/how-many-people-continue-their-stay-in-the-uk>). Regardless of the exact number used, the point is that nontrivial numbers of students leave the U.K. following their studies.

It is worth noting that our primes reflect realistic messaging surrounding foreign students in the U.K. In terms of crowding, for example,⁴⁵ Sir Keith Burnett of the University of Sheffield has written in the *Times Higher Education* that “[a]n obsession with cleansing the country of foreigners regardless of their contribution was once seen as a right-wing, crypto-racist issue. I now see that it is much broader than that. It is also a feeling in some families that their children are denied access to higher education because of ‘all these students from overseas’.”⁴⁶ In terms of brain drain, this concept has also been widely publicized. As of 2012, for instance, the U.K. Parliament no longer permits jobless foreign students educated in the country to stay in the U.K. for two years after their studies.⁴⁷ Recent headlines such as “Migration figures provide fresh evidence students leave UK after studies end” (*Evening Standard*),⁴⁸ “Almost all foreign students leave Britain on time” (*Sunday Times*)⁴⁹, and “97% of international students leave UK after studies” (*PIE News*)⁵⁰ report on the problem.

Outcome Variable of Interest

⁴⁵ Our primes are deliberately subtle and less value-laden than could be expected in real-world policy debates, where the language surrounding immigration is often expressly shrouded in negative overtones.

⁴⁶ Burnett, Keith. July 17, 2015. "Why Are International Students So Important to Our Universities?" *Times Higher Education*. Available at:

<https://www.timeshighereducation.com/fr/blog/why-are-international-students-so-important-our-universities>

⁴⁷ Oct. 13, 2016. "Hasta la visa." *The Economist*. Available at:

<https://www.economist.com/news/britain/21708682-government-foolishly-making-life-harder-foreign-students-hasta-la-visa>

⁴⁸ Bentham, Martin. Aug. 24, 2017. "Migration Figures Provide Fresh Evidence Students Leave UK after Studies End." *Evening Standard*. Available at:

<https://www.standard.co.uk/news/uk/migration-figures-provide-fresh-evidence-students-leave-uk-after-studies-end-a3619101.html>

⁴⁹ Ford, Richard. Aug. 25, 2017. "Almost All Foreign Students Leave Britain on Time." *Sunday Times*. Available at:

<https://www.thetimes.co.uk/article/almost-all-foreign-students-leave-britain-on-time-zvnbdh7wq>

⁵⁰ Baker, Amy. Aug. 24, 2017. "97% of International Students Leave UK after Studies." *PIE News*. Available at: <https://thepienews.com/news/government/97-international-students-leave-uk-studies/>

For our dependent variable, all respondents were asked the following question pertaining to restrictions on foreign students: “Should there be a cap on the number of foreign students who can study at U.K. universities?” Respondents could answer either “Yes” (coded 1) or “No” (coded 0).

Findings

We now turn to our findings, which all rely on linear regression models to estimate the effects of our primes on support for a cap on foreign students. We first test for an aggregate foreign student effect by comparing respondents who received any of the primes to those who received the control. Model 1 of Table 1 reports these results.⁵¹ The coefficient on *Any treatment* is positive and statistically significant ($\beta = .08$), suggesting that people are more likely to support a cap when assigned to one of the primes. (Hereafter, where coefficients are reported, we will only note when effects are not statistically significant at conventional levels). As shown in Figure 3, when holding the control variables at their average values, 53 percent of citizens support a cap on foreign students when assigned to the control, compared to 61 percent assigned to one of the treatments.

⁵¹ For all regressions, we include the following covariates: gender (female), age, having children, race (white), being born in the U.K., having attended college, being unemployed, and income level.

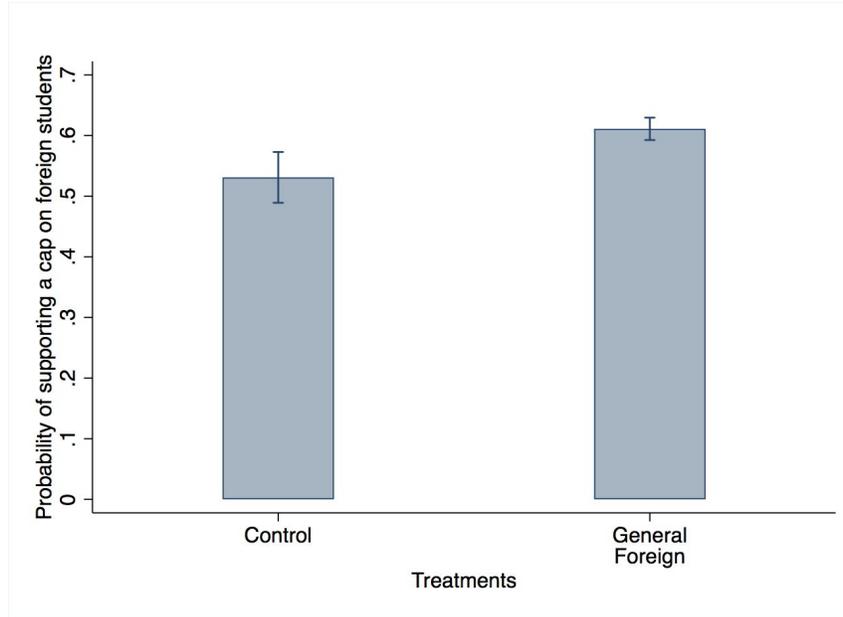


Figure 3: Predicted probability of supporting a cap on foreign students (with 95% confidence intervals), comparing control group and those who receive any treatment.

To estimate the extent to which receiving information on crowding out or brain drain may drive this finding, we next disaggregate the *Any Treatment* prime into its constituent parts:

$$(1) Y_i = \alpha + \beta \text{ Any treatment}_i + \gamma \text{ Crowd out}_i + \delta \text{ Brain drain}_i + X_i + \varepsilon_i$$

Here, *Any treatment* is a binary variable that takes the value of 1 when the respondent receives either the simple foreign, crowding out, or brain drain prime and 0 otherwise. *Crowd out* and *Brain Drain* are binary variables that take the value of 1 if the respondent receives the crowding out or brain drain prime, respectively. X is a set of demographic covariates for individual i , and ε is the error term. The coefficients γ and δ can be interpreted as the marginal effects of the crowding out and brain drain primes, on top of the simple foreign prime effect (estimated by β).

Model 2 of Table 1 summarizes these results. Although the simple foreign prime makes

people more likely to support a cap on foreign students, this effect is not significantly different from zero ($\beta=.03$). By contrast, *Crowd out* has a large marginal effect ($\gamma=.09$, with a total effect $\beta+\gamma=.12$). *Brain drain* also has a positive marginal effect, but it is not statistically significant ($\delta=.04$, with a total effect $\beta+\delta=.07$, and the latter is significantly different from zero). The effect of *Crowd out* is larger than that of *Brain Drain*, and the difference between them is statistically significant.⁵² Figure 4 plots the predicted probabilities of supporting a cap on foreign students when we hold covariates at their average values in the regression.

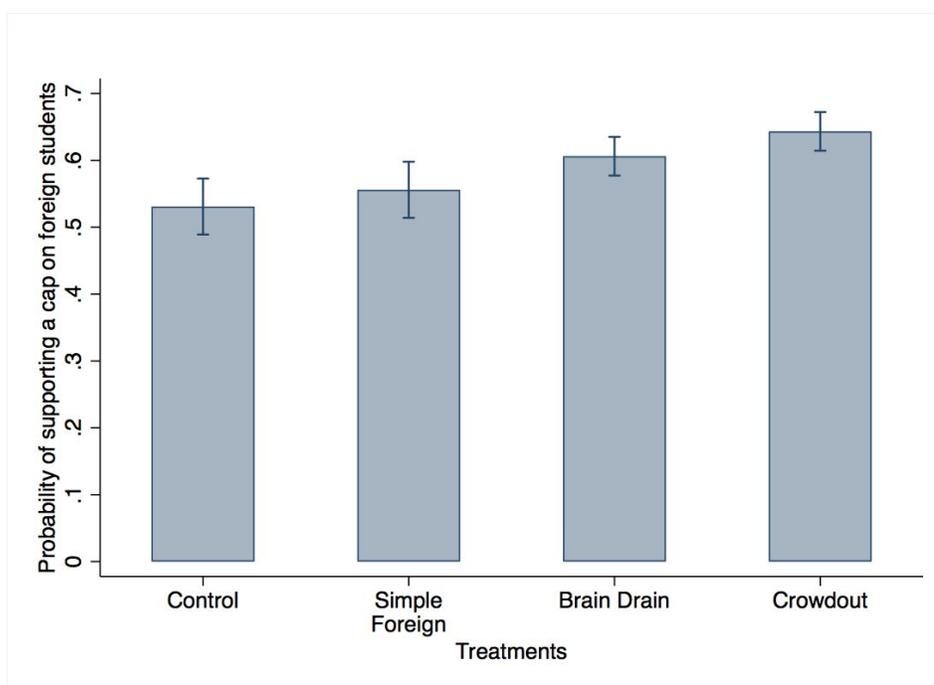


Figure 4: Predicted probability of supporting a cap on foreign students (with 95% confidence intervals), comparing control group and each treatment group.

Next, we investigate whether respondents are more likely to support a cap on foreign

⁵² Appendix Table A1 shows the total effects of each of the treatments compared to the control group and their statistical significance (Model 1), as well as the difference in the effects of the treatments, compared to the crowding out prime (Model 2).

students when primed to think about crowding out in university admissions as occurring by culturally distant foreign students and brain drain as occurring in higher value-added disciplines. To analyze these effects, we break the *Crowd out* and *Brain drain* primes into their constituent parts and estimate the following regression:

$$(2) Y_i = \alpha + \beta \text{ Any treatment}_i + \gamma_1 \text{ Crowd out Proximate}_i + \gamma_2 \text{ Crowd out Distant}_i + \delta_1 \text{ Brain drain Low VA}_i + \delta_2 \text{ Brain drain High VA}_i + X_i + \varepsilon_i$$

Crowd out Proximate and *Crowd out Distant* refer to the culturally proximate and distant crowding out primes, respectively. *Brain drain Low VA* and *Brain drain High VA* represent the lower and higher value-added brain drain primes, respectively. Model 3 of Table 1 shows results from this estimation. Receiving a culturally distant rather than a proximate crowding out prime increases support for a cap on foreign students ($\gamma_2 - \gamma_1 = .002$), although this effect is not statistically significant. Receiving a higher rather than a lower value-added brain drain prime actually decreases support for a cap ($\delta_2 - \delta_1 = -.01$), although this effect is again not statistically significant. Figure 5 graphs the predicted probabilities of supporting a cap on foreign students for respondents receiving the disaggregated primes, using average values of the covariates in the regression.

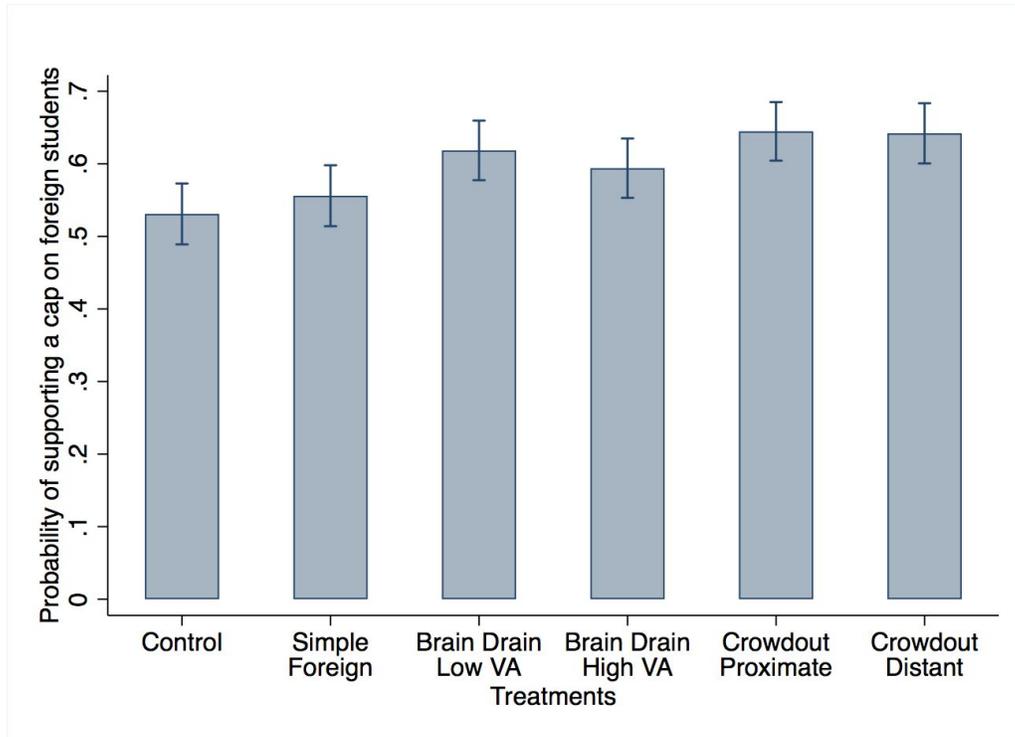


Figure 5: Predicted probability of supporting a cap on foreign students (with 95% confidence intervals), comparing control group and the disaggregated value-added and cultural distance treatment groups.

Conditional Effects by Subgroup

We now test whether groups that we expect to be less supportive of a cap on foreign students have more elastic attitudes when exposed to our primes. The following results are descriptive only insofar as they condition on covariates that we do not manipulate experimentally.

-Respondent-level Demographic Traits

To begin, we stratify our results across respondent-level demographics by interacting our *Crowd out* and *Brain drain* primes with variables for respondent race, parental status, age, and

native-born status:

$$(3) Y_i = \alpha + \beta \text{ Any treatment}_i + \gamma \text{ Crowd out}_i + \gamma_3 \text{ Crowd out}_i \times \text{Subgroup}_i + \\ + \delta \text{ Brain drain}_i + \delta_3 \text{ Brain drain}_i \times \text{Subgroup}_i + \eta \text{ Subgroup}_i + X_i + \varepsilon_i$$

Table 2 summarizes these results. In Model 1 of Table 2, whites are more likely than non-whites to support a cap on foreign students overall ($\eta = .16$). When exposed to the crowding out prime, however, non-whites experience a greater increase in support for a cap ($\gamma_3 = -.15$). For the brain drain prime, there is similar convergence ($\delta_3 = -.08$, although this is not statistically significant). Model 2 of Table 2 estimates effects for parents and non-parents. On the whole, parents support a cap on foreign students more than non-parents ($\eta = .14$). For respondents assigned to the crowding out prime, non-parents increase their support more for a cap ($\gamma_3 = -.05$, although this is not significant). Convergence also arises for the brain drain prime (an insignificant $\delta_3 = -.02$). Model 3 of Table 2 estimates the marginal effects for different age groups (younger people, 18-34; middle-aged people, 35-64; and older people 65+). On average, both middle-aged and older people favor a cap on foreign students more than younger people ($\eta = .03$ for the 35-64 and $\eta = .10$ for the 65+, the former being insignificant). When exposed to the crowding out prime, younger respondents see a greater uptick in support for a cap ($\gamma_3 = .03$ for the 35-64 group and $\gamma_3 = -.01$ for the over 65, although neither is significant). Convergence across age groups also occurs for citizens receiving the brain drain prime ($\gamma_3 = -.02$ for the 35-64 and $\gamma_3 = -.12$ for the over 65, the former being insignificant). Lastly, we look at attitudes among native and non-native citizens. In Model 4 of Table 2, native citizens are, on average, more favorable toward a cap on foreign students than non-natives ($\eta = .05$, not significant). When receiving the crowding out prime, non-natives see more growth in support for a cap ($\gamma_3 = -.004$). With the brain drain prime,

however, slight divergence in preferences actually arises ($\delta_3=.01$, not significant). Holding the control variables at their average values, Figure 6 plots predicted levels of support for a cap on foreign students across demographic divides, with the blue dots signifying groups that we expect to be less favorable toward a cap. In almost every case, exposure to the crowding out and brain drain primes brings the predicted values closer together across demographic cleavages.

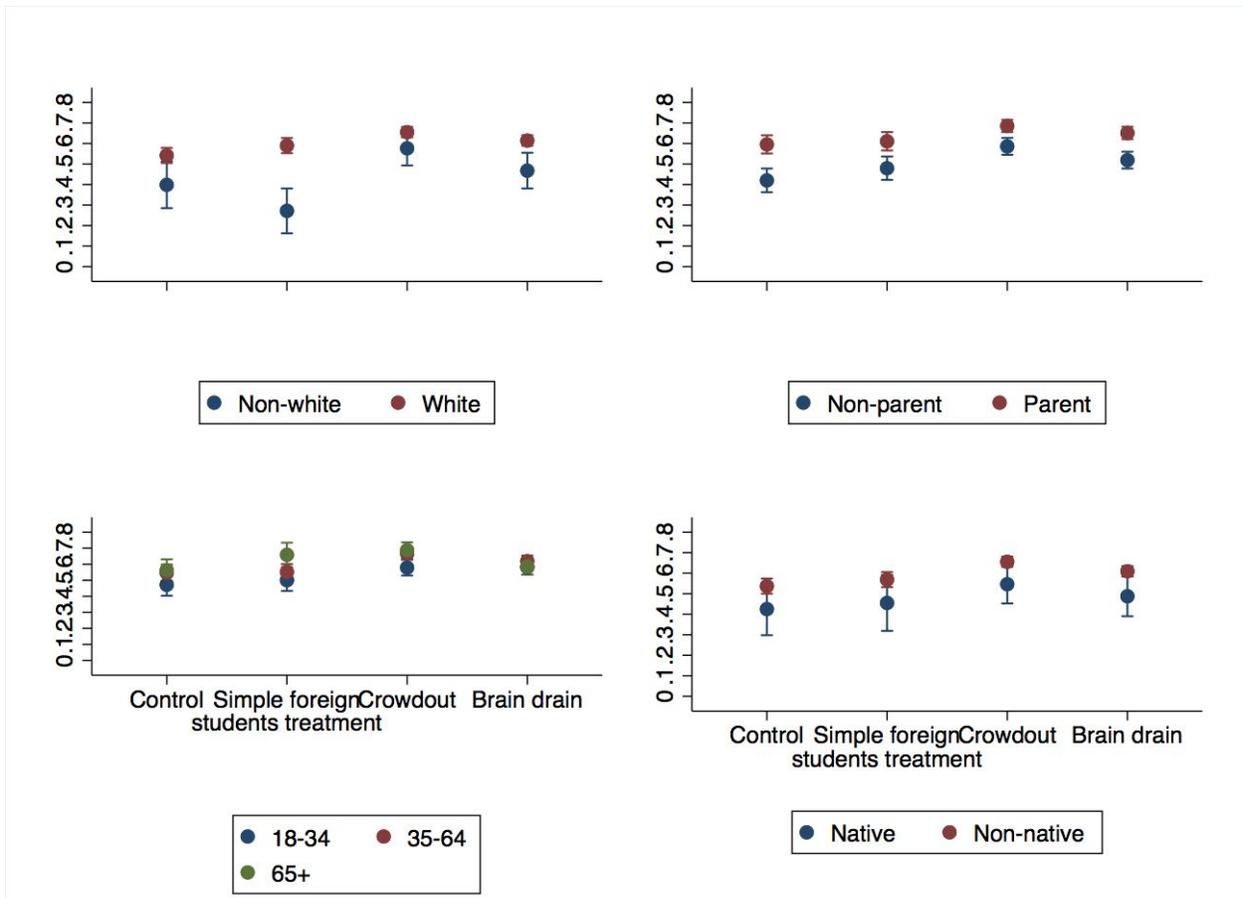


Figure 6: Predicted probability of supporting a cap on foreign students (with 95% confidence intervals). Each plot compares support levels within each of the treatment groups, and by the demographic cleavage indicated.

-Respondent-level Political Traits

We now disaggregate responses conditional on political orientations. Specifically, we interact our *Crowd out* and *Brain drain* primes with variables for citizen ideology, partisan affiliation, and attitudes toward Brexit. Table 3 reports these results. Model 1 of Table 3 estimates the effects of ideology.⁵³ In the main, right-leaners are more supportive of a cap on foreign students than left leaners ($\eta = .22$). When exposed to the crowding out prime, however, left leaners experience a larger uptick in support for a cap ($\gamma_3 = -.05$, although not significant). Convergence also occurs for our brain drain prime ($\beta_3 = -.08$, also not significant). In Model 2 of Table 3, we look at how partisans react. Respondents who “feel closest” to the Conservative party are, on average, more likely to support a cap on foreign students than non-Conservatives ($\eta = .06$). When exposed to the crowding out prime, the increase in support for a cap is larger among non-Conservatives ($\gamma_3 = -.002$, although not significant). The opposite is the case, however, for the brain drain prime ($\beta_3 = .01$, not significant). Finally, we parse opinions of Brexiteers and non-Brexiteers. On average, Brexiteers favor a cap on foreign students more than non-Brexiteers ($\eta = .24$). The crowding out prime has a greater impact in boosting support for a cap among non-Brexiteers ($\gamma_3 = -.04$, but the coefficient is not significant). This pattern also holds for the brain drain prime ($\beta_3 = -.02$, but the coefficient is not significant). Holding the control variables at their average values, Figure 7 shows the predicted levels of support for a cap on foreign students among each of the treatment groups, by political cleavages. Results again reveal that our primes raise support for a cap on foreign students the most among groups who otherwise support the policy less.

⁵³ To operationalize ideology, we use a binary definition of right-leaning. We code as 1 if a respondent identifies as “slightly to the right”, “to the right” or “extremely to the right” on the question: “Below is a 7-point scale on which the political views that people might hold are arranged from extremely to the left to extremely to the right. Where would you place yourself on this scale?” We also include a separate binary variable for those who self-declare as “moderate, middle of the road.”

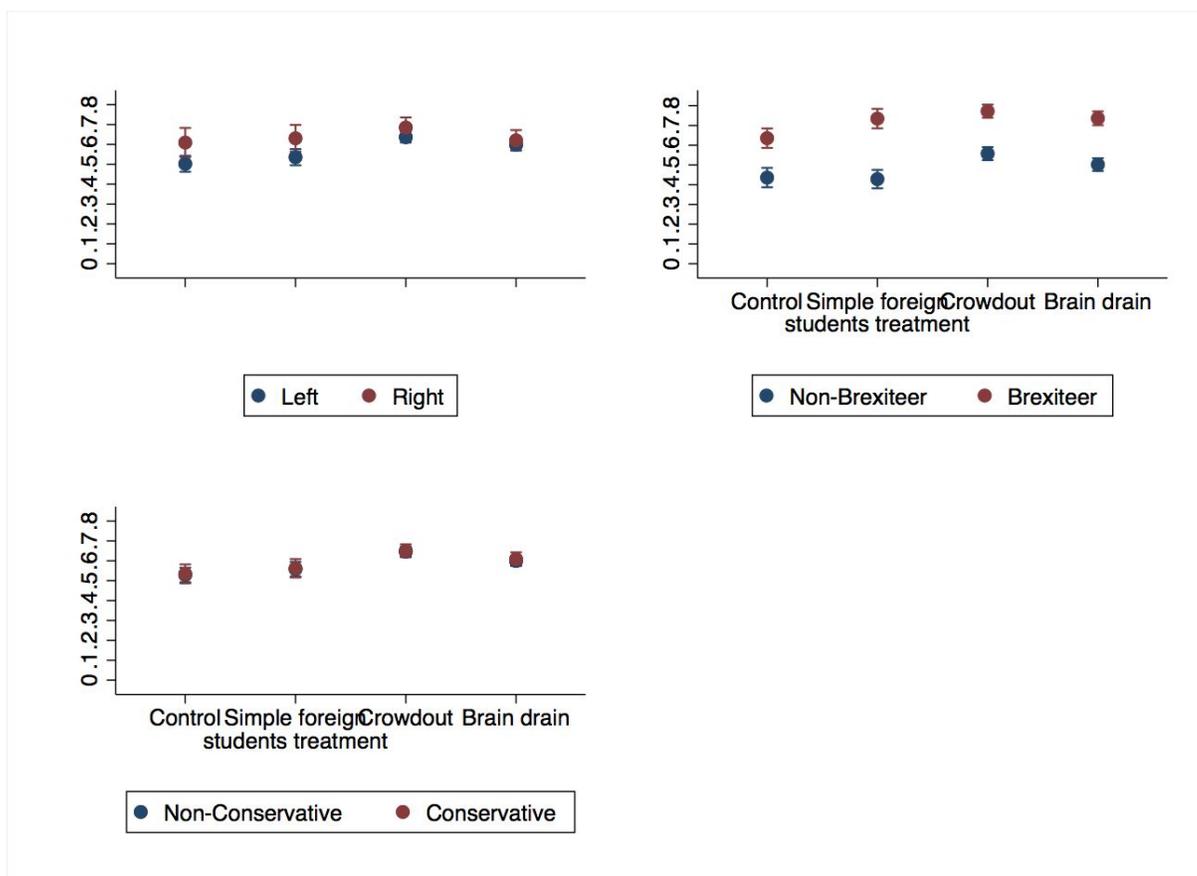


Figure 7: Predicted probability of supporting a cap on foreign students (with 95% confidence intervals). Each plot compares support levels within each of the treatment groups, and by the ideological cleavage indicated.

-Contextual-level Exposure to Immigrants and Foreign Students

To complete our main analysis, we explore whether demographic context shapes attitudes toward a cap on foreign students. To do so, we matched respondents based on their postal codes to the 406 unitary or local authorities in the U.K., which is the lowest level of geographic aggregation for which migration statistics are available.⁵⁴ Using this information, we interacted

⁵⁴ Unitary and local authorities are often either towns or rural parts of counties (e.g., in the county of Aberdeenshire there are two UAs: Aberdeen city and (the rest of) Aberdeenshire). More populated

our *Crowd out* and *Brain Drain* primes with a variable denoting the percentage of incoming immigrants in the authority where respondents reside.⁵⁵ We estimate the following model:

$$(4) Y_{il} = \alpha + \beta Any\ treatment_i + \gamma_1 Crowd\ out_i + \gamma_2 Crowd\ out_i \times Immigrant\ \%_{il} + \delta_1 Brain\ drain_i + \delta_2 Brain\ drain_i \times Immigrant\ \%_{il} + \theta Immigrant\ \%_{il} + X_i + \varepsilon_i$$

Table 4 presents results using standard errors clustered at the authority level. According to Model 1 of Table 4, citizens living in higher immigration areas are, on average, less supportive of a cap on foreign students than citizens living in lower immigration areas ($\theta = -0.05$). When assigned to the crowding out prime, however, respondents in higher immigration areas experience a larger increase in support for a cap ($\gamma_2 = .22$). This convergence, however, does not hold for the brain drain prime ($\gamma_3 = -.04$). To see more clearly the effects of demographic context, Figure 8 maps geo-referenced data by U.K. authority for: immigration (Panel A); average support for a cap (for all participants in the area) (Panel B); and a measure of the average effect of receiving any treatment (the mean difference in the residuals from the predicted support for a cap in the main model, between those who receive a treatment versus the control) (Panel C). The correspondence in shades between Panel A and Panels B-C is striking. Darker shaded areas in Panel A (indicating higher levels of immigration) tend to be shaded lighter in Panel B (indicating less support for a cap) and darker in Panel C (indicating larger treatment effects). Particularly notable is that urban agglomerations, such as London (Figure 8b), generally have a high percentage of immigrants and low levels of support for a cap, yet experience large treatment

counties are divided into several unitary authorities (e.g., Oxfordshire is divided into five). Each London borough is an independent unitary authority. Data are available at <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/migrationwithintheuk/datasets/localareamigrationindicatorsunitedkingdom>

⁵⁵ Immigrant percentage is measured as the number of immigrants over the ten year period 2007-2016 who moved into each authority, divided by the total resident population.

effects.

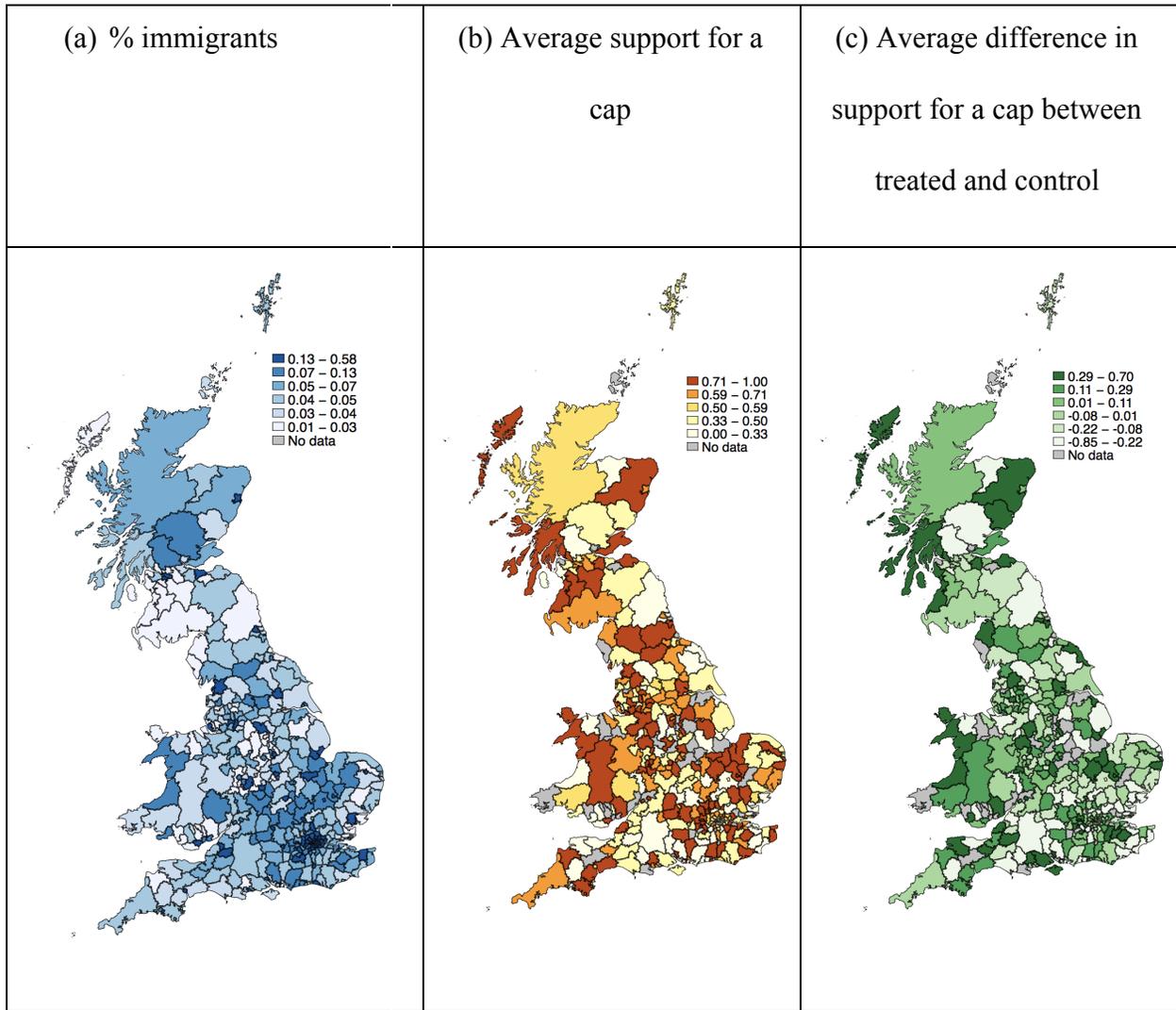


Figure 8a (For U.K. as a whole)

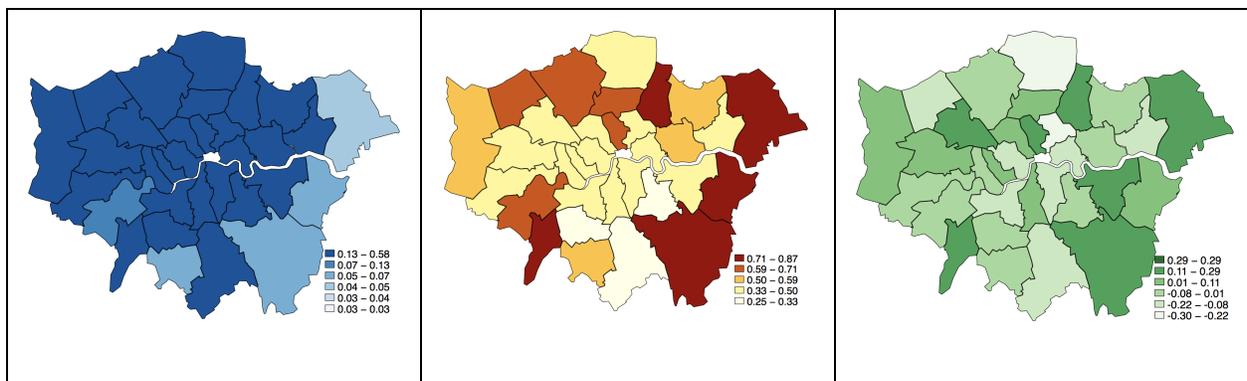


Figure 8b (By borough of London): Percentage of immigrants (A), predicted probability of

supporting a cap on foreign students in our main model (B), and average difference in support for a cap between respondents who receive any treatment and in the control group (difference in residuals in the main model) (C).

Extension: Effects on Preferences for Government Spending on Universities

As an extension to our main results, we also probe how our primes affect preferences for government spending on higher education in the U.K. The reason is that many policy levers are available to citizens in how they can respond to foreign students. Although capping numbers may be the most direct method at restricting their participation, anti-foreign-student attitudes could also have spillovers in other domains, including public expenditures on universities. Based on self-interest, respondents could plausibly have competing reactions to both the crowding out and brain drain primes.

For the crowding out prime, citizens could support less state spending on universities if they and those close to them are less likely to benefit from this money given the difficulty of getting into schools. Alternatively, citizens might actually prefer more spending if it could expand the number of places at universities and alleviate pressure on scarce admissions slots. For the brain drain prime, citizens might favor less spending if the funds subsidize the skilled labor force of other countries. Conversely, citizens could prefer more spending if it helped to fill a domestic skill deficit.

We examined attitudes toward state spending on U.K. universities through stated preferences. As part of our survey, each respondent who answered the question about a cap on foreign students was also asked: “Would you like to see more or less government spending than

there is today on universities in the U.K.?” We ordered responses on a 1-5 Likert scale, from 1 = “Government should spend much less” to 5 = “Government should spend much more.” We then estimated identical models to those described earlier, except we used spending preferences as the DV.

Results

To begin, we estimate the aggregate effect of receiving any of the foreign student treatments. Results are reported in Model 1 of Table 5. The coefficient on *Any Treatment* is negative (-.09), suggesting that citizens, on average, support less government spending on universities when they receive a prime as opposed to the control. Next, we unpack the marginal effects of the specific treatments. Model 2 of Table 5 shows that people who receive only the foreign student prime support less government spending on universities ($\beta = -.17$). The marginal effects of both *Crowd out* and *Brain drain*, however, are actually positive ($\gamma = .14$ and $\delta = .05$, although the latter is not significant). This suggests that, when faced with the crowding out as opposed to just the simple foreign student prime, people prefer to invest more in universities, potentially to mitigate the pressure on scarce admissions slots. Similarly, when faced with the brain drain prime, citizens also favor more spending, possibly to reduce the domestic skill shortage. As shown in Model 3 of Table 5, the perceived cultural distance of foreign students and whether their skills are in higher value-added areas do not significantly affect the results ($\gamma_2 = -.05$ and $\delta_2 = .05$, but neither is significant). Figure 9 plots the predicted support levels of state spending on U.K. universities.

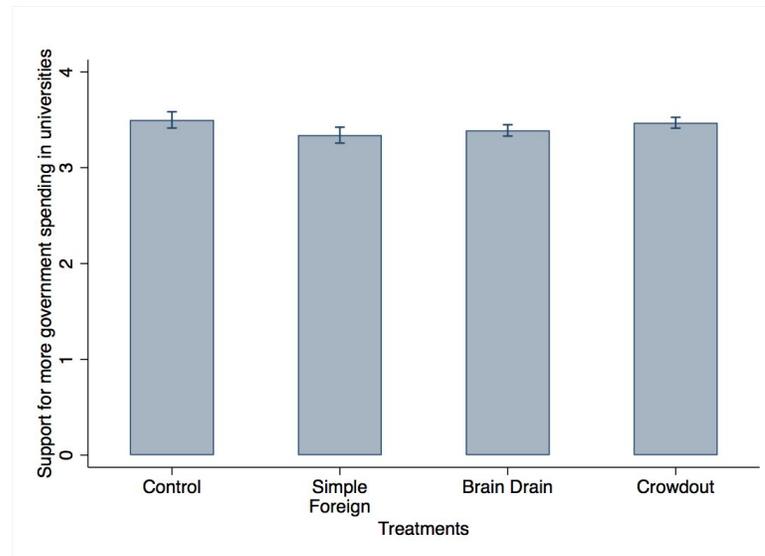


Figure 9: Predicted level of support for more government spending in universities (with 95% confidence intervals), comparing control group and those who receive each of the treatments.

Overall, this extension indicates how priming citizens about foreign students can inform policy preferences beyond those just pertaining to capping their numbers. People appear to look for alternative methods for preserving their self-interest apart from just calling for restrictions on foreign students. In particular informing citizens of the large number of foreign beneficiaries in U.K. higher education results in less support for government funding. When citizens receive additional information about crowding out and brain drain, however, the public is comparatively less willing to support declines to public funding.⁵⁶

⁵⁶ Within the U.K., policymakers have taken concrete actions that would be consistent with efforts to address the problems of both crowding out and brain drain. In 2015-16, for example, the cap on the overall number of students that English universities could accept - domestic or foreign - was lifted, leading to growth in enrollment at many universities (see: <https://www.economist.com/britain/2016/03/10/open-universities>). Moreover, in 2017, the U.K. government released two prominent reports - the *Shadbolt Review* and the *Wakeham Review* - that explicitly set forth recommendations for how the higher education sector could adapt to address the skill deficit (see:

Conclusion

Foreign students offer considerable economic benefits to societies. Yet in many countries, calls for imposing caps on the number of foreign students that universities can accept have grown louder. This seems to conflict with expectations, since the standard criticisms of immigrants - that they take away jobs and abuse public services - should not apply to foreign students. We argue that the reason for this behavior can be attributed to analogous ways that foreign students are perceived to generate competition and impose a fiscal burden on populations.

Using an original, nationally-representative survey experiment in the U.K., we discover that citizens support a cap on foreign students more overall when primed to think about how foreign students introduce competition - namely, by crowding out scarce admissions slots at universities. We find no significant evidence, however, that citizens support a cap more when presented with information about how foreign students impose a fiscal burden on citizens - namely, by acquiring skills but then leaving the country without contributing to the national economy.

We find that attitudes toward crowding out are not significantly affected by whether foreign students are characterized as coming from culturally distant geographic areas. Nor are attitudes toward brain drain significantly influenced by whether foreign students leave the country with higher value-added skills. The effects of our primes in impelling support for a cap on foreign students, however, are typically stronger among groups who otherwise support the

<https://www.gov.uk/government/news/experts-call-for-employers-and-universities-to-do-more-to-address-stem-skills-shortages>).

policy less. In this way, exposure to our treatments yields convergence in preferences for a cap across the whole of our sample.

We also extended our results to look at how our primes affect support for government spending on universities. On net, providing information about the large number of foreign students in the country decreases support for state outlays. At the margins, however, priming on crowding out and brain drain partially offsets this effect. This could be because citizens react to crowding out by desiring to bolster the number of admissions slots available for domestic students and to brain drain by wanting to fill the skill shortage at home through investments in higher education.

Our study contributes to a rich literature on the political economy of immigration by unpacking attitudes toward a specific immigrant type. Given the many types of immigrants and their competing effects, it is essential to understand how citizens perceive them. Although most studies that use self-interest to explain anti-immigrant attitudes focus on job competition and entitlement costs, other dynamics may be relevant. We identify two such concerns - crowding out in admissions and brain drain - that apply to foreign students. Comparable dynamics may apply to other types of immigrants.

Future research could investigate how exactly priming citizens about the impacts of foreign students influences support for restricting their numbers. For example, our primes could simply bring to the fore latent preferences that citizens already hold toward foreign students. Another interpretation is that our primes actually create - or shift - attitudes toward foreign students. This could be particularly true for low-information or politically moderate voters who

might not have well-formulated views on a complex policy topic such as restrictions on immigration.⁵⁷

In the U.K. and elsewhere, attempts to increase the foreign student population are fraught with challenges. To the extent that politicians, the press, or activists promote anti-immigration platforms, resentment toward foreign students is unlikely to subside. How to combat these forces - and ensure that people see the full range of benefits of foreign students - should be a priority area for research. One pressing question is whether priming citizens about the large economic benefits of foreign students (and, potentially, other types of immigrants) causes people to reject a cap on their numbers.

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⁵⁷ Some argue that primes simply make preexisting preferences more salient (e.g., Stenner 2005), whereas others claims that they actually change or generate new preferences that would not exist otherwise (e.g., Zaller 1992).

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Main Tables

Table 1: Marginal effect of treatments on support for a cap on foreign students

	(1)	(2)	(3)
Any treatment	0.0827*** (0.0233)	0.0317 (0.0303)	0.0317 (0.0303)
Crowd out		0.0872*** (0.0260)	0.0860** (0.0297)
Brain drain		0.0404 (0.0260)	0.0474 (0.0300)
Crowd out X Culturally distant			0.00246 (0.0296)
Brain drain X High VA			-0.0140 (0.0296)
Observations	3000	3000	3000
R^2	0.079	0.083	0.083

Displays results from linear regression models, with individual covariates as described in the text. Model 2 shows marginal effects of the crowding out and brain drain treatments in addition to the effect of the simple foreign student treatment. Model 3 shows marginal effects of these treatments, as well as those for the cultural distance and high value-added treatments. Robust standard errors in parentheses. ⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2: Marginal effect of treatments on support for a cap on foreign students, by respondent demographics

	(1)	(2)	(3)	(4)
Any treatment	0.0309 (0.0302)	0.0324 (0.0303)	0.0328 (0.0303)	0.0317 (0.0303)
Crowd out	0.221** (0.0720)	0.120** (0.0382)	0.0764 ⁺ (0.0442)	0.0905 (0.0821)
Brain drain	0.112 (0.0734)	0.0525 (0.0382)	0.0787 ⁺ (0.0429)	0.0316 (0.0837)
White	0.162** (0.0527)	0.0882** (0.0328)	0.0865** (0.0328)	0.0889** (0.0329)
Crowd out X White	-0.147* (0.0739)			
Brain drain X White	-0.0789 (0.0754)			
Parent	0.109*** (0.0190)	0.135*** (0.0321)	0.106*** (0.0190)	0.110*** (0.0190)
Crowd out X Parent		-0.0536 (0.0440)		
Brain drain X Parent		-0.0207 (0.0441)		
35-64 years			0.0370 (0.0372)	
65+ years			0.0935* (0.0459)	
Crowd out X 35-64 years			0.0260 (0.0513)	
Crowd out X 65+ years			-0.0139 (0.0598)	
Brain drain X 35-64 years			-0.0249 (0.0504)	
Brain drain X 65+ years			-0.119* (0.0594)	
UK Native	0.0534 (0.0357)	0.0541 (0.0358)	0.0550 (0.0357)	0.0522 (0.0600)
Crowd out X UK Native				-0.00354 (0.0833)
Brain drain X UK Native				0.00940 (0.0850)
Observations	3000	3000	3000	3000
R^2	0.084	0.083	0.085	0.083

Displays results from linear regression models, with individual covariates as described in the text. The omitted age category in Model 3 is 18-24. Robust standard errors in parentheses. ⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3: Marginal effect of treatments on support for a cap on foreign students, by respondent political traits

	(1)	(2)	(3)
Any treatment	0.0306 (0.0301)	0.0293 (0.0303)	0.0410 (0.0296)
Crowd out	0.102*** (0.0284)	0.0888** (0.0295)	0.106*** (0.0321)
Brain drain	0.0637* (0.0284)	0.0395 (0.0294)	0.0503 (0.0317)
Crowd out X Right	-0.0523 (0.0495)		
Brain drain X Right	-0.0783 (0.0496)		
Right	0.218*** (0.0377)		
Conservative party		0.0567+ (0.0337)	
Crowd out X Conservative party		-0.00188 (0.0462)	
Brain drain X Conservative party		0.00921 (0.0467)	
Brexitteer			0.238*** (0.0309)
Crowd out X Brexitteer			-0.0378 (0.0412)
Brain drain X Brexitteer			-0.0181 (0.0414)
Observations	3000	3000	3000
R^2	0.104	0.085	0.123

Displays results from linear regression models, with individual covariates as described in the text. A "moderate ideology" binary variable is included but not shown in Model 1. A binary variable "neutral on Brexit" is included but not shown in Model 3. Robust standard errors in parentheses. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4: Marginal effect of treatments on support for a cap on foreign students, by migration levels in the unitary or local authority

	(1)
Any treatment	0.0329 (0.0312)
Crowd out X Immigrant %	0.220 (0.255)
Crowd out	0.0595 (0.0404)
Brain drain X Immigrant %	-0.0421 (0.204)
Brain drain	0.0410 (0.0368)
Immigrant %	-0.0511 (0.176)
Observations	2704
R^2	0.075

Displays results from linear regression models, with individual covariates as described in the text. Standard errors, clustered by unitary or local authority, in parentheses.⁺
 $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5: Marginal effect of treatments on support for more government spending on universities

	(1)	(2)	(3)
Foreign students	-0.0915 ⁺ (0.0473)	-0.167** (0.0606)	-0.167** (0.0606)
Crowd out		0.137** (0.0513)	0.163** (0.0581)
Brain Drain		0.0512 (0.0521)	0.0240 (0.0605)
Crowd out X Culturally distant			-0.0522 (0.0579)
Brain Drain X High VA			0.0542 (0.0609)
Observations	3000	3000	3000
R^2	0.075	0.078	0.078

Displays results from linear regression models, with individual covariates as described in the text. Support for more spending is measured in 1-5 Likert scale, from 1 = Government should spend much less to 5 = Government should spend much more. Model 2 shows marginal effects of the crowding out and brain drain treatments in addition to the effect of the simple foreign student treatment. Model 3 shows marginal effects of these treatments, as well as those for the cultural distance and high value-added treatments. Robust standard errors in parentheses. ⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix Table

Table A1: Total effect of treatments on support for a cap on foreign students

	(1)	(2)
Foreign students	0.0317 (0.0303)	-0.0872*** (0.0260)
Crowd out	0.119*** (0.0260)	
Brain drain	0.0721** (0.0260)	-0.0469* (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 treatment categories are the recipients of no primes (control group) in Model 1 and recipients of the crowding out prime in Model 2. Robust standard errors in parentheses. ⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$