

Reviving the Labor Market Competition Hypothesis of Anti-Immigrant Attitudes? Experimental Evidence from a Nationally Representative Sample

Jonathan Mellon

May 12, 2016

Western democracies have seen a substantial rise in the salience of immigration in the last decade, a trend which has resulted in increased success for radical right parties and candidates across these countries Akkerman 2012; Dahlström and Sundell 2012; Mudde 2013; Abou-Chadi 2015. However, the causes of anti-immigrant sentiment are strongly contested within political science. On the one hand, descriptive work has tended to find that economic concerns strongly correlate with anti-immigrant sentiment (Mayda 2006; Dancygier and Donnelly 2013; Malhotra, Margalit, and Mo 2013; Helbling 2011; Ford and Goodwin 2014), particularly in terms of native workers' perception that they are being economically threatened by migrants. On the other hand, experimental work has found that anti-immigrant sentiment does not appear to reflect the predictions of economic theory, which would suggest that native workers will be most threatened by immigrants with skill levels similar to their own (Hainmueller and Hiscox 2007; Hainmueller and Hiscox 2010; Bohrer et al. 2014; Harell et al. 2012; Goldstein and Peters 2014; Hainmueller, Hiscox, and Margalit 2015).

This article argues that these experimental tests of labor market threat do not test threat in a way that is equivalent for high and low skilled workers because a much smaller proportion of high skilled immigrants threaten high skilled natives compared to the threat of low skilled immigrants to low skilled natives. Low skilled jobs are relatively unprotected from competition, because anyone can potentially do that job. By contrast, high skilled workers are protected from almost all competition except from people with precisely the same set of skills as them.

To deal with this asymmetry, I use a novel experimental test of the labor market competition hypothesis by presenting a random subset of subjects on a nationally representative survey with potential immigrants who would work in the same occupation as the subject, thereby testing the effect of immigrants who are directly competing with the respondent economically.

I find strong evidence for the labor market competition hypothesis. While

respondents prefer high skilled to low skilled immigrants in general, they are as opposed to immigrants who directly compete with them as they are to low skilled immigrants. This effect holds both for low and high skilled natives, showing that labor market competition can generate anti-immigrant attitudes even in high skilled natives. Additional analysis finds that low skilled natives feel economically threatened both by generic low skilled immigrants, whereas high skilled natives do not feel economically threatened by generic high skilled immigrants.

These results help to resolve the divide between observational and experimental research and suggest that the field has been too quick to dismiss the economic dimension of anti-immigrant attitudes. These results instead suggest that there are multiple reasons why people may oppose immigration.

These findings also have implications for policy. If anti-immigrant attitudes were purely cultural, then addressing any economic effects of immigration would be ineffective in increasing support for immigration. While these results certainly do not dismiss the role that cultural factors play in anti-immigrant sentiment, policymakers should perhaps be less quick to dismiss economic concerns as automatically being cover for cultural fears.

1 The Labor Market Competition Hypothesis of Anti-immigration Attitudes

Perceived labor market competition has been heavily contested as a cause of anti-immigrant sentiment. The evidence has been unusually divided, with observational studies finding mixed evidence for the link and experimental evidence finding no effect.

One line of observational evidence for the effect of perceived economic competition on anti-immigrant attitudes comes from the strong relationship between educational attainment and pro-immigrant attitudes (Scheve and Slaughter 2001; Mayda 2006). Other observational work has pointed to evidence that workers in growing industries are more pro-immigration than workers in shrinking industries (Dancygier and Donnelly 2013), that technology workers oppose H1B visas (which Indian technology workers often immigrate on) but not Indian immigration more generally (Malhotra, Margalit, and Mo 2013), and that high skilled Swiss workers who are early in their careers oppose German immigration (Helbling 2011). On the other hand, Facchini, Mayda, and Mendola (2013) find no evidence of labor market competition effects in South Africa and Dustmann and Preston (2007) find only a weak relationship in the United Kingdom.

The existing experimental evidence almost entirely points against the labor market competition hypothesis, consistently finding that labor market competition is not a cause of anti-immigrant attitudes. Hainmueller and Hiscox (2010) pioneered the approach of randomly assigning the skill level of hypothetical immigrants to assess whether native workers were more negative towards immigrants of the same skill level as them. Studies following this approach have

consistently found that both high and low skilled native workers prefer high to low skilled immigrants (Hainmueller and Hiscox 2007; Hainmueller and Hiscox 2010; Bohrer et al. 2014; Harell et al. 2012; Goldstein and Peters 2014; Hainmueller, Hiscox, and Margalit 2015). Since the labor market competition theory predicts that workers should be most opposed to immigrants with similar skills to them, this has been interpreted as decisive evidence against the labor market competition theory. Instead this line of research has tended to argue that cultural factors are the key factor in explaining anti-immigrant sentiment.

While previous experimental approaches are a large improvement on studies which conclude that labor market competition is important simply because pro-immigration attitudes correlate with educational attainment, they still constitute an imprecise test of the labor market competition hypothesis. The main reason for this is that a generic low skilled immigrant is genuinely a more realistic economic threat to a low skilled native than a generic high skilled immigrant is to a high skilled native. This is because high skilled occupations have much more specific human capital requirements than low skilled occupations. An influx of foreign dentists poses essentially zero economic threat to native software developers. By contrast, an influx of foreign care workers could easily threaten the jobs of low skilled native workers in other low skilled occupations such as cleaners and servers, as there is relatively little difference in the requirements of each job. This also fits with the economic literatures findings that immigration differentially lowers the wages and employment of certain workers (generally low-skilled in the United States and British context), while benefiting others (Borjas 2003; Peri and Sparber 2009; Orrenius and Zavodny 2007), although most studies have found even these effects to be relatively modest (Peri and Sparber 2009; Ottaviano and Peri 2012; Gaston and Nelson 2013).

Given that the economic threat in previous experiments may not be equal across different native skill levels, the finding that all natives prefer high to low skilled immigration may instead reflect the expected benefit of different immigration. With the exception of doctors themselves, both high and low skilled natives will likely benefit more from a greater supply of physicians than they will from a greater supply of fruit pickers, while the economic costs in terms of government benefits, housing competition etc are likely to remain relatively similar across different immigrant skill levels.

A fairer test of the labor market hypothesis theory therefore requires a treatment that could be as economically competitive for high skilled workers as it is for low skilled workers, rather than simply relying on generic high or low skilled labels.

2 Experimental Design, Data, Model Specification, and Analysis

This paper builds on the existing experimental designs that test labor market competition by presenting different types of immigrants to a survey respon-

Figure 1: Example of a survey screen that would be seen by a respondent in the experiment.

YouGov

Professors at several leading universities have said that Britain's economy could be greatly improved if more people were allowed to immigrate to Britain for jobs including carers and IT consultants. Do you agree that *more* people like this should be allowed to *come to Britain* to live and work?

☒ Strongly agree

☐ Agree

☐ Somewhat agree

☐ Neither agree nor disagree

☐ Somewhat disagree

☐ Disagree

☐ Strongly disagree

☐ Don't know

dent. The key difference in my approach is that respondents are asked whether they would favor more immigrants in particular occupations. As well as being randomly assigned immigrants from a set of pre-defined high and low skilled occupations, I also assign half of the subjects to be asked about immigrants who would be looking for work in the same occupation as the respondent (which was collected in a previous survey wave), which is the key labor market competition treatment in this paper. Finally, two jobs are included in the prompt in order to make the insertion of the respondent's own job slightly less obvious as well.

To code the occupations of the respondents, I took the open ended occupation responses of 7585 respondents and manually coded a job that would fit into the following question stem:

Professors at several leading universities have said that Britain's economy could be greatly improved if more people were allowed to immigrate to Britain for jobs including \$Job1 and \$Job2. Do you agree that *more* people like this should be allowed to *come to Britain* to live and work?

in the \$Job2 position. Examples include: train drivers, account managers, warehouse workers and teaching assistants. In total, 299 unique jobs were coded in the data. An example of the screen a respondent would see is shown in figure 1.

The experiment is designed to make the insertion of the respondent's occupation less obvious in several ways. Firstly, I code the occupation text to be as specific as possible, without making it obvious to the respondent that the text is copied from their occupation responses on a previous survey wave. Secondly, the experimental wave was fielded nearly a year after the occupational data was collected to reduce the chance that respondents explicitly remember having given their occupation. Finally, two jobs are included in the question to make it appear that the respondent's occupation merely happened to be one of the ones mentioned.

For \$Job1, respondents are randomly assigned one of the twelve occupations. The low skill jobs are randomly assigned as one of waiters, drivers, receptionists, shop assistants, carers, and cleaners and the high skill jobs are randomly assigned between senior managers, doctors, lawyers, lecturers, engineers, and programmers.

For \$Job2, half of respondents are assigned their own occupation. The other half of respondents are randomly assigned one of the twelve occupations. If respondents are assigned the same job twice or if one of the jobs happens to be their own job (in the control condition), the job is replaced with another job of the same skill level from the list. The assignments in the limit and in practice are shown in table 1. Balance checks on educational level and prior anti-immigrant attitudes are shown in appendix C and show no significant differences.

Table 1: Experimental assignments

	Assignment	% in limit	Cases assigned	% assigned
1	Low skilled/own occupation	25	1213	24.90
2	High skilled/own occupation	25	1235	25.30
3	Both high skilled	12.5	611	12.50
4	Both low skilled	12.5	655	13.40
5	Low skilled and high skilled	25	1164	23.90

The key hypothesis of this paper is that respondents will be less willing to accept immigrants who directly compete with them economically than other immigrants. Given that previous research has already demonstrated that both low and high educated natives dislike low skilled immigrants compared to high skilled immigrants, the key comparison is between the preferences of high skilled natives for high skilled immigrants and high skilled immigrants who would in the same occupation as the respondent. While I hypothesize that both high and low skilled natives will prefer generic high skilled immigrants to immigrants who are a labor market threat, it is not clear from theory whether we should expect native workers to prefer low skilled immigrants or immigrants who are a labor market threat.

In the case of low skilled native workers, any low skilled immigrant is already a potential labor market threat because there are few barriers to entry in low wage labor markets. In the case of high skilled native workers, low skilled migrants are not a labor market threat, but they may be less desirable because they may be seen as increasing demands on the welfare state (increasing taxes) or because they are seen as less culturally desirable (Hainmueller and Hopkins 2015).

Additionally, the structure of this experiment allows me to attempt a replication of previous experimental findings that: both low and high skilled natives prefer high to low skilled immigrants and that high skilled natives are more positive towards immigration in general. These hypotheses are only tested within the group of respondents who do not receive the own job experimental assignment.

While the labor market competition hypothesis suggests that the effect of immigrant occupations will be primarily through economic threat, others argue that particular immigrant occupations can signal cultural threats as well (Hainmueller and Hopkins 2015). I test both of these mechanisms by collecting two manipulation check variables testing whether respondents feel economically threatened or culturally threatened.

The economic threat measure asks “How worried would you be about *your job prospects* if immigrants like these were allowed to come to Britain in greater numbers?”, with responses recorded on a 1 to 7 scale from “Not at all worried” to “Very worried”. The cultural threat measure asks “How worried would you be about immigrants like these fitting into British society?”, with responses recorded on a 1 to 7 scale from “Not at all worried” to “Very worried”.

I also break down the experimental results according to the skill level of the respondents. Following previous experimental research on immigrant attitudes (Hainmueller and Hopkins 2015; Hainmueller and Hiscox 2010), I use educational attainment as a proxy for skill level. I combine the educational attainment of the respondents into three categories: high (undergraduate level qualification or higher), medium (left school at 18 with qualifications such as A-levels), and low (left school with age 16 qualifications such as GCSEs or lower).

All analysis in this paper was pre-registered at the Experiments in Governance and Politics (EGAP) registry except where otherwise noted.¹ The pre-analysis plan consisted of a knitr document that also formed the template for the current paper.

2.1 Model Specification

Each of the hypotheses is tested using an ordered logistic regression estimator. For instance hypotheses A and B are tested by predicting the latent variable y^* , which is observed as an ordinal variable y which takes values:

$$y = \begin{cases} 1 & \text{if } y^* \leq \mu_1, \\ 2 & \text{if } \mu_1 < y^* \leq \mu_2, \\ 3 & \text{if } \mu_2 < y^* \leq \mu_3, \\ \vdots & \\ 7 & \text{if } y^* > \mu_7 \end{cases}$$

The coefficients $\beta_1 \dots \beta_9$ are estimated using maximum likelihood estimation:

$$y^* = \beta_1 low_{j1} + \beta_2 low_{j2} + \beta_3 own_{j2} + \beta_4 educ_{low} + \beta_5 educ_{med} + \beta_6 educ_{low} * own_{j2} + \beta_7 educ_{med} * own_{j2} + \beta_8 educ_{low} * low_{j2} + \beta_9 educ_{med} * low_{j2} \quad (1)$$

, where low_{j1} refers to a low skilled job in the job 1 position, own_{j2} refers to the respondent’s own job in the job 2 position and $educ_{low}$ is a dummy capturing

¹Link will go here.

whether a respondent is in the low educational attainment category.

2.2 Sample

The experiment was fielded in wave 7 (April 2016) of the British Election Study Internet Panel to 4878 respondents (around a quarter of the sample excluding topup respondents and respondents whose occupation could not be coded on a previous wave).² The survey was only fielded to respondents who had taken a previous wave of the British Election Study and had given a current or recent occupation that could be coded for the experiment. The time period of the fieldwork was directly prior to the devolved and local elections around the UK and two months prior to the referendum on Britain’s membership of the European Union, where immigration is a highly salient issue. The fieldwork for the British Election Study Internet Panel is conducted online by YouGov and is quota sampled and weighted to be politically and demographically representative of the British population. While the sample is not a true probability sample, previous work has found Internet panels to be consistent in their correlation structures (Sanders et al. 2007), although not always correct on the exact univariate distributions of variables (Mellon and Prosser 2016). Given that this study is experimental and that previous experimental studies have found consistent results across different contexts, the level of representativeness is sufficient to be confident of the external validity of these experimental results. The full syntax for the experiment is shown in appendix E.

3 Effects of Labor Market Competition on Support for Greater Immigration

Figure 2 shows the marginal effects of the experimental conditions on the probability of choosing the “strongly disagree” (1 on the 1-7 scale) of whether more immigrants should be allowed to live in Britain. The marginal effects are indicated by dots and the lines show the 95% confidence intervals. The dots with no lines are the reference categories for categorical variables. The full regression table is shown in Table 2. The results show that subjects presented with their own job are 4.3 percentage points more likely to say that they “strongly disagree” that more immigrants should be allowed to come to Britain. The magnitude of this effect is almost exactly the same as the effect of being presented with the 5.3 percentage point effect (SE=1.7) of presenting a 4.3 percentage point effect (SE=1.3) of presenting a low skilled immigrant in the second slot.

The model includes high skilled natives and high skilled immigrants as the base categories, so this effect should be interpreted as the comparison between the preference for a generic high skilled immigrant and a high skilled immigrant who is directly competing with the high skilled native respondent.

²The experiment is covered by the British Election Study’s ethical clearance from the University of Manchester, which explicitly includes survey experiments.

Table 2: Ordered logistic regression predicting acceptance of immigrants. (Reference categories: high education, Job 1: high, skill, and Job 2: high skill)

	Model 1
Low education	-1.22*** (0.12)
Medium education	-0.74*** (0.14)
Job 1: low skill	-0.62*** (0.05)
Job 2: Low skill	-0.40*** (0.12)
Job 2: own job	-0.34*** (0.10)
Low ed. * low skill job	-0.06 (0.17)
Medium ed. * low skill job	0.00 (0.20)
Low ed. * own job	-0.23 (0.15)
Medium ed. * own job	-0.15 (0.17)
AIC	16191.94
BIC	16287.95
Log Likelihood	-8080.97
Deviance	16161.94
Num. obs.	4449

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Figure 2: Effects of labor market competition treatment on probability of ‘strongly disagreeing’ that more immigrants should be allowed to come to Britain

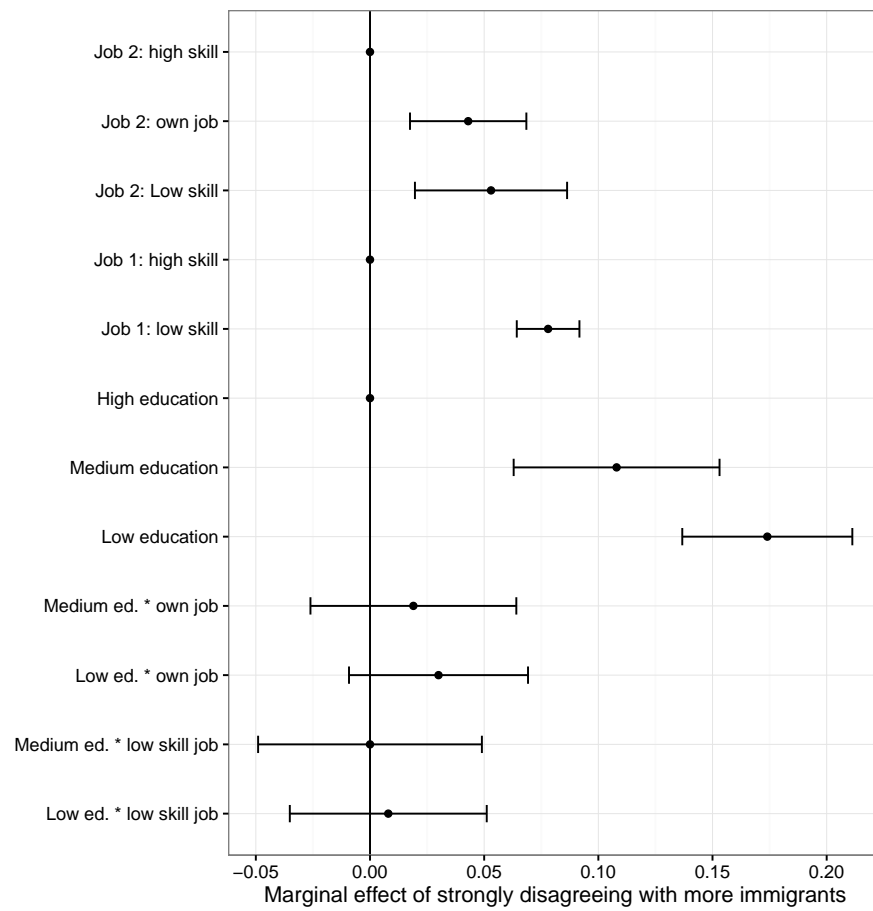


Table 3: Manipulation checks. Ordered logistic regression predicting worry about job prospects.

	Job prospects	Cultural threat
Treatment	0.22*** (0.05)	0.07 (0.05)
AIC	15656.96	17260.73
BIC	15701.64	17305.66
Log Likelihood	-7821.48	-8623.36
Deviance	15642.96	17246.73
Num. obs.	4374	4533

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Table 3 shows that the own job treatment does seem to be succeeding in making respondents more worried about their job prospects if more immigrants were allowed to come to Britain, but that it does not significantly predict cultural threat. This suggests that the effect of the stated occupation is primarily an economic rather than cultural one.

Table 2 also shows the interactions between native skill levels and the treatment effects. None of the interactions are significant or substantial indicating that the treatment effect of labor competition is relatively stable across skill levels.

3.1 Why have previous studies not found evidence of labor market competition?

Given the strong effect of labor market competition in this experiment, an important question is why previous studies have found null effects. The design of the experiment in this paper makes it possible to look at whether the results which have previously been interpreted as refuting the labor market competition hypothesis replicate in this study.

The control group in this study also allows me to run a replication of previous experimental studies of anti-immigrant attitudes. The original Hainmueller and Hiscox (2010) experiment describes the immigrants simply as low or high skilled. While the experiment does not say this explicitly, it would be easy to read the question as simply about whether the immigrants are good or bad at their jobs i.e. you could have a low skilled dentist or a high skilled waiter. The experiment in this paper, sidesteps this issue by using a range of actual jobs of immigrants. Followup studies have used particular low and high skilled occupations in a similar approach to this experiment, and found similar results.

Figure 3 shows the marginal effects from an ordered logistic regression predicting support for allowing more of a particular type of immigrant into Britain. The regression is run only on the 2430 respondents who did not receive their own job in the the manipulations within the control group (who were not shown

their own occupation). The results entirely replicate the findings of the previous studies showing that less skilled natives are consistently less favorable towards immigration and that both high and low skilled natives prefer high to low skilled immigrants.

These findings suggest that previous studies are correct in their findings that native workers from all skill levels prefer high to low skilled immigration. However, given the overall labor competition finding, it appears that generic high and low skilled immigrants do not reliably generate economic threat to natives with similar skill levels.

Figure 4 shows the effects of the low and high skilled treatments excluding the “own job” treatment group on the probability of a respondent saying that they would be “not at all worried” about their job prospects if more of these immigrants came to Britain. The results show that there is not a significant main effect of the low skilled treatment group, but that there is a significant negative interaction between low education respondents and the low skilled treatment group. Since high education respondents are the base category, this means that low skilled respondents are economically threatened by the low skill treatment, but that there is not a significant effect on highly educated respondents of the high skill treatment. In other words, the previous immigration experiments appear to only have been treating the lower educated section of their sample with a labor market competition treatment.

4 Discussion and Conclusion

This article helps to reconcile the previous conflict between observational and experimental evidence about the effect of labor market competition on anti-immigrant attitudes. Previous experimental evidence relied on a relatively undifferentiated measure of labor market competition: whether native workers and immigrants are high or low skilled. Recent observational work, by contrast, argued that labor market competition was an important but not a prevalent factor in anti-immigrant attitudes. This study provides an experimental analysis that corroborates the observational results, while explaining the previous experimental findings.

The evidence presented here does not prove that cultural threat plays no role in anti-immigrant attitudes. Even when using a direct manipulation of competition, higher skilled natives are still more positive towards immigrants than low skilled natives. However, if a single sentence can reduce support for high skilled immigrants to the level of support for low skilled immigrants, it suggests that higher educated workers’ support for immigration may not be as robust as previously believed. Low skilled workers are always potentially under economic threat, as there is generally little protection from competition due to the low barriers to entry. Consequently, low skilled workers are likely to be socialised in an environment that makes them more acutely aware of labor market competition and immigration’s potential economic threat.

Although previous research has suggested that labor market competition

Figure 3: Effects of immigrant skill levels on probability of ‘strongly disagreeing’ that more immigrants should be allowed to come to Britain (excludes ‘own job’ treatment group)

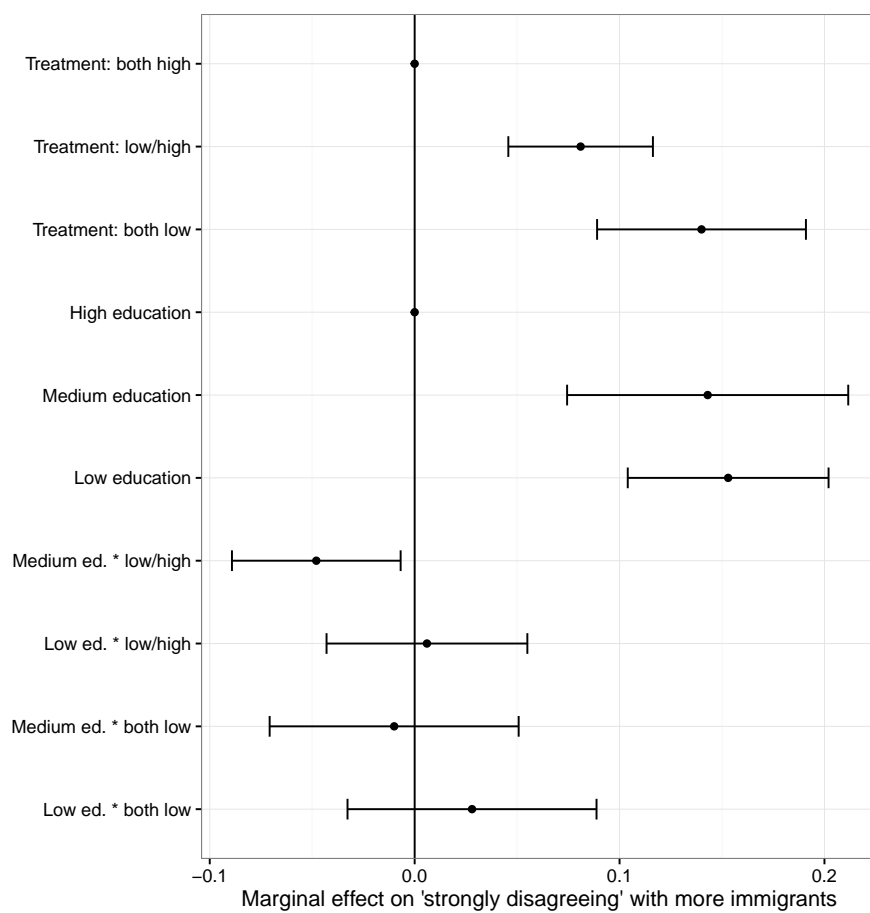
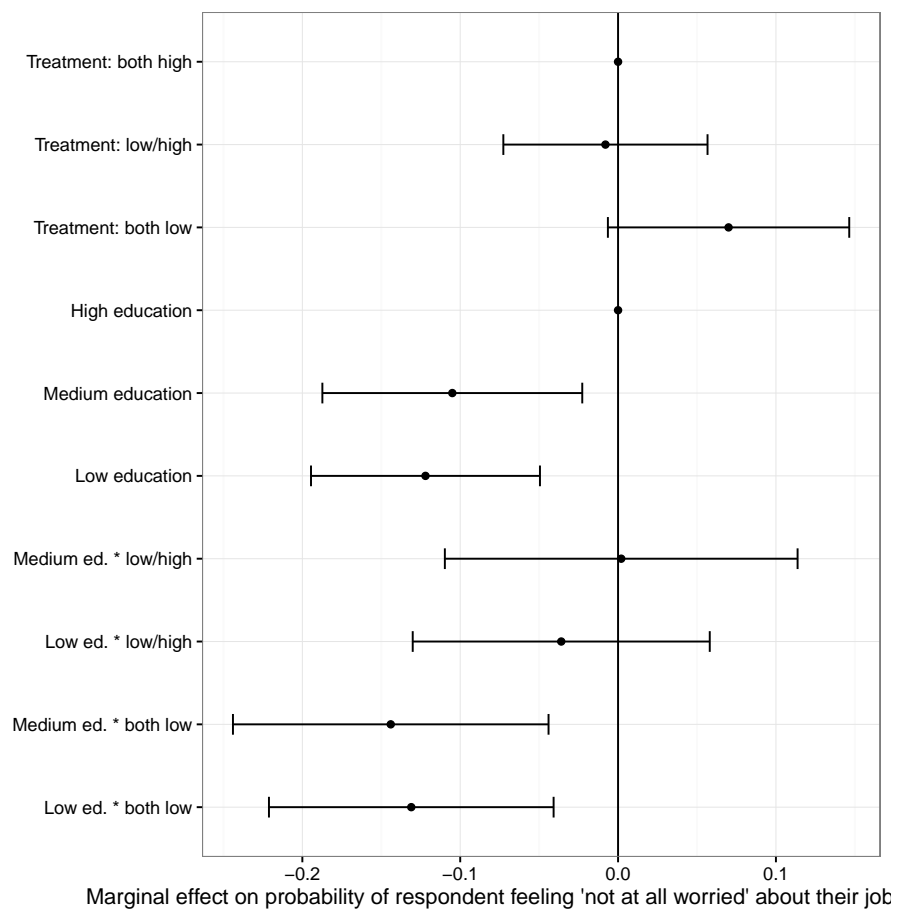


Figure 4: Effects of education and immigrant skill level on probability of respondent being 'not at all worried' about their own job prospects (excludes 'own job' treatment group)



is not a prevalent cause of anti-immigrant sentiment, the findings here would suggest that it can play a substantial role. Further research is needed to understand exactly how large a role that practice. However, given that the group that is generally the most anti-immigrant is also the group that will be most economically threatened by immigrants in the real world, there is certainly the possibility that perceived labor market competition may be a substantial driver of anti-immigrant attitudes in Western countries.

The results here are of course only a single study in a single country context. However, given that the experiment in this paper also replicates the key finding that native workers of all skill levels prefer high to low skilled immigrants and that more educated respondents are more likely to support more immigration, it is highly plausible that these results will generalize to other country contexts. Future research should replicate this study design in these other contexts. Given the increasing number of multiwave internet panels, this should be possible to do in several countries.

Word count: 3894

References

- Abou-Chadi, Tarik (2015). "Niche Party Success and Mainstream Party Policy Shifts: How Green and Radical Right Parties Differ in Their Impact". In: *British Journal of Political Science* forthcoming, pp. 1–20. ISSN: 0007-1234. DOI: 10.1017/S0007123414000155. URL: <http://journals.cambridge.org/JPS>
<http://journals.cambridge.org/abstract/S0007123414000155>.
- Akkerman, Tjitske (2012). "Immigration policy and electoral competition in Western Europe: A fine-grained analysis of party positions over the past two decades". In: *Party Politics* 0.1, pp. 1–23. ISSN: 1354-0688. DOI: 10.1177/1354068812462928. URL: <http://ppq.sagepub.com/cgi/doi/10.1177/1354068812462928>.
- Bohrer, Kevin et al. (2014). "Public Attitudes toward Immigration". In: *Annual Review of Political Science* 17, pp. 1–24.
- Borjas, George J. (2003). "The labor demand curve is downward sloping: Re-examining the impact of immigration on the labor market". In: *Quarterly Journal of Economics* 118.4, pp. 1335–1374. ISSN: 0033-5533, 1531-4650. DOI: 10.1162/003355303322552810.
- Dahlström, Carl and Anders Sundell (2012). "A losing gamble. How mainstream parties facilitate anti-immigrant party success". In: *Electoral Studies* 31.2, pp. 353–363. ISSN: 02613794. DOI: 10.1016/j.electstud.2012.03.001. URL: <http://dx.doi.org/10.1016/j.electstud.2012.03.001>.
- Dancygier, Rafaela M and Michael J Donnelly (2013). "Sectoral Economies, Economic Contexts, and Attitudes toward Immigration." In: *The Journal of Politics* 75.1, pp. 17–35. ISSN: 0022-3816. DOI: 10.1017/S0022381612000849. arXiv: NIHMS150003. URL: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3867934&tool=pmcentrez&rendertype=abstract>.
- Dustmann, Christian and Ian P Preston (2007). "The B . E . Journal of Economic Analysis & Policy Advances Immigration Immigration". In: *Advances* 7.1.
- Facchini, Giovanni, Anna Maria Mayda, and Mariapia Mendola (2013). "What drives individual attitudes towards immigration in South Africa?" In: *Review of International Economics* 21.2, pp. 326–341. ISSN: 09657576. DOI: 10.1111/roie.12039.
- Ford, Robert and Matthew J Goodwin (2014). *Revolt on the Right: Explaining Support for the Radical Right in Britain*. Taylor & Francis, p. 336. ISBN: 1317938542. URL: <https://books.google.co.uk/books/about/Revolt%20on%20the%20Right.html?id=c5oXAwAAQBAJ&pgis=1>.
- Gaston, Noel and Douglas R. Nelson (2013). "bridging trade theory and labour econometrics: The effects of international migration". In: *Journal of Economic Surveys* 27.1, pp. 98–139. ISSN: 09500804. DOI: 10.1111/j.1467-6419.2011.00696.x.
- Goldstein, Judith L. and Margaret E. Peters (2014). "Nativism or Economic Threat: Attitudes Toward Immigrants During the Great Recession". In: *In-*

- ternational Interactions* 40.3, pp. 376–401. ISSN: 0305-0629. DOI: 10.1080/03050629.2014.899219.
- Hainmueller, Jens and Michael J Hiscox (2007). “Educated Preferences: Explaining Attitudes Toward Immigration in Europe”. In: *International Organization* 61.2, pp. 399–442. ISSN: 0020-8183. DOI: 10.1017/S0020818307070142.
- (2010). “Attitudes toward Highly Skilled and Low-skilled Immigration: Evidence from a Survey Experiment”. In: *American Political Science Review* 104.01, pp. 61–84. ISSN: 0003-0554. DOI: 10.1017/S0003055409990372. URL: <http://dx.doi.org/10.1017/S0003055409990372>.
- Hainmueller, Jens, Michael J. Hiscox, and Yotam Margalit (2015). “Do Concerns About Labor Market Competition Shape Attitudes Toward Immigration? New Evidence”. In: *Journal of International Economics* 97, pp. 193–207. ISSN: 00221996. DOI: 10.1016/j.jinteco.2014.12.010.
- Hainmueller, Jens and Daniel J. Hopkins (2015). “The Hidden American Immigration Consensus: A Conjoint Analysis of Attitudes toward Immigrants”. In: *American Journal of Political Science* 59.3, pp. 529–548. ISSN: 00925853. DOI: 10.1111/ajps.12138. URL: <http://doi.wiley.com/10.1111/ajps.12138>.
- Harell, Allison et al. (2012). “The Impact of Economic and Cultural Cues on Support for Immigration in Canada and the United States”. In: *Canadian Journal of Political Science* 45.3, pp. 499–530. ISSN: 0008-4239. DOI: 10.1017/S0008423912000698.
- Helbling, Marc (2011). “Why Swiss-Germans Dislike Germans”. In: *European Societies* 13.1, pp. 5–27. ISSN: 1461-6696. DOI: 10.1080/14616696.2010.533784. URL: <http://www.tandfonline.com/doi/abs/10.1080/14616696.2010.533784>.
- Malhotra, Neil, Yotam Margalit, and Cecilia Hyunjung Mo (2013). “Economic Explanations for Opposition to Immigration: Distinguishing between Prevalence and Conditional Impact”. In: *American Journal of Political Science* 57.2, pp. 391–410. ISSN: 00925853. DOI: 10.1111/ajps.12012.
- Mayda, Anna Maria (2006). “Who Is Against Immigration? A Cross-Country Investigation of Individual Attitudes toward Immigrants”. In: *Review of Economics and Statistics* 88.3, pp. 510–530. ISSN: 0034-6535. DOI: 10.1162/rest.88.3.510.
- Mellon, Jonathan and Chris Prosser (2016). “Missing Non-Voters and Mis-weighted Samples: Explaining the 2015 Great British Polling Miss”. In: *SSRN Electronic Journal*. ISSN: 1556-5068. DOI: 10.2139/ssrn.2631165. URL: <http://papers.ssrn.com/abstract=2631165>.
- Mudde, Cas (2013). “Three decades of populist radical right parties in Western Europe: So what?” In: *European Journal of Political Research* 52.1, pp. 1–19. ISSN: 03044130. DOI: 10.1111/j.1475-6765.2012.02065.x.
- Orrenius, Pia M. and Madeline Zavodny (2007). “Does immigration affect wages? A look at occupation-level evidence”. In: *Labour Economics* 14.5, pp. 757–773. ISSN: 09275371. DOI: 10.1016/j.labeco.2006.09.006.
- Ottaviano, Gianmarco I P and Giovanni Peri (2012). “Rethinking the effects of immigration on wages”. In: *Journal of the European Economic Association*

- 10.1, pp. 152–197. URL: <http://onlinelibrary.wiley.com/doi/10.1111/j.1542-4774.2011.01052.x/full>. DOI: 10.1111/j.1542-4774.2011.01052.x.
- Peri, Giovanni and Chad Sparber (2009). “Task Specialization, Immigrant, and Wage”. In: *American Economic Journal: Applied Economics* 1.3, pp. 135–169. ISSN: 19457782. DOI: 10.1257/app.1.3.135.
- Sanders, David et al. (2007). “Does mode matter for modeling political choice? Evidence from the 2005 British Election Study”. In: *Political Analysis* 15.3, pp. 257–285. ISSN: 10471987. DOI: 10.1093/pan/mp1010.
- Scheve, Kenneth F. and Matthew J. Slaughter (2001). “Labor Market Competition and Individual Preferences Over Immigration Policy”. In: *Review of Economics and Statistics* 83.1, pp. 133–145. ISSN: 0034-6535. DOI: 10.1162/003465301750160108.

Table 4: Ordered logistic regression predicting acceptance of immigrants in control groups

	Model 1
Low education	-1.18*** (0.17)
Medium education	-1.01*** (0.20)
Treatment: low/high	-0.70*** (0.15)
Treatment: both low	-1.03*** (0.16)
Low ed. * low/high	-0.06 (0.21)
Medium ed. * low/high	0.48 (0.25)
Low ed. * both low	-0.23 (0.23)
Medium ed. * both low	0.09 (0.28)
AIC	8084.60
BIC	8164.45
Log Likelihood	-4028.30
Deviance	8056.60
Num. obs.	2215

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

A Full regression table for experimental replication within control group

Table 5: Ordered logistic regression predictors of economic threat

	Model 1
Treatment: low/high	0.03 (0.14)
Treatment: both low	-0.30 (0.16)
Low education	0.54** (0.17)
Medium education	0.48* (0.20)
Low ed. * low/high	0.16 (0.21)
Low ed. * both low	0.62* (0.24)
Medium ed. * low/high	-0.01 (0.25)
Medium ed. * both low	0.70* (0.29)
AIC	7636.97
BIC	7716.60
Log Likelihood	-3804.49
Deviance	7608.97
Num. obs.	2181

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

B Full regression table for manipulation check within control group

Table 5 shows the full regression table for the manipulation checks within the control group.

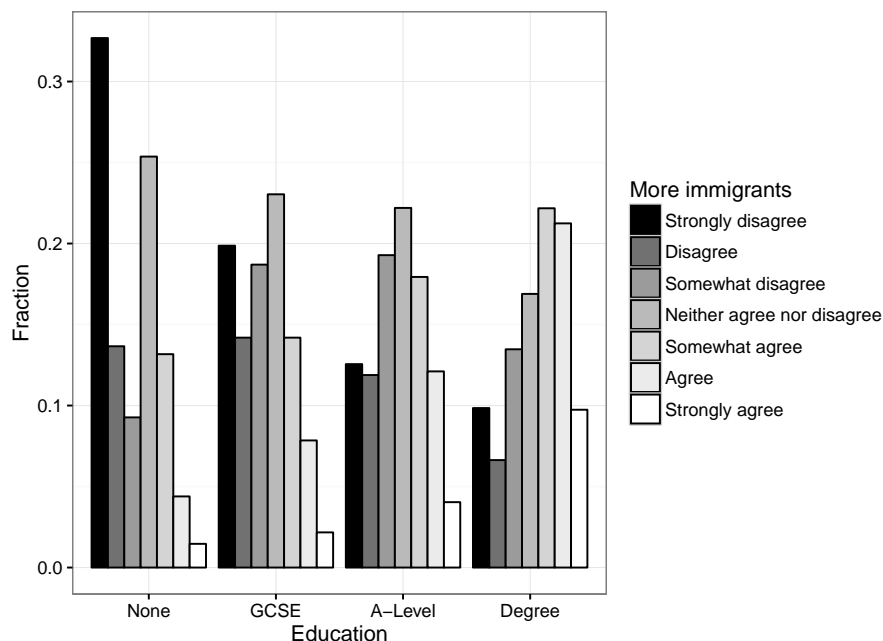
Table 6: Ordered logistic regression predictors of immigration attitudes using random groups

	Model 1
grouphigh-treat	−0.12 (0.09)
groupLow	−0.03 (0.10)
grouplow-treat	−0.09 (0.09)
groupMixed	−0.06 (0.09)
AIC	18104.24
BIC	18193.58
Log Likelihood	-9038.12
Deviance	18076.24
Num. obs.	4364
*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$	

C Balance checks

To ensure that the randomization was conducted correctly, I present a series of balance checks in this section. The balance checks were not mentioned explicitly in the pre-analysis plan, but are a standard component of experimental analyses. The balance checks are shown in table 6.

Figure 5: Bivariate relationship between education and anti-immigrant responses in the experiment (excludes own job experimental group)



D Descriptive statistics of replication

This appendix shows further descriptive statistics of the replication section of the experiment. Figure 5 shows the relationship between educational level and anti-immigrant responses in the experiment. The results confirm previous research that has found higher levels of anti-immigrant sentiment among lower educated respondents.

Figure 6 shows the relationship between high and low skilled immigrants in the control group. Once again the results confirm previous findings that respondents tend to prefer high over low skilled immigrants.

E Experiment syntax

`[immigExpDV]{single}`

Professors at several leading universities have said that Britain's economy could be greatly improved if more people were allowed to immigrate to Britain for jobs including \$Job1 and \$Job2. Do you agree that *more* people like this should be allowed to *come

Figure 6: Control group support for more immigrants by skill level of immigrants (excludes own job experimental group)

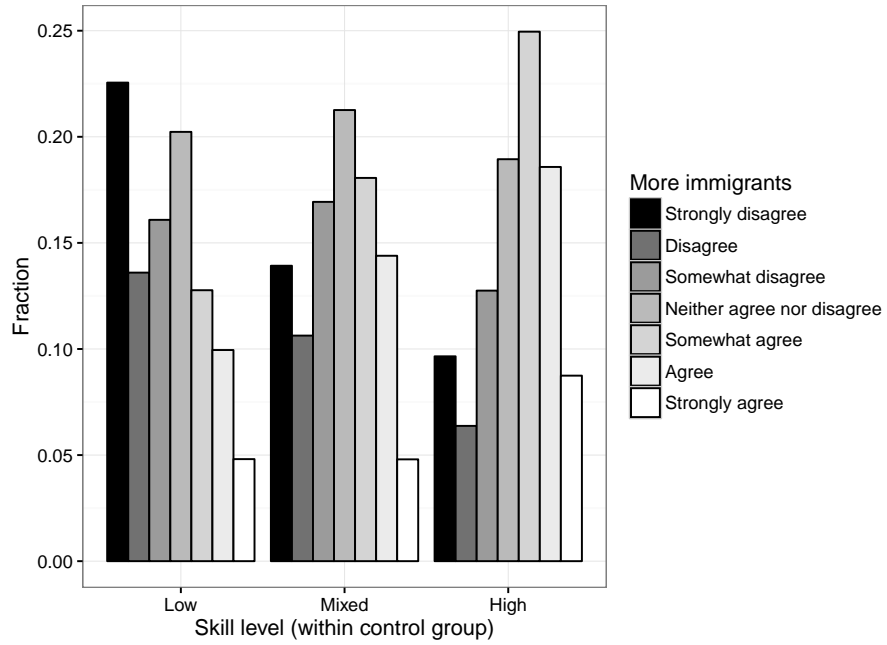


Table 7: Level of concern about their own job for respondents in own job group and other groups

Control groups	Own-job Treatment
37.1	33.6
12.6	10.9
8.0	7.1
13.2	14.3
9.6	9.2
6.8	9.7
12.6	15.3

Figure 7: Survey screen for cultural threat that respondent sees in the experiment.

YouGov

How worried would you be about *your job prospects* if immigrants like these were allowed to come to Britain in greater numbers?

Not at all worried 1 2 3 4 5 6 7 Very worried

Don't know

>

to Britain* to live and work?
 <7> Strongly agree
 <6> Agree
 <5> Somewhat agree
 <4> Neither agree nor disagree
 <3> Somewhat disagree
 <2> Disagree
 <1> Strongly disagree
 <99> Don't know

```
[immigExpManipCheck]{scale 1 7 dk = 1 dk_text="Don't know"}
How worried would you be about *your job prospects* if immigrants
like these were allowed to come to Britain in greater numbers?
-[immigManipCheck] Not at all worried | Very worried

[immigExpManipCheck2]{scale 1 7 dk = 1 dk_text="Don't know"}
How worried would you be about immigrants like these fitting into British society?
-[immigManipCheck2] Not at all worried | Very worried
```

F Manipulation Check Survey Screens

This appendix shows the survey screens that respondents are shown for the manipulation checks. Figure 7 shows the economic threat measure and figure 8 shows the cultural threat measure.

G Don't know responses

The British Election Study has a policy of including don't know response options in almost all questions in order to avoid eliciting non-opinions and increase respondent retention. Don't know responses were dropped from the analysis in

Figure 8: Survey screen for cultural threat that respondent sees in the experiment.

The image shows a survey screen from YouGov. At the top is the YouGov logo. Below it is the question: "How worried would you be about immigrants like these fitting into British society?". Below the question is a horizontal scale with seven numbered boxes (1 to 7). The scale is labeled "Not at all worried" on the left and "Very worried" on the right. Below the scale is a checkbox labeled "Don't know". At the bottom of the screen is a grey button with a right-pointing arrow.

this study. Note that dealing with don't knows was not explicitly mentioned in the pre-analysis plan.

This could present a potential problem if one of the treatments greatly affects the propensity to give don't know as a response. To check this, I ran a logistic regression on don't know responses using the experimental groups as predictors. Table 8 shows the results of this analysis, which do not show any significant effects, showing that there is no systematic difference in item non-response between treatment groups. In total, 8.8% of respondents gave a don't know response. This is reasonably in line with item non-response on the British Election Study more generally.

Table 8: Logistic regression of reporting don't know to support for immigration across experimental groups

	Model 1
(Intercept)	0.10*** (0.01)
Treatment: high/ own job	-0.01 (0.01)
Treatment: both low	-0.02 (0.02)
Treatment: low/ own job	-0.02 (0.01)
Treatment: low/high	-0.01 (0.01)
AIC	1524.53
BIC	1563.48
Log Likelihood	-756.26
Deviance	389.43
Num. obs.	4878

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$