Beliefs about the Labor Market Impact of Immigration
Pre-Analysis Plan

Ingar Haaland[*]   Christopher Roth[†]

May 31, 2017

We provide causal evidence on how people's beliefs about the labor market effects of immigration affect their attitudes toward immigration. In the study, we plan to elicit people's beliefs about how the *Mariel boatlift*—which caused a large influx of low-skilled Cuban immigrants to Miami, Florida—affected local labor market outcomes. Then, drawing on the results from Card (1990), half of the subjects will receive information about the actual labor market consequences of the Mariel boatlift. Subsequently, we will measure the subjects' support for immigration with self-reported and behavioral measures. In this document, we outline our plan for analysis of the data, including the main specifications of interest, the dimensions of heterogeneity, and corrections for multiple hypothesis testing.

---

[*]Department of Economics, NHH Norwegian School of Economics and The Choice Lab;
✉ Ingar.Haaland@nhh.no and ⊕ sites.google.com/site/ingarhaaland
[†]Department of Economics, University of Oxford and Centre for the Study of African Economies;
✉ Christopher.Roth@economics.ox.ac.uk and ⊕ sites.google.com/site/chrisrotheconomics

1. Introduction

Anti-immigrant sentiment in the Western world is high (Hainmueller and Hiscox 2010; Card et al. 2012), and Americans consistently rank immigration as one of the country's most important problems (Gallup 2016). The negative sentiment towards immigrants has given rise to the success of right-wing candidates with a nationalistic stance on immigration policy in both the US and Europe (Halla et al. 2016).

In this paper, we use a randomized experiment to shed light on the importance of *economic* concerns in forming attitudes toward immigration. In particular, we provide *causal* evidence on how people's beliefs about the labor market effects of immigration affect their attitudes toward immigration.

To do this, we elicit people's beliefs about the labor market effects of the *Mariel boatlift*, which was an unexpected mass immigration of Cubans to the United States that increased the size of the workforce in Miami by 8 percent almost at once. In a between-subjects design, we then randomly allocate subjects either a treatment group or a control group. In the treatment group, we provide subjects with information about the results from a seminal study about the labor market consequences of the Mariel boatlift. The study finds that the mass immigration of Cubans to Miami had virtually no adverse effects on local labor market outcomes (Card 1990).[1]

Following Hainmueller et al. (2015), we then measure people's self-reported attitudes toward increasing the number of both low-skilled and high-skilled immigrants to the United States. In addition, we give our subjects the opportunity to sign two real online petitions about increasing or decreasing the annual cap on non-agricultural guest workers (the H-2B visa program). The first petition suggests to *increase* the annual cap on H2-B visas and the other petition suggests to *decrease* the annual cap. We then ask a series of questions about the economic and non-economic impact of immigration to shed light on different mechanisms through which the treatments may affect attitudes.

We also conduct an "obfuscated" follow-up study—where subjects are not told

---

[1]The findings by Card (1990) are consistent with a large body of economic research on the labor market consequences of immigration (Card 2005; Dustmann et al. 2005; Kugler and Yuksel 2008; Card 2012; Manacorda et al. 2012; Ottaviano and Peri 2012), and the Mariel boatlift is known as the "one historical event that has most shaped how economists view immigration" (Clemens 2017). However, the ultimate effects of immigration on labor market conditions are still being debated (Borjas 2014; Card and Peri 2016).

about the relationship between the main study and the follow-up—to investigate whether treatment effects persist over time and to measure treatment effects in a setting where concerns about experimenter demand effects are no longer an issue.

2. Experimental design

2.1. Demographics I

First, we ask subjects to complete a questionnaire on demographics, which includes questions on gender, age, income, race, geography, and political affiliation.[2] We ask demographic questions at the beginning of the study to set quotas to ensure a sample that is representative of the general US population on observable characteristics.

2.2. Beliefs about the labor market consequences of immigrants

Second, we elicit people's beliefs about the effects of the *Mariel boatlift*—an unexpected mass immigration of Cubans to the Miami, Florida, which increased the size of the workforce in Miami by 8 percent almost at once. We ask our subjects what they think happened to wages and unemployment in Miami relative to wages and unemployment in other comparable US cities that did not experience large inflows of low-skilled immigrants. Specifically, we ask our subjects what they think happened to the wages and the unemployment of *(i)* high-skilled workers and *(ii)* low-skilled workers. Since a large fraction of Americans tend to think that immigrants mostly hurt the economy by lowering wages for Americans (Gallup 2005), we expect this treatment to alleviate people's labor market concerns about immigration.

2.3. Treatment: Information about the labor market impacts of the Mariels

We inform subjects in the treatment group about the results from a seminal study about the labor market consequences of the Mariel boatlift (Card 1990). Specifically,

---

[2]See Section A.3 for details.

3

we truthfully inform the subjects that this study found that the mass immigration of Cubans to Miami had virtually no adverse effects on the labor market.

2.4. Control group

Subjects in the control group do not receive any information and go straight from the belief elicitation questions to the outcome questions.

2.5. Outcomes: Self-reported support for immigration

Following Hainmueller et al. (2015), we measure people's self-reported attitudes toward increasing or decreasing the number of low-skilled and high-skilled immigrants to the United States. We also vary whether the immigrants are "highly familiar" or "not familiar" with American values and traditions.

2.6. Outcomes: Petitions

Following the self-reported measures, all subjects get the opportunity to sign one of two real online petitions on the White House web-page, petitions.whitehouse.gov.

We tell subjects that Congress is debating whether to change the annual cap on non-agricultural guest workers to the US—the H-2B visa program—and that they will be given the opportunity to sign one of two petitions related to this debate. The first petition suggests to *increase* the annual cap on H2-B visas and the other petition suggests to *decrease* the annual cap. For both petitions, we ask whether subjects intend to sign the petition. We then provide them with the link to the petition in case they intend to sign the petition. Since we provide the treatment and control groups with different links to the same petition, we can also observe the proportion of signatures in the treatment and the control group.

2.7. Outcomes: Perceptions

We examine people's perceptions about the economic impact of increased immigration of low-skilled and high-skilled immigrants on their own household as well as for

"most Americans". We also examine people's beliefs about the effects of increased immigration of high-skilled and low-skilled immigrants on American culture and society. Half of our respondents are asked a series of questions about the impacts of high-skilled immigrants, while the other half of our respondents are asked about the impacts of low-skilled immigrants.

2.8. Outcomes: Beliefs about the survey

Subsequently, we ask subjects whether they thought the survey was politically biased. In addition, we check whether our subjects remember that most of the immigrants coming from Cuba were low-skilled. We also elicit our respondents' beliefs on whether most of the Cuban immigrants coming to Florida in 1980 were familiar with American values.

For subjects in the treatment group, we also ask subjects whether they thought the information provided "accurately reflects the labor market effects of the mass immigration of Cubans in 1980" and whether they thought the information was relevant for "assessing the costs of benefit of allowing more or less immigrants into the US today."

2.9. Demographics II

At the end of the survey, we ask subjects some additional background questions on household size, education, employment status, zip code, place of birth, and parents' place of birth.[3]

2.10. Follow-up

About one week after the main study, we perform a follow-up study with the same subjects to see whether any possible treatment effects persist. Furthermore, we obfuscate the purpose of the follow-up study to measure treatment effects in a setting where concerns about experimental demand effects are no longer an issue.

To make the follow-up seem like an independent study, we first ask our subjects

---

[3]See Section A.12 for details.

a series of demographic questions. To further obfuscate the purpose of the follow-up, we then ask a series of questions about government spending, taxation, and redistribution. Finally, we ask the main outcome questions on immigration. To minimize the risk that subjects realize the relationship between the two studies, we use different formulations for the questions on immigration in the follow-up compared to the main study.

3. Setting and sample size

We will recruit subjects using Research Now, which is one of the leading digital data collection agencies in the US.[4] We will recruit 3000 subjects that will be representative of the US population in terms of gender, age, income, race, and geography.

We will collect data from the follow-up survey one week after the main survey for as many subjects as possible. Estimates from the survey provider indicate that we will be able to get around 2000 subjects in the follow-up.

3.1. Power analysis

3000 subjects give us 0.8 power to detect an effect size of 0.10 of a standard deviation between the treatment and the control group in the main study at a .05 significance level. Furthermore, assuming 2000 subjects in the follow-up, we will have 0.8 power to detect an effect size of 0.13 of a standard deviation between the treatment and the control group at a 0.05 significance level in the follow-up.

3.2. Hypotheses

Our two main hypotheses are given as follows:

Hypothesis 1 *Subjects in the treatment group—who receive information about the labor market impact of immigrants—will be more in favor of immigration than subjects in the control group.*

---

[4]Research Now has been used in previous academic research by, e.g., Almås et al. (2016) and de Quidt et al. (2017).

Hypothesis 2 *The treatment effect will be stronger for subjects with pre-treatment beliefs that the immigrant inflow of the Mariels decreased wages or increased unemployment in Miami.*

4. Analysis

4.1. Treatment differences

In the first specification of interest, we investigate whether the information treatment affects average attitudes towards immigration. Specifically, we estimate the following equation:

$$y_i = \alpha_0 + \alpha_1 T_i + \mathbf{A}^T \mathbf{X}_i + \varepsilon_i$$

where

- y_i — the outcome of interest (as described in Section A.7 and Section A.8).[5]

- T_i — an indicator for whether subject i received information about the labor market impacts of the Mariel boatlift.

- $\mathbf{X}_i$ — a vector of controls.[6] We also report the results of this regression without any controls.

- ε_i — an individual-specific error term. For all the specifications, we use robust standard errors.

In line with **Hypothesis 1**, we expect to reject the null that $\alpha_1 = 0$ in favor of $\alpha_1 > 0$.

4.2. Heterogeneous treatment effects: Pre-treatment beliefs

In the second specification of interest, we investigate whether subjects with different pre-treatment beliefs respond differently to the information. To do so, we estimate the following equation:

$$y_i = \beta_0 + \beta_1 T_i + \beta_2 \text{Belief}_i + \beta_3 T_i \times \text{Belief}_i + \mathbf{B}^T \mathbf{X}_i + \varepsilon_i$$

---

[5] We recode our outcomes such that they take higher values for positive attitudes towards immigration.
[6] The control variables are described in Section 5.3.

where

- Belief$_i$ — pre-treatment standardized beliefs about the labor market impact of immigration. We construct this belief measure by creating a weighted index of people's standardized beliefs about the effect of immigration on *(i)* wages and *(ii)* unemployment.[7] When y_i is support for low-skilled (high-skilled) immigration, we create an index based on beliefs about the labor market impacts of low-skilled (high-skilled) immigration.[8]

In line with **Hypothesis 2**, we expect to reject the null that β_3 = 0 in favor of $\beta_3 > 0$.[9]

4.3. Heterogeneous treatment effects: Skill-level

We will examine heterogeneous treatment effects by the workers' self-perceived skills. To do so we estimate the following equation:

$$y_i = \gamma_0 + \gamma_1 T_i + \gamma_2 \text{Skill}_i + \gamma_3 T_i \times \text{Skill}_i + \mathbf{\Gamma}^T \mathbf{X}_i + \varepsilon_i$$

where *Skill$_i$* takes the value one if respondent *i* reports being high-skilled and zero otherwise.[10] Our key object of interest is the coefficient γ_3, which provides us with an estimate of differential responses to the treatment based on the subjects' self-perceived skill levels.

4.4. Heterogeneous treatment effects: Party affiliation

We will examine heterogeneous treatment effects by the workers' political party affiliation. To do so we estimate the following equation:

$$y_i = \delta_0 + \delta_1 T_i + \delta_2 \text{Republican}_i + \delta_3 T_i \times \text{Republican}_i + \mathbf{\Delta}^T \mathbf{X}_i + \varepsilon_i$$

---

[7]We weight the index as recommended in Anderson (2008).

[8]For people's intention to sign a petition in favor of increasing (decreasing) the quota for the H2-B visa program, we will also employ pre-treatment beliefs about the effects immigration has on the wages and unemployment for low-skilled workers.

[9]We code outcomes such that higher values of the index implies more pessimistic pre-treatment beliefs about the labor market effects of immigration

[10]See Frefsec:iskill for the instructions to this question.

where *Republican_i* takes the value one if our respondent is a Republican and zero otherwise. Here our key object of interest is the coefficient δ_3, which provides us with estimates of differential responses based on people's political party affiliation.

4.5. Analysis for the follow-up experiment

The analysis of the follow-up experiment will follow closely that of the main experiment. The outcome variables are slightly different in the follow-up experiment, and no behavioural measures are included.

4.6. Multiple hypothesis adjustment

To deal with the issue of multiple hypotheses testing, we adopt two strategies: use of indices and controlling for the False Discovery Rate.

4.6.1. Use of Indices

First, we group our outcomes into different families of outcomes, and use the method described in Anderson (2008) to create an index for each family.[11]

We define our two main families of outcomes as follows:

- **Attitudes towards low-skilled immigrants:** We compute an index of people's support for increasing the number of low-skilled immigrants based on the following two questions:

  - Do you think the US should allow more or less of **low-skilled** immigrants that are **highly familiar** with American values and traditions to come and live here?

  - Do you think the US should allow more or less of **low-skilled** immigrants that are **not familiar** with American values and traditions to come and

---

[11]We recode the variables such that high values correspond to positive attitudes towards increasing immigration. We normalize these variables; i.e., we subtract the mean of the control group and divide them by the standard deviation in the control group for each of the outcome variables. Then, we calculate the co-variances between the variables part of the same family of outcomes and use the inverse of the co-variance matrix in order to weight the outcomes. For more details, see Anderson (2008).

live here?

- **Attitudes towards high-skilled immigrants:** We compute an index of people's support for increasing the number of high-skilled immigrants based on the following two questions:

    – Do you think the US should allow more or less of **high-skilled** immigrants that are **highly familiar** with American values and traditions to come and live here?

    – Do you think the US should allow more or less of **high-skilled** immigrants that are **not familiar** with American values and traditions to come and live here?

We also have a series of additional outcomes that will not be part of any family of outcomes[12]:

- **Intention to sign the petitions:** This variable takes the value minus 1 for people who said they want to sign the petition in favor of decreasing the number of H-2B visas; value 1 for people who said they want to sign the petition in favor of increasing the number of H-2B visas; and value 0 for people who did not want to sign any of the two different types of visa.[13]

- **Actual signing of the petitions:** This variable is only available at the group level. We compute the "net support for increasing H2-B visas" as the number of actual signatures for the petition in favor of increasing the number of H2-B visas minus the number of actual signatures for the petition in favor of decreasing the number of H2-B visas. We then compare the proportion of positive minus negative signatures for the treatment and control group. To do so, we will employ the "Mann–Whitney U test". We cannot test for heterogeneous treatment effects for this particular outcome variable as we do not observe the outcome at the individual level.

4.6.2. Accounting for the False Discovery Rate

The second method uses the "sharpened q-value approach" (Benjamini et al. 2006; Anderson 2008). We use the same families of outcomes as the ones defined in Sec-

---

[12]We will not adjust for multiple hypothesis testing for these additional outcomes.

[13]In case some individuals intend to sign both petitions, this will also be coded as value zero.

tion 4.6.1. For our main families of outcomes, we control for a false discovery rate of 5 percent, i.e., the expected proportion of rejections that are Type I errors (Anderson 2008).

4.7. Attrition in the follow-up study

We expect that there will be some attrition between the main experiment and the follow-up. We will test whether attrition is related to the treatment by estimating the following equation:

$$A_i = \zeta_0 + \zeta_1 T_i + \mathbf{Z}^T \mathbf{X}_i + \varepsilon_i$$

where A_i indicates if a participant did not take part in the follow-up, and where $\mathbf{X}_i$ is a set of pre-determined characteristics. We will use the pre-determined characteristics as described in Section 5.3.

If the coefficient ζ_1 is significant at the 5 percent level, we will use Lee bounds for the statistical analysis. This will allow us to bound our estimates. If the coefficient ζ_1 is not significant at the 5 percent level, we will conduct the statistical analysis without adjusting for attrition.

In the analysis of the follow-up survey, we include our basic set of controls (Section 5.3) in all regressions.

5. Definition of outcome variables

5.1. Self-reported measures

For simplicity, we will consider all of the self-reported measures on attitudes toward affirmative actions as continuous. For instance, when subjects need to state to what extent they agree with a particular statement, we will code "Strongly oppose" as 1, "Oppose" as 2, "Neither support nor oppose" as 3, "Support" as 4, and "Strongly support" as 5. Furthermore, we standardize these variables by, for each variable, subtracting the control group mean and dividing by the control group standard deviation for each observation.

5.2. Variables with limited variation

We will drop from the analysis variables which have very limited variation, as they are not informative. Specifically, we will drop variables for which more than 95 percent of observations have the same value. If these variables are part of an index, we will recalculate the index without them.

5.3. Control variables

When the background questions are used as controls in the regression, they will be coded as follows:

- Gender will be coded as a dummy.

- Age will be coded on an integer scale from 1 (18–24) to 6 (65 or older).

- Ethnicity will be coded as one dummy for each category (Hispanics are treated as an own category, e.g. the dummy for "Caucasian/White" will refer to non-Hispanic whites).

- State will be coded as four regional dummies (Northeast, Midwest, South, and West).

- Household size will be coded continuously.

- Household income will be coded as the log of the midpoint of the interval specified by the respondent.

- Education will be coded on an integer scale from 1 (eighth grade or less) to 8 (doctoral or professional degree).

- Employment status will be coded as one dummy for each category.

- Party affiliation will be coded as one dummy for each category.

- Whether the subject was born in the US will be coded as a dummy.

- Whether both of the subject's parents were born in the US will be coded as a dummy.

In addition to the background questions mentioned above, we also include the following variables in our vector of controls:

- **Self-perceived skill-level**: Will be coded as a dummy for whether the subject

is self-perceived as being high-skilled.

- **Pre-treatment beliefs about the labor market impact of immigration**: See Section 4.2 for how this measure will be coded.

- **Confidence in pre-treatment beliefs**: Will be coded in an analogous way to pre-treatment beliefs about the labor market impact of immigration: When y_i is support for low-skilled (high-skilled) immigration, we create an index based on confidence in own estimates of the labor market impacts of low-skilled (high-skilled) immigration.

When an outcome is coded into several categorical dummies, we naturally omit one of the dummies in the regressions.

References

Almås, Ingvild, Alexander Cappelen, and Bertil Tungodden. 2016. "Cutthroat Capitalism versus Cuddly Socialism: Are Americans more Meritocratic and Efficiency-seeking than Scandinavians?"

Anderson, Michael L. 2008. "Multiple Inference and Gender Differences in the Effects of Early Intervention: A Reevaluation of the Abecedarian, Perry Preschool, and Early Training Projects." *Journal of the American Statistical Association* 103 (484): 1481–1495.

Benjamini, Yoav, Abba M Krieger, and Daniel Yekutieli. 2006. "Adaptive linear step-up procedures that control the false discovery rate." *Biometrika* 93 (3): 491–507.

Borjas, George J. 2014. *Immigration Economics*. Harvard University Press.

Card, David. 2012. "Comment: The Elusive Search for Negative Wage Impacts of Immigration." *Journal of the European Economic Association* 10 (1): 211–215.

– . 2005. "Is the new immigration really so bad?" *Economic Journal* 115 (507).

– . 1990. "The Impact of the Mariel Boatlift on the Miami Labor Market." *Industrial and Labor Relations Review* 43 (2): 245–257.

Card, David, Christian Dustmann, and Ian Preston. 2012. "Immigration, Wages, and Compositional Amenities." *Journal of the European Economic Association* 10 (1): 78–119.

Card, David, and Giovanni Peri. 2016. "*Immigration Economics* by George J. Borjas: A Review Essay." *Journal of Economic Literature* 54 (4): 1333–1349.

Clemens, Michael A. 2017. "What the Mariel Boatlift of Cuban Refugees Can Teach Us about the Economics of Immigration: An Explainer and a Revelation." `https://www.cgdev.org/blog/what-mariel-boatlift-cuban-refugees-can-teach-us-about-economics-immigration`.

de Quidt, Jonathan, Johannes Haushofer, and Christopher Roth. 2017. "Measuring and Bounding Experimenter Demand." *Working Paper*.

Dustmann, Christian, Francesca Fabbri, and Ian Preston. 2005. "The impact of immigration on the British labour market." *Economic Journal* 115 (507).

Gallup. 2016. "Most Important Problem." Visited on 05/04/2017. `http://www.gallup.com/poll/1675/most-important-problem.aspx`.

— . 2005. "Public Ambivalent About New Immigrants." Visited on 05/05/2017. http://www.gallup.com/poll/17206/public-ambivalent-about-new-immigrants.aspx.

Hainmueller, Jens, and Michael J Hiscox. 2010. "Attitudes Toward Highly Skilled and Low-skilled Immigration: Evidence from a Survey Experiment." *American Political Science Review* 104 (01): 61–84.

Hainmueller, Jens, Michael J Hiscox, and Yotam Margalit. 2015. "Do Concerns about Labor Market Competition Shape Attitudes Toward Immigration? New Evidence." *Journal of International Economics* 97 (1): 193–207.

Halla, Martin, Alexander F Wagner, and Josef Zweimüller. 2016. "Immigration and Voting for the Far Right." *Journal of the European Economic Association, forthcoming.*

Kugler, Adriana, and Mutlu Yuksel. 2008. *Effects of Low-Skilled Immigration on U.S. Natives: Evidence from Hurricane Mitch.* NBER Working Paper 14293.

Manacorda, Marco, Alan Manning, and Jonathan Wadsworth. 2012. "The impact of immigration on the structure of wages: theory and evidence from Britain." *Journal of the European Economic Association* 10 (1): 120–151.

Ottaviano, Gianmarco IP, and Giovanni Peri. 2012. "Rethinking the effect of immigration on wages." *Journal of the European Economic association* 10 (1): 152–197.

A. Instructions: Main experiment

A.1. Introduction

General instructions

This study is conducted by The Choice Lab at NHH Norwegian School of Economics.

You must be a US citizen of at least 18 years of age to participate in this study. If you do not fulfill these requirements, please do not continue any further.

You are not allowed to participate in this study more than once. If you experience a technical error or problem, do not try to restart or retake the study. Rather, send us an email with a description of your problem and we will get back to you.

If you have any questions regarding this study, please email thechoicelab@nhh.no.

I have read and understood the above and want to participate in this study.

Yes

No

A.2. Attention check

The next question is about the following problem. In questionnaires like ours, sometimes there are subjects who do not carefully read the questions and just quickly click through the survey. This means that there are a lot of random answers which compromise the results of research studies. To show that you read our questions carefully, please choose "Extremely interested" and "Not at all interested" as your answer in the next question.

How interested are you in sports?

Extremely interested

Very interested

A little bit interested

Almost not interested

Not at all interested

A.3. Pre-treatment background questions

1. What is your age? [18–24; 25–34; 35–44; 45–54; 55–64; 65 or older]

2. What is your gender? [Male; Female]

3. What was your family's gross household income in 2016 in US dollars? [Less than $15,000; $15,000 to $24,999; $25,000 to $49,999; $50,000 to $74,999; $75,000 to $99,999; $100,000 to $149,999; $150,000 to $200,000; More than $200,000; Prefer not to answer]

4. Which of the following best describes your race or ethnicity? [African American/Black; Asian/Asian American; Caucasian/White; Native American, Inuit or Aleut; Native Hawaiian/Pacific Islander; Other; Prefer not to answer]

5. Are you of Hispanic, Latino, or Spanish origin? [Yes, No]

6. In which state do you currently reside?

7. In politics, as of today, do you consider yourself a Republican, a Democrat, or an Independent? [Republican, Democrat, Independent]

A.4. Self-perceived skill level

People in the workforce differ by their professional skill levels. A high-skilled worker is someone who is highly educated or has special training and knowledge. A low-skilled worker is someone who does not have extensive education or special training or knowledge. A high-skilled worker is someone like an engineer or doctor, who is highly educated, or a computer programmer with special knowledge. A low-skilled worker is someone like an agricultural worker, housekeeper, or laborer who does not have extensive education or special knowledge.

In this context, do you consider yourself to be low-skilled or high-skilled?

High-skilled

Low-skilled

A.5. Elicitation of beliefs: labor market

We will now ask you a series of questions about the labor market impacts of immigrants. **It is important that you read all of the text carefully before you submit your answers.**

{*page break*}

Background

In 1980, Cuba's then President, Fidel Castro, suddenly announced that Cubans wishing to emigrate to the United States were free to do so. This led to an unexpected mass immigration to Miami, Florida, where most of the Cuban immigrants arrived by boat.

With the arrival of the new Cuban immigrants, Miami's workforce grew by 55,000, or 8 percent, almost at once. The new immigrants were mostly low-skilled, which meant that the low-skilled workforce increased by 20 percent.

The large, unexpected addition of 55,000 new immigrants to the Miami workforce has allowed researchers to study the impact of immigration on the labor market. To do so, the researchers studied wage and unemployment changes in Miami after the mass immigration relative to other US cities that, because of geographic distance, were not affected by the mass immigration of Cubans.

What do you think?

In the five-year period after 1980, how do you think wages of **low-skilled** workers in Miami were affected by the mass immigration of Cubans?

> I think the mass immigration of Cuban workers strongly decreased wages of low-skilled workers

> I think the mass immigration of Cuban workers somewhat decreased wages of low-skilled workers

> I think the mass immigration had virtually no effect on wages of low-skilled workers

> I think the mass immigration of Cuban workers somewhat increased wages of low-skilled workers

> I think the mass immigration of Cuban workers strongly increased wages of low-skilled workers

{page break}

How sure are you about your answer to the previous question?

Very sure

Sure

Somewhat sure

Unsure

Very unsure

{page break}

In the five-year period after 1980, how do you think wages of **high-skilled** workers in Miami were affected by the mass immigration of Cubans?

I think the mass immigration of Cuban workers strongly decreased wages of high-skilled workers

I think the mass immigration of Cuban workers somewhat decreased wages of high-skilled workers

I think the mass immigration had virtually no effect on wages of high-skilled workers

I think the mass immigration of Cuban workers somewhat increased wages of high-skilled workers

I think the mass immigration of Cuban workers strongly increased wages of high-skilled workers

{page break}

How sure are you about your answer to the previous question?

Very sure

Sure

Somewhat sure

Unsure

Very unsure

{page break}

In the five-year period after 1980, how do you think unemployment among **low-skilled** workers in Miami was affected by the mass immigration of Cubans?

> I think the mass immigration of Cuban workers strongly increased unemployment among low-skilled workers

> I think the mass immigration of Cuban workers somewhat increased unemployment among low-skilled workers

> I think the mass immigration had virtually no effect on unemployment for low-skilled workers

> I think the mass immigration of Cuban workers somewhat decreased unemployment among low-skilled workers

> I think the mass immigration of Cuban workers strongly decreased unemployment among low-skilled workers

{page break}

How sure are you about your answer to the previous question?

> Very sure

> Sure

> Somewhat sure

> Unsure

> Very unsure

{page break}

In the five-year period after 1980, how do you think unemployment among **high-skilled** workers in Miami was affected by the mass immigration of Cubans?

> I think the mass immigration of Cuban workers strongly increased unemployment among high-skilled workers

> I think the mass immigration of Cuban workers somewhat increased unemployment among high-skilled workers

> I think the mass immigration had virtually no effect on unemployment for high-skilled workers

> I think the mass immigration of Cuban workers somewhat decreased unem-

ployment among high-skilled workers

I think the mass immigration of Cuban workers strongly decreased unemployment among high-skilled workers

{*page break*}

How sure are you about your answer to the previous question?

Very sure

Sure

Somewhat sure

Unsure

Very unsure

A.6. Treatment: Labor market impacts

The researchers who analyzed the short- and long-term effects of the mass immigration of Cubans to Miami concluded that, for both high-skilled and low-skilled workers, the mass immigration had **virtually no effect on wages** and **virtually no effect on unemployment**.

According to the researchers, the mass immigration had virtually no effect on wages and unemployment because the new Cuban immigrants increased the overall demand for goods and services, which created more jobs.

A.7. Self-reported outcomes

A.7.1. Attitudes toward immigration: randomized order

Immigrants to the US differ in terms of their professional skill levels as well as their familiarity with American values and traditions.

Do you think the US should allow more or less **low-skilled** immigrants that are **highly familiar** with American values and traditions to come and live here?

Allow a lot more of these immigrants

Allow more of these immigrants

Keep the numbers as they are

Allow less of these immigrants

Allow a lot less of these immigrants

{*page break*}

Do you think the US should allow more or less **high-skilled** immigrants that are **highly familiar** with American values and traditions to come and live here?

Allow a lot more of these immigrants

Allow more of these immigrants

Keep the numbers as they are

Allow less of these immigrants

Allow a lot less of these immigrants

{*page break*}

Do you think the US should allow more or less **low-skilled** immigrants that are **not familiar** with American values and traditions to come and live here?

Allow a lot more of these immigrants

Allow more of these immigrants

Keep the numbers as they are

Allow less of these immigrants

Allow a lot less of these immigrants

{*page break*}

Do you think the US should allow more or less **high-skilled** immigrants that are **not familiar** with American values and traditions to come and live here?

Allow a lot more of these immigrants

Allow more of these immigrants

Keep the numbers as they are

Allow less of these immigrants

Allow a lot less of these immigrants

A.8. Petition

H-2B visas are work permits that allow US companies to temporarily hire low-skilled workers from abroad for seasonal, non-agricultural jobs, typically for work in restaurants, tourism, or construction. The annual cap on H-2B visas is currently 66,000. Congress is debating whether to change the annual cap.

Some argue that the quota should be increased because private companies say that there are not enough low-skilled American workers for hire. Others argue that the quota should be decreased because access to more foreign workers makes it easier for private companies to cut the wages of low-skilled American workers.

You will now have the possibility of signing a real petition related to this debate. If enough people sign the petition, the White House will consider it and post an official response.

Consider the following two petitions and decide whether you would like to sign one of them:

Increase the annual cap on H-2B visas (randomized order)

This petition suggests an increase in the annual cap on H-2B visas from 66,000 to 99,000.

> I want to sign this petition.

> I do not want to sign this petition.

Decrease the annual cap on H-2B visas (randomized order)

This petition suggests a decrease in the annual cap on H-2B visas from 66,000 to 33,000.

> I want to sign this petition.

> I do not want to sign this petition.

{*page break*}

(Not shown if "I do not want to sign this petition" was selected for both of the previous questions)

You stated that you want to sign the petition **"{*petition name*}"**. If you are interested in signing the petition, please click on the link below.

A.9. Testing mechanisms: Beliefs about the effects of low-skilled immigration

Note: We randomize between subjects whether they are exposed to this block about low-skilled immigration or the next block about high-skilled immigration.

For the following questions, we would like you to think about how increasing the number of **low-skilled** immigrants to the United States would affect your household and how it would affect most Americans over the next five years.

A.9.1. Labor market prospects: wages

For **your household**, how do you think admitting more **low-skilled** immigrants will affect wages?

Strongly decrease wages for my household

Somewhat decrease wages for my household

Neither increase nor decrease wages for my household

Somewhat increase wages for my household

Strongly increase wages for my household

For **most Americans**, how do you think admitting more **low-skilled** immigrants will affect wages?

Strongly decrease wages for most Americans

Somewhat decrease wages for most Americans

Neither increase nor decrease wages for most Americans

Somewhat increase wages for most Americans

Strongly increase wages for most Americans

A.9.2. Labor market prospects: jobs

For **your household**, how do you think admitting more **low-skilled** immigrants will affect job opportunities and job security?

Strongly reduce job opportunities or job security for my household

Somewhat reduce job opportunities or job security for my household

Neither reduce nor increase job opportunities or job security for my household

Somewhat increase job opportunities or job security for my household

Strongly increase job opportunities or job security for my household

For **most Americans**, how do you think admitting more **low-skilled** immigrants will affect job opportunities and job security?

Strongly reduce job opportunities or job security for most Americans

Somewhat reduce job opportunities or job security for most Americans

Neither reduce nor increase job opportunities or job security for most Americans

Somewhat increase job opportunities or job security for most Americans

Strongly increase job opportunities or job security for most Americans

A.9.3. Fiscal burden

For **your household**, how do you think admitting more **low-skilled** immigrants will affect taxes?

Increase taxes a lot for my household

Increase taxes a little for my household

Have no effect on taxes for my household

Decrease taxes a little for my household

Decrease taxes a lot for my household

For **most Americans**, how do you think admitting more **low-skilled** immigrants will affect taxes?

Increase taxes a lot for most Americans

Increase taxes a little for most Americans

Have no effect on taxes for most Americans

Decrease taxes a little for most Americans

Decrease taxes a lot for most Americans

A.9.4. Overall economic impact

When you think about all of the potential positive and negative economic effects of increasing the number of **low-skilled** immigrants that are **highly familiar** with American values and traditions coming to the United States, do you think the overall effect would be positive or negative for the finances of **most Americans**?

The overall economic effect would be very positive for most Americans

The overall economic effect would be somewhat positive for most Americans

There would be no economic effect for most Americans

The overall economic effect would be somewhat negative for most Americans

The overall economic effect would be very negative for most Americans

{*page break*}

When you think about all of the potential positive and negative economic effects of increasing the number of **low-skilled** immigrants that are **not familiar** with American values and traditions coming to the United States, do you think the overall effect would be positive or negative for the finances of **most Americans**?

The overall economic effect would be very positive for most Americans

The overall economic effect would be somewhat positive for most Americans

There would be no economic effect for most Americans

The overall economic effect would be somewhat negative for most Americans

The overall economic effect would be very negative for most Americans

{*page break*}

Setting aside immigration's economic effects, how do you think that increasing the number of **low-skilled** immigrants to the United States would affect American

culture and society as a whole?

> It would greatly damage American culture and society

> It would somewhat damage American culture and society

> It would neither damage nor improve American culture and society

> It would somewhat improve American culture and society

> It would greatly improve American culture and society

A.10. Testing mechanisms: Beliefs about the effects of high-skilled immigration

For the following questions, we would like you to think about how increasing the number of **high-skilled** immigrants to the United States would affect your household and how it would affect most Americans over the next five years.

A.10.1. Labor market prospects: wages

For **your household**, how do you think admitting more **high-skilled** immigrants will affect wages?

> Strongly decrease wages for my household

> Somewhat decrease wages for my household

> Neither increase nor decrease wages for my household

> Somewhat increase wages for my household

> Strongly increase wages for my household

For **most Americans**, how do you think admitting more **high-skilled** immigrants will affect wages?

> Strongly decrease wages for most Americans

> Somewhat decrease wages for most Americans

> Neither increase nor decrease wages for most Americans

> Somewhat increase wages for most Americans

Strongly increase wages for most Americans

A.10.2. Labor market prospects: jobs

For **your household**, how do you think admitting more **high-skilled** immigrants will affect job opportunities and job security?

Strongly reduce job opportunities or reduce job security for my household

Somewhat reduce job opportunities or reduce job security for my household

Neither reduce nor increase job opportunities and job security for my household

Somewhat increase job opportunities or increase job security for my household

Strongly increase job opportunities or increase job security for my household

For **most Americans**, how do you think admitting more **high-skilled** immigrants will affect job opportunities and job security?

Strongly reduce job opportunities or reduce job security for most Americans

Somewhat reduce job opportunities or reduce job security for most Americans

Neither reduce nor increase job opportunities and job security for most Americans

Somewhat increase job opportunities or increase job security for most Americans

Strongly increase job opportunities or increase job security for most Americans

A.10.3. Fiscal burden

For **your household**, how do you think admitting more **high-skilled** immigrants will affect taxes?

Increase taxes a lot for my household

Increase taxes a little for my household

Have no effect on taxes for my household

Decrease taxes a little for my household

Decrease taxes a lot for my household

For **most Americans**, how do you think admitting more **high-skilled** immigrants will affect taxes?

Increase taxes a lot for most Americans

Increase taxes a little for most Americans

Have no effect on taxes for most Americans

Decrease taxes a little for most Americans

Decrease taxes a lot for most Americans

A.10.4. Overall economic impact

When you think about all of the potential positive and negative economic effects of increasing the number of **high-skilled** immigrants that are **highly familiar** with American values and traditions coming to the United States, do you think the overall effect would be positive or negative for the finances of **most Americans**?

The overall economic effect would be very positive for most Americans

The overall economic effect would be somewhat positive for most Americans

There would be no economic effect for most Americans

The overall economic effect would be somewhat negative for most Americans

The overall economic effect would be very negative for most Americans

{*page break*}

When you think about all of the potential positive and negative economic effects of increasing the number of **high-skilled** immigrants that are **not familiar** with American values and traditions coming to the United States, do you think the overall effect would be positive or negative for the finances of **most Americans**?

The overall economic effect would be very positive for most Americans

The overall economic effect would be somewhat positive for most Americans

There would be no economic effect for most Americans

The overall economic effect would be somewhat negative for most Americans

The overall economic effect would be very negative for most Americans

Setting aside immigration's economic effects, how do you think that increasing the number of **high-skilled** immigrants to the United States would affect American culture and society as a whole?

It would greatly damage American culture and society

It would somewhat damage American culture and society

It would neither damage nor improve American culture and society

It would somewhat improve American culture and society

It would greatly improve American culture and society

A.11. Questions about the study

A.11.1. Questions asked to all subjects

Do you feel this survey was politically biased?

Very left-wing biased

Somewhat left-wing biased

Neither left-wing nor right-wing biased

Somewhat right-wing biased

Very right-wing biased

Previously in this survey, we gave you some information about the mass immigration of Cubans to Miami in 1980. Please answer the following question to the best of your memory.

Were most of the Cuban immigrants that came to Miami in 1980 high-skilled or low-skilled?

High-skilled

Low-skilled

I am unsure

Do you think most of the Cubans who migrated to Miami in 1980 were **highly familiar** or **not familiar** with American values and traditions?

> Highly familiar

> Not familiar

A.11.2. Questions only asked to subjects in the treatment

We provided you with information about the results from research on the labor market consequences of the mass immigration of Cubans to Miami in 1980. Did you find the information we provided you with trustworthy or untrustworthy?

> Very trustworthy

> Somewhat trustworthy

> Neither trustworthy nor untrustworthy

> Somewhat untrustworthy

> Very untrustworthy

To what extent to do you agree with the following statement: "The research described in this survey accurately reflects the labor market effects of the mass immigration of Cubans to Miami in 1980."

> Strongly disagree

> Disagree

> Neither agree nor disagree

> Agree

> Strongly agree

To what extent do you agree with the following statement: "The research on how the mass immigration of Cubans to Miami in 1980 affected the labor market is relevant when assessing the costs and benefits of allowing more or less immigrants into the United States today."

> Strongly Disagree

Disagree

Neither agree nor disagree

Agree

Strongly Agree

A.12. Demographics

1. Including yourself, how many people are currently living in your household?

2. Which category best describes your highest level of education? [Eighth grade or less, Some high school, High school degree/GED, Some college, 2-year college degree, 4-year college degree, Master's degree, Doctoral degree, Professional degree (JD, MD, MBA)]

3. What is your current employment status? [Full-time employee, Part-time employee, Self-employed or small business owner, Unemployed and looking for work, Student, Not in labor force (for example: retired or full-time parent)]

4. What is the zip code of your current residence?

5. Were you born in the US? [Yes, No]

6. Were both of your parents born in the US? [Yes, No]

A.13. Questions about employment

(Not shown if any of "Unemployed and looking for work", "Student", or "Not in labor force" were selected for the question about current employment status.)

Which of the following categories best describes the industry you primarily work in (regardless of your actual position)?

○ Computer programmers

○ Telemarketers

○ Computer systems analysts

○ Billing and posting clerks and Machine operators

○ Bookkeeping, accounting, And auditing clerks

○ Computer support specialists

○ Computer software engineers, Applications

○ Computer software engineers, sys-

tems software

○ Accountants

○ Welders, cutters, solderers, and brazers

○ Helpers–production workers

○ First-line supervisors/managers of production and operating workers

○ Packaging and filling machine operators and tenders

○ Team assemblers

○ Bill and account collectors

○ Machinists

○ Inspectors, testers, sorters, samplers, and weighers

○ General and operations managers

○ Stock clerks and order fillers

○ Shipping, receiving, and traffic clerks

○ Sales managers

○ Business operations specialists, all other

○ Does not apply.

{page break}

(Not shown if "Does not apply" was selected for the previous questions)

What do you think is the share of immigrants working in your local industry? [0 percent, ... , 100 percent]

B. Instructions: Follow-up

B.1. Consent form

This study has received ethics clearance by the Oxford University Institutional Review Board.

If subjects have questions about this study or their rights, or if they wish to lodge a complaint or concern, they may contact us at the following email: Christopher.Roth@economics.ox.ac.uk.

By continuing this study, you agree with the following:

- I have read the information provided on this page.

- I have had the opportunity to ask questions about the study.

- I understand that I may withdraw from the study at any time.

- I understand that this project has been reviewed and approved by Oxford University Institutional Review Board.

- I understand how to raise a concern or make a complaint.

- I understand that close attention to the survey is required for my responses to count.

B.2. Obfuscation: Demographics

1. What is your sex? [Male, Female, Prefer not to answer]

2. How old are you (in years)? [18–30, 30–50, 50–70, Older than 70, Prefer not to answer]

3. Information about income is very important to understand. Would you please give your best guess? Please indicate the answer that includes your entire household income in 2016 before taxes. [Income brackets from "Less than $10 000" to "Less than $150 000 or more"; Prefer not to answer]

4. Which statement best describes your current employment status? [Working (paid employee), Working (self-employed), Not working (looking for work), Not working (retired), Not working (temporary layoff from a job), Not working (disabled), Not working (other), Prefer not to answer]

B.3. Obfuscation: Views on government

Do you think the overall amount of government spending should be increased, decreased or remain the same?

Strongly increased

Somewhat increased

Kept at its present level

Somewhat decreased

Strongly decreased

{*page break*}

Do you think the overall amount of taxes raised by the government should be increased, decreased or remain the same?

Strongly increased

Somewhat increased

Kept at its present level

Somewhat decreased

Strongly decreased

{*page break*}

People feel differently about how far a government should go. Here is a phrase which some people believe in and some don't. Do you think the government should or should not redistribute wealth by heavy taxes on the rich?

Yes, redistribute by heavy taxes on rich

No, should not redistribute wealth

Don't know

B.4. Key outcomes

Do you think immigration of workers to the United States with little to no education should be kept at its present level, increased, or decreased?

Strongly increased

Somewhat increased

Kept at its present level

Somewhat decreased

Strongly decreased

{*page break*}

Do you think immigration of highly educated workers to the United States should be kept at its present level, increased, or decreased?

Strongly increased

Somewhat increased

Kept at its present level

Somewhat decreased

Strongly decreased

{*page break*}

To what extent do you agree with the following statement: "Increased immigration hurts American workers"

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree