

# Does Information Change Attitudes Towards Immigrants?

## Pre-Analysis Plan

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### **Abstract**

People's beliefs about immigration have been shown to be very biased, which could help explain why most people in the United States and in Europe want to dramatically reduce immigration. It is therefore important to understand whether people would change their attitude towards immigrants if they received accurate information about immigration and the characteristics of immigrants. The experiment we want to conduct consists in providing facts and statistics about immigration to half of the participants, before measuring their attitude towards immigrants with some behavioural measures and some general questions about immigration. We will also run a follow-up experiment to see whether the effects persist over time.

# 1 Motivation

Immigrant flows are expected to grow in the twenty-first century. Governments around the world need to take actions in order to handle these flows, and their decision to accept an increasing number of immigrants partly depends on the support of the local population. The extent of this support hinges on people's beliefs about immigration, which have been shown to be often biased (Citrin and Sides, 2008; IpsosMori, 2014). More recently, there has been a surge of anti-immigrant resentment both in Europe and in the United States, and it is important to understand whether people would change their attitude towards immigrants if they received accurate information about immigration and the characteristics of immigrants.

To answer this question, we would like to run an online experiment on Amazon Mechanical Turk, an online labor market that is widely used to conduct experiments (Kuziemko et al., 2015; Mason and Suri, 2012). The experiment would consist in providing facts and statistics about immigration to half of the participants, before measuring their attitude towards immigrants with some behavioural measures and some general questions about immigration. For this project, we will focus exclusively on the United States, where immigration is a particularly important political issue.

# 2 Experimental Design

The experiment is structured as follows: First, all respondents are asked a few questions on how much they trust official statistics, how many petitions they have signed in the last 12 months, and how worried they are about immigration. Then, we ask them to estimate five important statistics about immigration, such as the proportion of immigrants in the United States, or the proportion of immigrants who are incarcerated. The exact questions that participants need to answer are:

- According to the American Community Survey, what percentage of the total U.S. population are immigrants? By immigrants, we refer to people who were not born in the U.S.
- According to the Department of Homeland Security, what percentage of the total U.S. population are illegal immigrants?

- According to the American Community Survey, about 7 percent of all American citizens are unemployed. What percentage of immigrants are unemployed?
- According to the American Community Survey, 3 percent of all American citizens aged between 18 and 39 are incarcerated. Of all the immigrants living in the U.S. who are between 18 and 39 years old, what percentage are incarcerated?
- According to the American Community Survey, what percentage of immigrants can't speak English?

For each question, participants receive 10 cents if their estimate is within three percentage points of the true value. To avoid having participants look up the answers online, we only give them 25 seconds to answer each question. We also ask them how confident they are that their answer is correct.

## 2.1 Treatment

Then, the treatment group is told what the correct answers are to these five questions, while the control group is not told anything. People in the treatment group will receive the following feedback:

- You estimated that X percent of the total U.S. population are immigrants. According to the American Community Survey, 13 percent of the total U.S. population are immigrants.
- You estimated that X percent of the total U.S. population are illegal immigrants. According to the Department of Homeland Security, 3 percent of the total U.S. population are illegal immigrants.
- You estimated that X percent of immigrants are unemployed. According to the American Community Survey, around 6 percent of immigrants are unemployed.
- You estimated that X percent of immigrants aged between 18 and 39 are incarcerated. According to the American Community Survey, 2 percent of immigrants aged between 18 and 39 are incarcerated.
- You estimated that X percent of immigrants cannot speak English. According to the American Community Survey, 8 percent of immigrants cannot speak English.

We also use bar graphs to present the information visually.

## 2.2 Outcome Measures

### 2.2.1 Self-Reported Measures

We ask all the participants a series of questions on their perception of legal and illegal immigrants, as well as on their policy preferences. For instance, we ask them whether they think that there are too many immigrants in the US, whether legal immigration should be reduced, whether immigrants have a negative impact on American society as a whole etc. For a detailed description of all the questions, please refer to Appendix A.

### 2.2.2 Behavioral Measures

We use two behavioral measures to assess whether the treatment changed our participants' attitude towards immigrants.

First, we give participants the option of signing the following pro-immigrant petition:  
*“Facilitate legal immigration into the US! Immigration is beneficial to the US economy, and it is therefore important to increase the number of green cards available for immigrants. Indeed, not only do immigrants strengthen the US economy, but they are also hard-working and law-abiding. Moreover, most of them adapt to our way of life, and they enrich our culture tremendously. This is why we believe that more green cards should be issued to immigrants, so that more of them can take part in the American Dream.”*

This gives us a behavioural measure of people's willingness to encourage legal immigration.

Second, we observe how much money participants donate to a pro-immigrant NGO. Specifically, respondents will read the following message:

*Every tenth participant taking part in this survey will receive an extra \$10. They will have to choose how much money they want to keep for themselves, and how much money they want to donate to the American Immigration Council. Here is a short presentation of the American Immigration Council: The American Immigration Council is a non-profit, non-partisan, organization [which] exists to promote the prosperity and cultural richness of our diverse nation by:*

- *standing up for sensible and humane immigration policies that reflect American values,*
- *insisting that our immigration laws be enacted and implemented in a way that honors fundamental constitutional and human rights,*
- *working tirelessly to achieve justice and fairness for immigrants under the law.*

Then then have to specify how much money they want to keep for themselves, and how much they want to give to the American Immigration Council.

## 2.3 Updated Beliefs

We want to test whether participants in the treatment group remember the statistics that we showed them, so we ask them to answer the same set of questions again (proportion of immigrants, proportion of illegal immigrants etc.). We expect that their answers should be more accurate than the ones they gave before the information treatment.

## 2.4 Demographics

Finally, we ask participants to complete a questionnaire on demographics, which includes variables on gender, age, education, income etc.

## 3 Follow-Up

We are interested in testing whether the information treatment has some lasting effects on people's attitude towards immigrants.<sup>1</sup> We will therefore run a follow-up experiment three weeks after the main experiment, where we will ask people the same set of self-reported questions on immigration as the ones they answered in the main experiment. We also ask them to estimate the same five statistics about immigration as the ones in the main experiment.<sup>2</sup> This will allow us to see whether people in the treatment group remember the information we gave them.

Half of the sample will have to estimate the five statistics first, and then answer the set of self-reported questions on immigration, while the other half of the sample will answer the set of self-reported questions on immigration first, and then will have to estimate the five statistics.

## 4 Setting and Sample Size

We will run this experiment on Amazon Mechanical Turk, an online platform which is widely used to conduct experiments. We will only recruit participants who currently live in the United States. Moreover, workers must have completed at least 500 HITs, and they must have an overall

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<sup>1</sup>We will only run the follow-up experiment if we see some movement in people's attitude towards immigrants in the main experiment.

<sup>2</sup>For a complete description of the experiment, please refer to Appendix B.

rating of more than 95 percent. For the main experiment, we plan to recruit 800 participants. For the follow-up, we will try to re-interview as many participants as we can, but unfortunately, we cannot give a precise estimate of how many participants we will manage to get for the follow-up.

## 5 Main Hypotheses

### 5.1 Main Experiment

**Hypothesis 1:** We expect that people in the treatment group will give more accurate estimates of the proportion of immigrants in the US, of the proportion of illegal immigrants in the US etc. after having received the information treatment than before the treatment.

**Hypothesis 2:** We expect that people who receive the information treatment will have a more positive attitude towards immigration and immigrants, that they will be more likely to sign the petition in favour of facilitating immigration, and that they will donate more money to the American Immigration Council.

**Hypothesis 3:** We expect that the information treatment will be more effective for people who have highly biased beliefs all in the same direction, since they are more likely to change their political preferences after learning that their beliefs regarding immigration are mostly wrong. Indeed, we expect people who over-estimate and under-estimate the characteristics of immigrants to respond differently to the treatment. People who receive the information and over-estimated the characteristics of immigrants should hold more favorable views towards immigrants, while individuals receiving the information who under-estimated the immigrant characteristics should express more negative views towards immigrants.

### 5.2 Follow-Up Experiment

**Hypothesis 1:** We expect that people in the treatment group will give more accurate estimates of the proportion of immigrants in the US, of the proportion of illegal immigrants in the US etc. than people in the control group.

**Hypothesis 2:** However, we expect that the estimates given by people in the treatment group will be less accurate in the follow-up than in the main experiment. Indeed, people will have probably forgotten some of the information we gave them in the main experiment.

**Hypothesis 3:** It could be the case that the information treatment has some lasting effects on people’s attitudes towards immigrants and immigration. However, we expect those effects to be smaller than in the main experiment.

## 6 Analysis

### 6.1 Baseline Balance

We will test for baseline balance for the following variables:

- gender
- age
- log income (income is the midpoint of the interval specified by the respondent)
- household size
- ethnicity (dummies for White, Black, Hispanic, and Asian)
- religion (dummy for Christian)
- employment status (dummies for unemployed, part-time employed, and employed full-time)
- education (dummy for person with at least bachelor degree)
- immigrant status (dummy for being born in the US)
- experience on MTurk (number of HITs completed on MTurk)
- beliefs about immigration (beliefs about share of immigrants etc.)
- worried about immigration (pre-treatment)
- views about immigrants (pre-treatment question on whether immigrants have a negative impact on the US)
- political orientation (taking value one for Republicans and zero otherwise)

We will regress each of these variables on a treatment indicator to see if there are imbalances. We will account for multiple hypothesis testing by regressing the treatment indicator on all of the variables, and we will conduct a joint F-test, to see if the coefficients are jointly different from zero.

## 6.2 Manipulation Checks

To check whether the information treatment affected people’s beliefs in the expected direction, we analyse how participants in the treatment group update their beliefs after they receive correct information about immigration. We simply conduct a t-test comparing the beliefs of our respondents pre-treatment with their beliefs post-treatment. This will allow us to see how the distribution of beliefs shifts after participants receive the information treatment.

## 6.3 Main Specifications

### 6.3.1 Overall Treatment Effect

First, we simply compare the behavior of people in the treatment group with that of people in the control group. We regress our outcome variables  $y_i$  on a treatment indicator,  $Treatment_i$ , which takes the value one for people who receive the information treatment, and the value zero for all the other participants.<sup>3</sup> Specifically, the equation that we estimate is:

$$y_i = \pi_0 + \pi_1 Treatment_i + \varepsilon_i$$

where  $\varepsilon_i$  is an individual-specific error term.<sup>4</sup>

### 6.3.2 Specifications Accounting for the Biases in Beliefs

Our information treatment is designed to be more effective for people who have highly biased beliefs all in the same direction, since they are more likely to change their political preferences after learning that their beliefs regarding immigration are mostly wrong.

To take this into account, we first create a variable which measures how many times the participant’s answers are positively biased. This variable takes the values 0 to 5, and is denoted by *NumPositiveBiases*. We estimate the following equation:

$$y_i = \pi_0 + \pi_1 Treatment_i \times NumPositiveBiases_i + \pi_2 Treatment_i + \pi_3 NumPositiveBiases_i + \varepsilon_i$$

In the previous specification, we do not take into account the fact that people’s biases have

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<sup>3</sup>We recode our outcomes such that they take a high value for negative attitudes towards immigrants. This is true for all outcomes except for people’s willingness to donate money to a charity and their willingness to sign a positive petition.

<sup>4</sup>For all the specifications, we use robust standard errors.

different sizes for each question. Some might be very biased in one dimension, but less so in another, or very biased in both. We hypothesise that people who are on average more biased should respond more strongly to the information treatment. We therefore create a variable called *averageBias<sub>i</sub>*, which measures the average bias of each participant, defined as the unweighted average of the participant's absolute biases. We can then estimate the following equation:

$$y_i = \rho_0 + \rho_1 Treatment_i \times averageBias_i + \rho_2 Treatment_i + \rho_3 averageBias_i + \varepsilon_i$$

As a robustness check, we also use the mean of the normalized biases, *averageZBias<sub>i</sub>*, as an alternative to *averageBias*. To create *averageZBias*, we proceed as follows:

For each question, we normalise people's bias by subtracting the mean bias from people's bias before dividing by the standard deviation of the bias. Then, we create an unweighted average of the normalised biases. We will estimate the following equation:

$$y_i = \xi_0 + \xi_1 Treatment_i \times averageZBias_i + \xi_2 Treatment_i + \xi_3 averageZBias_i + \varepsilon_i$$

### 6.3.3 Decomposing the Treatment Effects

We also explore in how far the different biases about immigrants are differentially important. We will interact the treatment indicator with the size of the bias for each question  $j$  (*sizeBias<sub>i,j</sub>*). We can then regress the outcome variable ( $y_i$ ) on the treatment indicator, and the five interacted terms.

$$y_i = \alpha_0 + \beta Treatment_i + \sum_{j=1}^5 \gamma_j Treatment_i \times sizeBias_{i,j} + \sum_{j=1}^5 \delta_j sizeBias_{i,j} + \varepsilon_i$$

This allows us to take into account the fact that the different pieces of information can have differential effects on the outcome variables. For the analysis, we test whether each of the interaction coefficients is different from zero and whether they are jointly significantly different from zero.

## 6.4 Heterogeneous Treatment Effects

We will also see whether there are important heterogeneous treatment effects caused by our information treatment. For all of the heterogeneity analysis, we will only look at the indices

for the main families of outcomes,<sup>5</sup> as well as the behavioural measure on donations to the Immigration Council. Specifically, we will estimate the following equation, where  $interaction_i$  refers to the interaction variable:

$$y_i = \pi_0 + \pi_1 Treatment_i \times interaction_i + \pi_2 Treatment_i + \pi_3 interaction_i + \varepsilon_i$$

We will explore heterogeneity along the following dimensions:

- **Concern with Immigration:** We create an index measuring concern with immigration by combining the answers to the following three questions:

1. What do you think are the three most important issues facing the United States today? (0 if immigration is not mentioned, 1 if immigration is in 3rd place, 2 if immigration is in 2d place, and 3 if immigration is in 1st place.)
2. How worried, if at all, are you about the level of immigration into the U.S.? (coded 1 to 4)
3. To what extent do you agree with the following statement? On balance, immigrants have a negative impact on American society as a whole. (coded 1 to 5)

We hypothesise that the treatment effect should be larger for people who are more concerned about immigration, since they are more likely to have biased beliefs about immigration. At the same time, it could be the case that people who are very concerned with immigration have more rigid opinions about immigration, which would imply that our treatment would be less likely to affect them.

- **Trust in Statistics:** We measure trust in official statistics using the following question:

1. Personally, how much trust do you have in the official statistics in the U.S., such as the statistics on immigration? (coded 1 to 5)

We expect that people who do not trust official statistics would be less likely to be affected by our information treatment, given that they will dismiss the information that we give them.

- **Political Orientation:** We might expect that conservatives have more biased beliefs about immigration, which would mean that the information treatment should affect them

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<sup>5</sup>The different families of outcomes and the corresponding indices are defined below, in the section “Use of indices”.

more. At the same time, they might have more rigid views regarding immigration, which might be harder to change with statistics.

## 6.5 Subsample Analysis for the Petition Outcomes

We expect that our treatment will have a larger effect on people who have signed at least one petition in the past twelve months. We will therefore restrict the sample to people who have signed at least one petition in the past twelve months, and we will test whether the information treatment affects their behaviour for the petition outcomes. We will also look at heterogeneous treatment effects by the magnitude of the bias, as measured by *NumPositiveBiases<sub>i</sub>*.

## 6.6 Triple-Differences Estimation

We hypothesise that people who have very biased beliefs about immigration and who are very concerned about immigration will not update their political opinions after receiving the information treatment as much as people who are equally biased but who are not very concerned about immigration. Specifically, we will estimate the following equation:

$$y_i = \delta_0 + \delta_1 Treatment_i \times NumPositiveBiases_i \times concernImmigration_i + \delta_2 Treatment_i \times NumPositiveBiases_i + \delta_3 Treatment_i \times concernImmigration_i + \delta_4 NumPositiveBiases_i \times concernImmigration_i + \delta_5 Treatment_i + \delta_6 NumPositiveBiases_i + \delta_7 concernImmigration_i + \varepsilon_i$$

where *concernImmigration<sub>i</sub>* is an index capturing how worried people are about immigration.

## 6.7 Determinants of the Size of the Biases

In the following analysis, we will try to understand why people have biased beliefs about immigration. The easiest way to do this is to see if there are any pre-determined characteristics which predict whether people will have biased perceptions of immigration.<sup>6</sup>

In particular, we will regress each of the biases, *bias<sub>i</sub>*, on a vector of individual-specific

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<sup>6</sup>We will focus on the size of the biases, measured in percentage points.

variables,  $X_i$ , and a vector of county-specific variables,  $Z_{ic}$ :

$$bias_i = \alpha_0 + \beta X_i + \gamma Z_{ic} + \varepsilon_i$$

The vector of individual-specific variables,  $X_i$ , consists of the following variables:

- gender
- age
- log income (income is the midpoint of the interval specified by the respondent)
- household size
- ethnicity (dummies for White, Black, Hispanic, and Asian)
- religion (dummy for Christian)
- employment status (dummies for unemployed, part-time employed, and employed full-time)
- education (dummy for person with at least a bachelor degree)
- immigrant status (dummy for being born in the US)
- experience on MTurk (number of HITs completed on MTurk)
- beliefs about immigration (beliefs about share of immigrants etc.)
- worried about immigration (pre-treatment)
- views about immigrants (pre-treatment question on whether immigrants have a negative impact on the US)
- political orientation (taking value one for Republicans and zero otherwise)
- Following news about immigration. Variable taking value one for individuals saying that they closely or very closely follow news about immigration in the United States.

The vector of county-specific variables,  $Z_{ic}$ , consists of the following variables:

- Share of immigrants at the county level (taken from the American Community Survey 2014)

- Percentage of immigrants who speak English at the county level (taken from the American Community Survey 2014)
- Percentage of immigrants who are unemployed (taken from the American Community Survey 2014)

## 6.8 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, given that no behavioural measures are included.

Moreover, we will test some additional hypotheses with the follow-up data. Indeed, we expect that the estimates given by people in the treatment group will be less accurate in the follow-up than in the main experiment, and that the treatment effects will be smaller. We can test this hypothesis using seemingly unrelated regressions, by testing for the equality of coefficients.

In the follow-up, half of the sample will have to estimate the five statistics first, and then answer the set of self-reported questions on immigration, while the other half of the sample will answer the set of self-reported questions on immigration first, and then will have to estimate the five statistics. This will allow us to test whether the order of questions has an effect on people's stated preferences. It could indeed be the case that people who need to estimate the five statistics first will have a more positive view of immigrants than those who don't. Indeed, they will be reminded that their previous beliefs about immigrants were wrong.

## 6.9 Dealing with Imbalances

If there are imbalances between the treatment group and the control group, we will also estimate the above equations with a set of controls. We will choose as controls all of the variables for which there are imbalances.

## 6.10 Multiple Hypothesis Adjustment

To deal with the issue of multiple hypotheses testing, we adopt two strategies.

### 6.10.1 Use of Indices

First, we group our explicit outcome measures into different families of outcomes, and create an index for each family. We use the method described in Anderson (2008) to create the various indices.<sup>7</sup>

We define the families of outcomes as follows:

- **Beliefs about Immigrants:** We compute an index of the beliefs that people have regarding immigrants.
  - Immigrants are more likely to commit crimes than U.S. citizens.
  - Immigrants are more likely to be unemployed than U.S. citizens.
  - Immigrants generally learn English within a reasonable amount of time.
- **Immigration Policy:** We compute an index of people’s policy preferences regarding immigration.
  - There are currently too many immigrants in the U.S.
  - There are currently too many illegal immigrants in the U.S.
  - Do you think the number of legal immigrants coming to the United States each year should be increased, reduced or remain the same?
  - Do you think that the number of green cards available for immigrants coming to the United States each year should be increased, reduced or remain the same?
  - The government should devote a larger share of its budget to find illegal immigrants, and to deport them.
  - Congress should pass a bill to give some illegal immigrants living in the U.S. a path to legal status.
  - Which comes closer to your view about what government policy should be toward illegal immigrants currently residing in the United States?
- **Opinion on Immigrants:** We compute an index of people’s opinion on immigrants.

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<sup>7</sup>We recode the variables such that high values correspond to negative attitudes towards immigrants (this is true for all outcomes except for people’s willingness to donate money to a charity and their willingness to sign a positive petition). We normalize these variables, i.e. we subtract the mean and divide them by the standard deviation of each of the outcome variables. Then, we calculate the covariances between the variables part of the same family of outcomes and use the inverse of the covariance matrix in order to weight the outcomes. For more details see Anderson (2008).

- Suppose U.S. authorities were able to remove almost all illegal immigrants from the U.S. What effect do you think this would have on the U.S. economy?
  - Over the last 10 years, immigrants have produced more disadvantages than advantages for the U.S. as a whole.
- **Petition:** We compute an index of people’s willingness to sign a petition:
    - **Intention to sign:** This variable takes value one for individuals saying that they want to sign the petition.
    - **Self-reported signing:** This variable takes value one for individuals saying that they did sign the petition.
    - **Actual signing:** This variable is not available at the individual level, only at the group level. We can compare the proportion of individuals actually signing the petition for the control and treatment group. We will test for differences between the treatment and the control group using the “Mann–Whitney U test”. We cannot test for heterogeneous treatment effects for this particular variable as we only observe the outcome at the group level (i.e. for the treatment and control group) and not at the individual level.

### 6.10.2 Accounting for the False Discovery Rate

The second method uses the “sharpened q-value approach” (Anderson, 2008; Benjamini et al., 2006). We use the same families of outcomes as the ones defined above. For each family 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).

## 6.11 Attrition

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:

$$A_i = \pi_0 + \pi_1 Treatment_i + \pi_2 X_i + \varepsilon_i$$

where  $A_i$  indicates if a participant did not take part in the follow-up, and where  $X_i$  is a set of pre-determined characteristics. We will use the same set of pre-determined characteristics as for the baseline balance test.

If the coefficient  $\pi_1$  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  $\pi_1$  is not significant at the 5 percent level, we will conduct the statistical analysis without adjusting for attrition.

## **7 Definition of Outcome Variables**

### **7.1 Behavioural Measures**

For the dictator game with the charity, we will look at the amount donated by participants, and we will view it as a continuous variable.

For the petition, we actually record a series of variables. We first have a variable which indicates whether people have the intention to sign the petition, but we also have a variable which indicates whether people report having signed the petition. Finally, we can count the number of signatures that there are on the petition pages, to see whether the reported number of signatures is close to the actual number of signatures. In the analysis, we will use all of these variables as outcome measures. Naturally, the most convincing measure is the actual number of signatures on the petition pages.

### **7.2 Self-Reported Measures**

For simplicity, we will consider that all of the self-reported measures on immigration policy and attitudes toward immigrants are continuous. For instance, when participants need to state to what extent they agree with a particular statement, we will code “strongly disagree” as 1, “disagree” as 2 etc.

### **7.3 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.

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## Appendix A: Main Experiment

### Description

This study is conducted by researchers from Bocconi University and the University of Oxford. This research has received ethics clearance by the ethics committees of the University of Oxford and Bocconi University. No deception is involved and the study does not pose any risk to the participants. Participants will be asked to answer a few questions about their preferences, as well as a set of demographic questions. Participation in the study typically takes 10 minutes and is strictly anonymous. During the experiment, you will have the option of donating money to a charity. Your choice will not affect your participation in the experiment.

In order to be paid, it is necessary to finish the survey. If you complete the survey, you will receive a fixed payment of \$1.30. On top of that, you might receive a bonus. Each person is only allowed to participate in the experiment once. If you encounter a technical problem, please do not restart the experiment, but contact us at [research.dipmkt@unibocconi.it](mailto:research.dipmkt@unibocconi.it). If participants have further questions about this study or their rights, or if they wish to lodge a complaint or concern, they may contact us at [research.dipmkt@unibocconi.it](mailto:research.dipmkt@unibocconi.it).

### Consent Form

- I have read the information provided on the previous 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 the ethics committees of the University of Oxford and of Bocconi University.
- I understand how to raise a concern or make a complaint.
- I understand that I can only participate in this experiment once.
- I understand that close attention to the survey is required for my responses to count.

If you are 18 years of age or older, agree with the statements above, and freely consent to participate in the study, please click on the “I Agree” button to begin the experiment. [I agree, I disagree]

## **Pre-Treatment Characteristics**

Personally, how much trust do you have in the official statistics in the U.S., such as the statistics on immigration? [No trust at all, very little trust, some trust, a lot of trust, complete trust]

In the past 12 months, how many petitions have you signed? [number]

We will now ask you for your opinion on some of the issues facing the United States today. Please answer all of the questions carefully. What do you think are the three most important issues facing the United States today? Please select the issues from the list below, and drag them to the appropriate position. [Items: The way income and wealth are distributed in the U.S., The economy, Terrorism, Healthcare policy, Immigration, Foreign affairs, Race relations, The way government operates in Washington, The environment]

How worried, if at all, are you about the level of immigration into the U.S.? [Very worried, Fairly worried, Not very worried, Not worried at all]

How concerned are you about the following aspects of immigration? [Not at all concerned, Slightly concerned, Moderately concerned, Very concerned, Extremely concerned]

- Number of legal immigrants currently in the U.S.
- Lack of integration.
- Burden on social services.
- Criminal activity.
- Number of illegal immigrants currently in the U.S.

To what extent do you agree with the following statement? [Strongly disagree, disagree, neither agree nor disagree, agree, strongly agree]

On balance, immigrants have a negative impact on American society as a whole.

## **Beliefs about immigrants**

On the next pages, we will ask you a series of factual questions on immigration in the United States. Specifically, we will test your knowledge of various statistics on immigration. In case your response is within three percentage points of the true value, you will earn an extra 10 cents. Please note that you will only have 25 seconds to answer each question.

The statistics mentioned in the following questions mainly come from the American Community Survey, which is a nationally representative survey of the population living in the U.S., conducted by the U.S. Census Bureau.

According to the American Community Survey, what percentage of the total U.S. population are immigrants? By immigrants, we refer to people who were not born in the U.S. [slider]

How confident are you that your answer is correct? [very confident, confident, not very confident, not confident at all]

According to the Department of Homeland Security, what percentage of the total U.S. population are illegal immigrants? [slider]

How confident are you that your answer is correct? [very confident, confident, not very confident, not confident at all]

According to the American Community Survey, about 7 percent of all American citizens are unemployed. What percentage of immigrants are unemployed? Please use the slider to select your answer. [slider]

How confident are you that your answer is correct? [very confident, confident, not very confident, not confident at all]

According to the American Community Survey, 3 percent of all American citizens aged between 18 and 39 are incarcerated. Of all the immigrants living in the U.S. who are between 18 and 39 years old, what percentage are incarcerated? Please use the slider to select your answer. [slider]

How confident are you that your answer is correct? [very confident, confident, not very confident, not confident at all]

According to the American Community Survey, what percentage of immigrants can't speak English? Please use the slider to select your answer. [slider]

How confident are you that your answer is correct? [very confident, confident, not very confident, not confident at all]

**For the control group only**

Thank you very much for taking part in this short quiz!

We will now ask you a series of questions regarding your opinions on immigrants and immigration policies.

### **For the treatment group only**

Thank you very much for taking part in this short quiz!

We will now go over your answers, and we will tell you the correct answer to each of the questions. Please pay close attention to the information provided, as you will have to retake the same quiz at some later point.

### **Information Treatment**

You estimated that X percent of the total U.S. population are immigrants. According to the American Community Survey, 13 percent of the total U.S. population are immigrants.

You estimated that X percent of the total U.S. population are illegal immigrants. According to the Department of Homeland Security, 3 percent of the total U.S. population are illegal immigrants.

You estimated that X percent of immigrants are unemployed. According to the American Community Survey, around 6 percent of immigrants are unemployed.

You estimated that X percent of immigrants aged between 18 and 39 are incarcerated. According to the American Community Survey, 2 percent of immigrants aged between 18 and 39 are incarcerated.

You estimated that X percent of immigrants cannot speak English. According to the American Community Survey, 8 percent of immigrants cannot speak English.

In the two tables below, you will find a summary of the correct answers to the different questions. Please take the time to learn the following statistics, as you will have to retake the same quiz at some later point.

|              | Percentage of immigrants | Percentage of U.S. citizens |
|--------------|--------------------------|-----------------------------|
| Unemployed   | 6%                       | 7%                          |
| Incarcerated | 2%                       | 3%                          |

|  |     |
|--|-----|
| Percentage of immigrants in the general population         | 13% |
| Percentage of illegal immigrants in the general population | 3%  |
| Percentage of immigrants who can't speak English           | 8%  |

## Explicit Questions

To what extent do you agree with the following statements? [Strongly disagree, disagree, neither agree nor disagree, agree, strongly agree]

There are currently too many immigrants in the U.S.

There are currently too many illegal immigrants in the U.S.

To what extent do you agree with the following statements? [Strongly disagree, disagree, neither agree nor disagree, agree, strongly agree]

Immigrants are more likely to commit crimes than U.S. citizens.

Immigrants are more likely to be unemployed than U.S. citizens.

To what extent do you agree with the following statement? [Strongly disagree, disagree, neither agree nor disagree, agree, strongly agree]

Immigrants generally learn English within a reasonable amount of time.

Do you think the number of legal immigrants coming to the United States each year should be increased, reduced or remain the same? [It should be increased a lot, It should be increased a little, It should remain as it is, it should be decreased a little, it should be decreased a lot.]

Do you think that the number of green cards available for immigrants coming to the United States each year should be increased, reduced or remain the same? [It should be increased a lot, It should be increased a little, It should remain as it is, it should be decreased a little, it should be decreased a lot.]

To what extent do you agree with the following statement? [Strongly disagree, disagree, neither agree nor disagree, agree, strongly agree]

The government should devote a larger share of its budget to find illegal immigrants, and to deport them.

Congress should pass a bill to give some illegal immigrants living in the U.S. a path to legal status.

Which comes closer to your view about what government policy should be toward illegal immigrants currently residing in the United States? The government should:

[deport all illegal immigrants back to their home country.

allow illegal immigrants to remain in the United States in order to work, but only for a limited amount of time.

allow illegal immigrants to remain in the United States and become U.S. citizens, but only if they meet certain requirements over a period of time.]

Suppose U.S. authorities were able to remove almost all illegal immigrants from the U.S. What effect do you think this would have on the U.S. economy? [Very positive effect, Somewhat positive effect, Neither positive nor negative effect, Somewhat negative effect, Very negative effect]

To what extent do you agree with the following statement? [Strongly disagree, disagree, neither agree nor disagree, agree, strongly agree]

Over the last 10 years, immigrants have produced more disadvantages than advantages for the U.S. as a whole.

## Donation

Every tenth participant taking part in this survey will receive an extra \$10. They will have to choose how much money they want to keep for themselves, and how much money they want to donate to the American Immigration Council.

Here is a short presentation of the American Immigration Council: "The American Immigration Council is a non-profit, non-partisan, organization [which] exists to promote the prosperity and cultural richness of our diverse nation by:

- Standing up for sensible and humane immigration policies that reflect American values.
- Insisting that our immigration laws be enacted and implemented in a way that honors fundamental constitutional and human rights.
- Working tirelessly to achieve justice and fairness for immigrants under the law."

To learn more about the American Immigration Council, please click on the following link:  
<http://immigrationpolicy.org/>

If you do receive an extra \$10, how much money would you donate to the American Immigration Council? [slider]

## Petition

You will now have the possibility of signing a petition regarding immigration policy. Consider the following petition, and decide whether you would like to sign it or not.

“Facilitate legal immigration into the US! Immigration is beneficial to the US economy, and it is therefore important to increase the number of green cards available for immigrants. Indeed, not only do immigrants strengthen the US economy, but they are also hard-working and law-abiding. Moreover, most of them adapt to our way of life, and they enrich our culture tremendously. This is why we believe that more green cards should be issued to immigrants, so that more of them can take part in the American Dream.” [I want to sign this petition, I do not want to sign this petition.]

### **If the person wants to sign the petition**

You stated that you want to sign this petition. To sign this petition, please click on the link below: [https://petitions.whitehouse.gov//petition/facilitate-legal-immigration-us-0 for the control group]

[https://petitions.whitehouse.gov//petition/facilitate-legal-immigration-us-0 for the treatment group]

Did you sign the petition? [Yes, No]

Reminder: If you signed a petition, you will receive a confirmation email from the White House Petition website. To confirm your signature, please click on the link provided in that email.

Why did you choose to sign the petition? One or two sentences should be enough. [open text entry]

### **If the person doesn't want to sign the petition**

Why did you choose not to sign the petition? One or two sentences should be enough. [open text entry]

## **Demographics**

The main part of the survey is now over. We will now just ask you some general questions about yourself.

Which of these describes you more accurately? [Male, Female, Other]

What year were you born?

In which state do you currently reside?

What is your zipcode?

How many people are there in your household including yourself?

What was your annual household income (before taxes) in 2015? [Less than \$10,000, Between \$10,000 and \$19,999, Between \$20,000 and \$29,999, Between \$30,000 and \$39,999, Between \$40,000 and \$49,999, Between \$50,000 and \$59,999, Between \$60,000 and \$69,999, Between \$70,000 and \$79,999, Between \$80,000 and \$99,999, More than \$100,000]

What is the highest level of education you have completed? [12th grade or less; Graduated high school or equivalent; Some college, no degree; Associate degree; Bachelor's degree; Post-graduate degree]

What is your religion? [Christianity, Judaism, Islam, Hinduism, None, Other]

What is your ethnicity? [White, Black, Hispanic, Asian, Other]

What category would best describe your political orientation? [Extremely liberal; Liberal; Slightly liberal; Moderate, middle of the road; Slightly conservative; Conservative; Extremely conservative; Other]

What category would best describe your political orientation? [Republican, Democrat, Other]

Which of these describes your current situation most accurately? [Employed full-time, Employed part-time, Unemployed and looking for a job, Unemployed but not looking for a job, Retired, Other]

Were you born in the U.S.? [Yes, No]

Were both of your parents born in the U.S.? [Yes, No]

How much contact do you, personally, have with immigrants? [A great deal, A moderate amount, Not much, None at all]

How closely do you follow news about immigration in the United States? [Very closely, Closely, Not closely, Not closely at all]

From which TV channel do you get most of your information? [NBC News, CBS News, ABC News, Fox News, Fusion, Newsmax TV, One America News, Other, Does not apply]

Pick the category that describes you best: [Mechanical Turk is my main source of income. I work on Mechanical Turk to supplement my income. I work on Mechanical Turk as a hobby. Other]

How many HITs have you already completed on Amazon Mechanical Turk? [dropdown menu]

### **Posterior Beliefs (only for the treatment group)**

The experiment is now almost over! You will now have the chance to retake the quiz on immigration that you took before. Please note that you will only have 25 seconds to answer each

question.

According to the American Community Survey, what percentage of the total U.S. population are immigrants? By immigrants, we refer to people who were not born in the U.S. [slider]

According to the Department of Homeland Security, what percentage of the total U.S. population are illegal immigrants? [slider]

According to the American Community Survey, about 7 percent of all American citizens are unemployed. What percentage of immigrants are unemployed? Please use the slider to select your answer. [slider]

According to the American Community Survey, 3 percent of all American citizens aged between 18 and 39 are incarcerated. Of all the immigrants living in the U.S. who are between 18 and 39 years old, what percentage are incarcerated? Please use the slider to select your answer. [slider]

According to the American Community Survey, what percentage of immigrants can't speak English? Please use the slider to select your answer. [slider]

Thank you very much for taking part in this short quiz! The experiment is now almost over!

### **Trust in experimenters (only for the treatment group)**

During the experiment we provided you with some statistics about immigration. To what extent do you agree with the following statement? [Strongly disagree, disagree, neither agree nor disagree, agree, strongly agree] I was very confident that the statistics provided were accurate.

### **Debriefing**

Thank you very much for completing our survey! Once we'll have gathered the data, we will calculate how much money each participant earned during the survey. In any case, you will at least get a payment of \$1.30, which corresponds to the show-up fee. On top of that, you might receive a bonus, depending on your answers.

There will be a follow-up study in 3 weeks, where we will ask you to answer a set of questions on your policy preferences. The follow-up study will take only 4 minutes and you will earn \$1, and on top of that, you may receive a bonus. If there are any remarks that you would like to make or clarifications that you would like to obtain, please do let us know by writing them into the field below: [open text entry]

## Appendix B: Follow-Up Experiment

### Description

This study is conducted by researchers from Bocconi University and the University of Oxford. This research has received ethics clearance by the ethics committees of the University of Oxford and Bocconi University. No deception is involved and the study does not pose any risk to the participants. Participants will be asked to answer a few questions about their preferences, as well as a set of demographic questions. Participation in the study typically takes 4 minutes and is strictly anonymous.

In order to be paid, it is necessary to finish the survey. If you complete the survey, you will receive a fixed payment of \$1. On top of that, you might receive a bonus. Each person is only allowed to participate in the experiment once. If you encounter a technical problem, please do not restart the experiment, but contact us at [research.dipmkt@unibocconi.it](mailto:research.dipmkt@unibocconi.it). If participants have further questions about this study or their rights, or if they wish to lodge a complaint or concern, they may contact us at [research.dipmkt@unibocconi.it](mailto:research.dipmkt@unibocconi.it).

### Consent Form

- I have read the information provided on the previous 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 the ethics committees of the University of Oxford and of Bocconi University.
- I understand how to raise a concern or make a complaint.
- I understand that I can only participate in this experiment once.
- I understand that close attention to the survey is required for my responses to count.

If you are 18 years of age or older, agree with the statements above, and freely consent to participate in the study, please click on the “I Agree” button to begin the experiment. [I agree, I disagree]

## Beliefs about immigrants

On the next pages, we will ask you a series of factual questions on immigration in the United States. Specifically, we will test your knowledge of various statistics on immigration. In case your response is within three percentage points of the true value, you will earn an extra 10 cents. Please note that you will only have 25 seconds to answer each question.

The statistics mentioned in the following questions mainly come from the American Community Survey, which is a nationally representative survey of the population living in the U.S., conducted by the U.S. Census Bureau.

According to the American Community Survey, what percentage of the total U.S. population are immigrants? By immigrants, we refer to people who were not born in the U.S. [slider]

How confident are you that your answer is correct? [very confident, confident, not very confident, not confident at all]

According to the Department of Homeland Security, what percentage of the total U.S. population are illegal immigrants? [slider]

How confident are you that your answer is correct? [very confident, confident, not very confident, not confident at all]

According to the American Community Survey, about 7 percent of all American citizens are unemployed. What percentage of immigrants are unemployed? Please use the slider to select your answer. [slider]

How confident are you that your answer is correct? [very confident, confident, not very confident, not confident at all]

According to the American Community Survey, 3 percent of all American citizens aged between 18 and 39 are incarcerated. Of all the immigrants living in the U.S. who are between 18 and 39 years old, what percentage are incarcerated? Please use the slider to select your answer. [slider]

How confident are you that your answer is correct? [very confident, confident, not very confident, not confident at all]

According to the American Community Survey, what percentage of immigrants can't speak English? Please use the slider to select your answer. [slider]

How confident are you that your answer is correct? [very confident, confident, not very confident, not confident at all]

Thank you very much for taking part in this short quiz!

## Explicit Questions

We will now ask you a series of questions regarding your opinions on immigrants and immigration policies.

To what extent do you agree with the following statements? [Strongly disagree, disagree, neither agree nor disagree, agree, strongly agree]

There are currently too many immigrants in the U.S.

There are currently too many illegal immigrants in the U.S.

To what extent do you agree with the following statements? [Strongly disagree, disagree, neither agree nor disagree, agree, strongly agree]

Immigrants are more likely to commit crimes than U.S. citizens.

Immigrants are more likely to be unemployed than U.S. citizens.

To what extent do you agree with the following statement? [Strongly disagree, disagree, neither agree nor disagree, agree, strongly agree]

Immigrants generally learn English within a reasonable amount of time.

Do you think the number of legal immigrants coming to the United States each year should be increased, reduced or remain the same? [It should be increased a lot, It should be increased a little, It should remain as it is, it should be decreased a little, it should be decreased a lot.]

Do you think that the number of green cards available for immigrants coming to the United States each year should be increased, reduced or remain the same? [It should be increased a lot, It should be increased a little, It should remain as it is, it should be decreased a little, it should be decreased a lot.]

To what extent do you agree with the following statement? [Strongly disagree, disagree, neither agree nor disagree, agree, strongly agree]

The government should devote a larger share of its budget to find illegal immigrants, and to deport them.

Congress should pass a bill to give some illegal immigrants living in the U.S. a path to legal status.

Which comes closer to your view about what government policy should be toward illegal immigrants currently residing in the United States? The government should:

[deport all illegal immigrants back to their home country.

allow illegal immigrants to remain in the United States in order to work, but only for a limited amount of time.

allow illegal immigrants to remain in the United States and become U.S. citizens, but only if they meet certain requirements over a period of time.]

Suppose U.S. authorities were able to remove almost all illegal immigrants from the U.S. What effect do you think this would have on the U.S. economy? [Very positive effect, Somewhat positive effect, Neither positive nor negative effect, Somewhat negative effect, Very negative effect]

To what extent do you agree with the following statement? [Strongly disagree, disagree, neither agree nor disagree, agree, strongly agree]

Over the last 10 years, immigrants have produced more disadvantages than advantages for the U.S. as a whole.

## **Debriefing**

Thank you very much for completing our survey! Once we'll have gathered the data, we will calculate how much money each participant earned during the survey. In any case, you will at least get a payment of \$1, which corresponds to the show-up fee. On top of that, you might receive a bonus, depending on your answers.

If there are any remarks that you would like to make or clarifications that you would like to obtain, please do let us know by writing them into the field below: [open text entry]