

Eliciting Individual Preferences for Immigrants in the Dominican Republic

Raul Jimenez M. *

(Draft May 2017)

Abstract

Immigration flows between low-income countries have increased sharply in recent years, posing several challenges to national and foreign policy, as well as being a subject of potential social turbulence. Along this process, and despite a growing literature documenting the net welfare benefits of immigration, adverse policies and public opinion appear to be as common in developing countries as in developed countries. In such a context, understanding natives' attitudes toward immigrants may contribute to inform measures to smooth free human mobility. This paper presents the results from two types of choice experiments in the Dominican Republic. The experiments were designed to elicit individual preferences for immigrants' attributes, and to evaluate differences between choice settings that are "forced choice" and others that allow for "neither option." Overall, the findings indicate that education, occupation, norm adherence, cultural resemblance, and country of origin have substantial effects on the probability of immigrants obtaining support for admission into the country. An interesting result is that foreigners from developed countries tend to receive greater support for admission. At the same time, there is significant heterogeneity in the estimations that is not explained by observable characteristics of the respondent, suggesting that most heterogeneity is idiosyncratic. Regarding the two different decision frameworks, the estimations indicate that allowing for the neither option, arguably a more realistic setting, returns lower probability of admission.

Keywords: Immigration, Attitudes, Choice Experiments

JEL: F22, J61

* Department of Economics, University of Rome Tor Vergata, and Inter-American Development Bank, rjmori@gmail.com. The findings, interpretations, and conclusions herein are strictly those of the author and should not be attributed in any manner to his affiliated institutions. All remaining errors are the author's responsibility.

1. Introduction

Migration represents a topic of increasing interest in developing countries. Over the past two decades, the stock of migrants has increased by more than 50 percent, from 154 million in 1990 to 232 million in 2013. During this process, flows between developing countries have grown continuously to represent around 36 percent of the total migrant stock (UN 2016). In the near future, this share is likely to grow further, exposing many poor countries to a population influx for which they are unprepared, risking political and social turbulence (Hanson and McIntosh 2016; Manning and Roy 2010). Examples of this turbulence have already been registered in countries such as Côte d'Ivoire and the Dominican Republic, where immigrants face adverse policies for staying. Similarly, Distelhorst and Hou (2014) document the presence of significant bias in the provision of public goods by origin of the beneficiary. Together with recent political events in Europe and the United States, this situation shows not only that immigration is a relevant and sensible topic in today's national and foreign policy, but also appears to reflect an unfavorable view toward free international human mobility.

This general negative view has been documented in the literature, which suggests that the explanation is that immigration tends to be perceived as an economic and cultural threat (Facchini et al. 2008; Newman 2014; Blinder 2015; Bertoli et al. 2016). Broadly, the factors that drive native opinions about immigrants may be divided into economic and noneconomic. The former includes labor market and fiscal concerns; noneconomic factors are norm adherence, national identity (i.e., religious beliefs, language), and ethnicity. Hypotheses based on labor market factors assume that citizens would tend to reject immigrants if they represented direct competition for jobs. Similarly, it is postulated that fiscal considerations may explain why natives tend to reject foreigners if they represent a greater tax burden through a greater use of public services and social programs. For the noneconomic drivers, it is assumed that greater norm adherence, greater identification with national culture, and similar ethnicity tend to influence a favorable opinion on immigration. The empirical literature finds support for these hypotheses, and emphasizes the role of cultural factors in explaining opinions on immigration, as well as substantial heterogeneities in those opinions across citizens with different characteristics (i.e., education, gender,

income) (e.g., Mayda 2006; Dustman and Preston 2007; Malchow-Møller 2008; Facchini and Mayda 2012; Card et al. 2012; Ortega and Polavieja 2012).

However, a relevant observation is that these studies are mostly based on general opinion surveys on immigration—not on individual immigrants. Therefore, such studies only capture and examine the effects of impersonal attitudes. At the same time, the studies are mainly based on administrative data. Thus, although the studies have the advantage of evaluating cross-country samples, they generally restrict the researchers to a few dimensions of analysis. Iyengar et. al. (2013) stress that the distinction between studies focusing on attitudes toward individual immigrants and group-level analyses on immigration is relevant, as the two approaches may potentially lead to different conclusions with different implications for public policy.

Indeed, those findings, as well as the recent political winds, are in contrast with the empirical evidence indicating that migration has had sizeable welfare net benefits (Alesina et al. 2016; Akay et al, 2014; Chassamboulli and Palivos 2013; Peri 2012;). This may suggest that noneconomic factors may play a dominant role in public opinion. To reach a better understanding of what is in play, it is necessary to examine individual natives' attitudes toward individual immigrants. Hence, to investigate the apparent disconnection between public opinion and the net contribution of immigrants, a growing literature focuses on studying natives' individual attitudes, with the aim to identify the sources of opinions toward immigrants (Hainmueller and Hiscox 2010; Aalberg et al. 2012; Iyengar et al. 2013; Hartman et al. 2014; Hainmueller and Hopkins 2015; Wright et al. 2016). These studies are largely based on survey and choice experiments, which allow manipulation of immigrants' individual attributes to characterize citizens' preferences for individual foreigners.

The findings of this stream of literature suggest important differences between individual and public opinion. On the one hand, there is evidence that more educated foreigners with skilled occupations tend to receive support. This finding aligns with the evidence on the positive effects of immigration on overall welfare, but somewhat contradicts the labor market competition hypothesis. On the other hand, violating norms and having little cultural resemblance tend to reduce support for foreigners. These findings are roughly homogeneous across different groups of natives,

suggesting that noneconomic factors and the composition of the immigrant stock in a country drive public opinion and immigration policies.

In contrast with the growing immigrant flows between developing countries, to date most of the literature studying drivers of attitudes toward immigrants has been carried out in developed countries.¹ Therefore, there is no evidence that previous findings extend to different institutional, cultural, and ethnic contexts such as those in developing countries. For example, social assistance, provision of public goods, and fiscal contributions are markedly different in these countries. Further, in developing countries, immigration control tends to be lax, and assimilation policy is scarce or nonexistent, requiring a specific analysis (OECD 2011).

This paper attempts to contribute to fill this gap by studying attitude formation toward individual immigrants in a developing country. To that end, I designed choice experiments (CEs) to evaluate the effect of 10 attributes of immigrants on the probability of obtaining citizen support for admission. The estimation methodology allows for heterogeneous preferences among respondents, as well as the examination of drivers of such variance. Further, to examine the effects of different decision settings, I designed two types of CE: forced choice, and with the neither option.

The study took place in the Dominican Republic, where around 5.4 percent of the total population is foreign born. Although this share is less than half the proportion of immigrants in the United States (13 percent), the immigrant situation in the Dominican Republic is receiving significant attention from the authorities, the public, and the international community, constituting a source of considerable contemporary angst. Recently, the Dominican government launched several measures on immigration, including the implementation of the first Immigration Law (in 2011), the first national survey of immigrants (in 2012), and the plan to regularize immigrants (in 2014-15). In particular, the immigrant regularization measure received international attention, as it involved deporting around 14,000 people, affecting mainly the poorest immigrant group in the country, Haitians.²

¹ For example, Hainmueller and Hiscox (2010), Hartman et al. (2014), and Hainmueller and Hopkins (2015) study the United States. Aalberg et al. (2012) study Norway. Iyengar et al. (2013) study Norway, the Republic of Korea, Japan, the United States, Canada, the United Kingdom, and Australia.

² <http://fpif.org/really-happening-dominican-republic-deporting-haitian-residents>.

I designed an original survey and administered it to approximately 2,500 citizens to collect stated preferences data on immigrant profiles. The choice experiment applied repeated choice situations per respondent, returning a panel data structure. The survey also collected detailed information on a range of demographic, social, and economic characteristics of the respondents, as well as time spent per CE, which allowed for control of potential confounding factors.

Overall, and aligned with the literature, the findings of this study indicate that foreigners with higher education, skilled jobs, norm adherence, and national resemblance are preferred for admission. The gender of the immigrant is not relevant. An interesting finding is that foreigners from developed countries, with different ethnicity, tend to receive a premium in the probability of acceptance. Such premium is not observed for immigrants from other Latin American countries; moreover, a penalty is observed for immigrants from Haiti. The estimated preference weights among natives are shown to be heterogeneous, but they do not seem to be systematically driven by the education, income level, or gender of the respondent, suggesting that such variability is mostly based on natives' tastes or idiosyncratic preferences. Although these results are similar between experiments, with and without the neither option, it is observed that the latter returns a lower probability of acceptance, a finding that appears to reflect native preferences. Another difference between the experiments is that labor experience is only statistically significant when the neither option is available, suggesting that more information on the candidate is relevant in a more stringent decision setting.

To my knowledge, this is the first stated preferences experiment extending to developing countries the study of attitudes toward individual immigrants. In contrast to previous studies, this work also contributes to the literature by applying experiments that include a broader set of immigrant attributes, as well as comparing findings between choice settings with the neither option and forced choice. The theoretical framework and estimation methodology allow for heterogeneity in preferences, and for testing whether such heterogeneity is driven by observable characteristics of the respondent. Other studies evaluating attitudes toward individual immigrants mostly apply linear estimation methods, testing homogeneity in attitudes by applying regressions in subsamples of respondents with different characteristics.

This approach restricts testing multiple native characteristics at the same time, and does not allow for evaluation of heterogeneity in attitudes by attributes among the native population.

The next section presents a background on the case study. Section 3 outlines the empirical approach to estimate the preference weights for immigrant attributes. Section 4 describes the sampling frame and data collection. Section 5 presents the main results, and a set of robustness regressions. Section 6 provides the conclusion and discussion.

2. Background on the Case Study

The Dominican Republic is a Caribbean country with per capita gross domestic product of around US\$5,879 (2013).³ The main ethnic groups are mixed-Afro descendant, at 73 percent of the total population, followed by white, 16 percent, and black, 11 percent. The main religious group is Roman Catholic, 95 percent.⁴

Immigrants in the country represent around 5.4 percent of the total population a share that has been stable over the past few decades. Table 1 shows some descriptive statistics on the foreign-born population in the country. It is notable that 87 percent of the country's immigrants are from Haiti, the poorest country in the Latin America and the Caribbean region, with income per capita about one-seventh that of the Dominican Republic. The rest of the countries with a relevant immigrant presence in the Dominican Republic are the United States (2.6 percent), Spain (1.3 percent), Italy (0.8 percent), China (0.7 percent), and Venezuela (0.7 percent), among others. In general, the immigrant population is relatively young with a low level of formal education. Around 50 percent of immigrants in the country are younger than 35 years, and 67 percent have only basic education (primary education). Approximately 50 percent of foreigners have some degree of problem speaking Spanish.

The population share of immigrants in the Dominican Republic is modest, for example, representing less than half that of the United States (14.5 percent) or Canada

³ In nominal current terms, according to the World Development Indicators database.

⁴ Information on ethnic groups and religion is from the CIA World Factbook.

(21.8 percent)⁵. However, due to geographic proximity, the country represents one of the main worldwide destinations for immigrants from Haiti. As of 2015, it is estimated that around 33 percent of total Haitians living abroad are in the Dominican Republic.⁶ At the same time, the immigrant situation in the Dominican Republic constitutes a source of considerable contemporary angst, receiving great attention from the policy authorities and the international community. In recent years, the government has taken several measures specifically aimed to address the legal situation of foreigners in the country. In late 2011, the government enacted the first Immigration Law. During 2012, the national statistical agency launched the first national survey of immigrants. In 2014, the government launched a program for regularizing foreigners (*Plan Nacional de Regularizacion de Extranjeros*), which raised several critics in the media, as the program could lead to the deportation of a significant number of foreigners, mainly Haitians.⁷

The media's concerns about Haitians in the Dominican Republic may also be explained by the long history between the two countries. Two events capture some distinctive historical milestones. First, in the mid-1800s, the Dominican Republic won a war of independence from Haiti, which was followed by a series of Haitian attempts to regain control of the Dominican territory. Second, in 1937, under the rule of dictator Rafael Trujillo, the Dominican Army was ordered to massacre Haitian immigrants, in what it is known as the Parsley Massacre.⁸

3. Methodology

To study people's attitudes toward immigrants' attributes, I applied CEs. This approach presents the survey respondents with hypothetical choice situations

⁵ UN (2016).

⁶ The United States represents the main destination country, concentrating 48 percent of Haitians (UN 2016).

⁷ See for example, media coverage in:

http://www.bbc.com/mundo/noticias/2015/07/150730_americalatina_republica_dominicana_haitianos_lav;
<http://www.takepart.com/feature/2016/03/11/haiti-deported-dominican-republic>.

⁸ https://www.washingtonpost.com/news/worldviews/wp/2015/06/16/the-bloody-origins-of-the-dominican-republics-ethnic-cleansing-of-haitians/?utm_term=.b2e250324afa;
<https://www.ncas.rutgers.edu/center-study-genocide-conflict-resolution-and-human-rights/dominican-republic-and-parsley-massacre-1937>; and
<https://muse.jhu.edu/article/12744>.

containing several immigrant profiles, from which the respondents have to choose a type of immigrant supported for admission into the country. This section presents the conceptual framework for modeling the respondent decisions, estimation method, and experimental design.

3.1 Conceptual Framework

The decisions on which immigrant profile to admit can be framed within the standard random utility maximization model. In this setup, citizens' preferences for different types of immigrants can be expressed as

$$U_{i,j} = V(X_j, \alpha_i) + \varepsilon_{i,j} \quad (1)$$

In equation 1, the utility, U , that citizen i obtains from candidate j depends on an observable set of candidate attributes, X , such as education, country of origin, and so forth, given the respondent's preferences, α , and a stochastic component, $\varepsilon_{i,j}$. Since utility is not observed, this framework implies that respondents' decisions reveal the preferred profiles under the following rule:

$$Y_{i,j} = \begin{cases} 1, & U_{i,j} > U_{i,g} \text{ for all } j \neq g \\ 0, & \text{otherwise} \end{cases} \quad (2)$$

$$i = 1, \dots, n ; j = 1, \dots, J$$

where Y takes the value 1 if candidate j is selected, and therefore preferred to g , and zero otherwise. In general, this setup allows for the inclusion of a “neither” option. In this case, to admit a given immigrant profile, the respondent's derived utility must be not only greater than other profiles in the same choice set, but also greater than a given utility threshold. In decision settings such as this, in which foreigners are evaluated for allowing them into the country, the neither option is realistic and may allow for elucidating general attitudes toward immigration. For example, in general, if residents do not desire to have immigrants enter the country, then a high rate of selection of the status quo option would elicit this information.

By assuming additivity and linearity in the specification of $V(\cdot)$, and allowing the parameters to depend on the respondents' characteristics, we have

$$U_{i,s,j} = X'_{s,j}\alpha_i + \varepsilon_{i,s,j} \quad (3)$$

$$\alpha_{i,k} = \alpha_0 + W_i\beta_k + \sigma_k u_{ik} \quad , \quad k = 1, \dots, K$$

I introduce the sub-index s to indicate a given choice situation. That is, similar to a panel data structure, applying multiple choice sets per respondent provides more observations and greater variability to estimate parameters per respondent. In equation 3, the utility of each profile depends on a set of observable immigrant attributes (X) and a stochastic component (ε).

The parameters, $\alpha_{i,k}$, represent native i 's preference weight for the k immigrant attributes. In this framework, this parameter is composed of a constant, α_0 ; a linear function of observable respondent characteristics, $W_i\beta_k$; and a random component, $\sigma_k u_{ik}$. Notice, α_0 and β_k are common for all respondents such that, for example, a change in the education level is assumed to have the same effect on the preference weight for all respondents. The population mean of each parameter is composed of $\alpha_0 + W_i\beta_k$, such that all variability in this mean parameter comes from observable characteristics. The idiosyncratic component of individual preferences is captured here by a random variable, $\mu_{i,k}$, and σ_k is the standard deviation of the parameter β_{nk} around the population mean.

3.2 Estimation

Under this framework, the probability of selecting a foreigner candidate into the country is given by

$$\begin{aligned} P(Y_{isj} = 1|\alpha) &= P[U_{isj} > U_{isg}] \\ &= P[\varepsilon_{isj} - \varepsilon_{isg} < (X'_{sj} - X'_{sg})\alpha] \end{aligned} \quad (4)$$

Assuming that ε is independent and identically distributed extreme value, $\varepsilon_{isj}^* = \varepsilon_{i,s,j} - \varepsilon_{i,s,g}$ follows a logistic distribution, and the probability can be expressed as:

$$P(Y_{isj} = 1|\mathbf{u}_i) = \frac{\exp(X'_{s,j}\alpha)}{\sum_j \exp(X'_{s,j}\alpha)} \quad (5)$$

Equation 5 represents the probability evaluated at parameters α . These parameters are defined by equation 3 ($\alpha_i = \alpha_0 + W_i\beta + \sigma u_i$), which requires specifying the

distribution of the random component of the parameter. This gives a mixed logit probability, which is a weighted average of the logit formula evaluated at different values of the parameters, where each parameter could have a different distribution (Train 2009). In applications of discrete choice models, assumptions on the mixing distributions depend on theoretical and practical considerations. For example, a price increase for a given good or service, or greater levels of pollution are expected to have negative signs. However, in the present context, given the dissimilar findings in the literature, and the focus of this study on capturing heterogeneous preferences among natives, imposing assumptions on the expected signs appears to be less appropriate. Therefore, I assume that the random components for all random parameters follow a standard normal, $u \sim N[0,1]$, such that the mixed logit probability is written as

$$P(Y_{isj} = 1 | \mathbf{u}_i) = \int_u \frac{\exp(X'_{s,j} \alpha_i)}{\sum_j \exp(X'_{s,j} \alpha_i)} f(\mathbf{u}) d\mathbf{u} \quad (6)$$

where $f(\mathbf{u})$ is the density function of the parameters. Given a set of information, equation 6 is estimated by maximum simulated likelihood.

3.3 Experimental Design

The data were generated by two types of CEs: a forced choice (CE-A), and a CE with a neither option (CE-B). The surveyed citizens were invited to participate, and to evaluate a set of choice situations. Each choice set contains three choice situations. Each choice situation was presented sequentially, such that the respondent could go back in the exercise. Each choice situation contains three immigrant profiles, from which the respondent was requested to select only one profile as preferred for admission into the country, or the neither option in CE-B. In both types of CEs, the candidate profiles were unlabeled. Each profile contained 10 foreigner attributes. This final configuration with respect to the number of attributes, profiles per choice set, and number of choice sets per respondent was tested in two pilots, and selected to avoid confusion and tiredness of the respondents.⁹

⁹ Alternative configurations that were tested were choice sets with six and 10 attributes and four profiles per respondent.

A distinctive characteristic of this stated preferences experiment is the joint application of CEs with and without the neither option in the sample population. The inclusion, or not, of the neither option is quite varied in experimental practice. Previous studies on attitudes toward immigrants have separately applied forced choice experiments and experiments with a neither option, but not both together. On the one hand, a forced choice decision setting requires the respondent to evaluate the trade-offs between the candidates, being a useful framework to study the priorities of the decision maker.¹⁰ Under this sole objective, the presence of a neither option may lead to so-called status quo bias, as it may provide the respondent with an outside option, not having to spend effort in evaluating the alternatives. On the other hand, in many applications, the neither option provides a more realistic decision setting to the respondent. That is, at least take-up is mandatory, and most real-life scenarios will allow the individual to opt out a given alternative or offer. In such cases, the neither option may signal that the provided alternatives do not match the respondents' preferences. The proposed designs include both settings, allowing for comparison of their performance and results.

Another appealing characteristic of this CE is that it uses more attributes than previous studies used. These attributes are the country of origin, education level, gender, age, religion, reasons for application, profession, job experience, language, and migration status. I selected these attributes based on the literature, and on a small focus group with Dominican citizens (10 participants).¹¹ Table 2 lists the attributes

¹⁰ For example, in an experiment with a neither option, the respondent may reject all candidates from an "unfriendly" country, independent of the education of the candidate. In contrast, in a forced choice experiment, she/he needs to evaluate the trade-offs between respondent characteristics to make a choice. In the case of the United States, for example, foreigners from Iraq are likely to be rejected, although under a forced choice experiment Iraqis may be more likely to be accepted. What prevails is important to be analyzed. If, regardless of education level, Iraqis are rejected, this result may be interpreted as citizens having strong attitudes toward Iraqis. However, if, regardless of such dislike, Iraqis are accepted because they have better education, it may be interpreted as signaling that the decision maker sets society's gain before his personal attitudes. Similarly, if a set of highly educated candidates is perceived as a threat in the labor market, then it is probable that they will be rejected in an experiment with a neither option. However, in a forced choice experiment, the decision maker must evaluate the trade-offs. The resulting decision will be interesting, as it implicitly contains information on what is set as a priority by the respondents, their "private" labor market fears, or their social considerations, as better-educated immigrants are more likely to contribute to society in the long run.

¹¹ At the beginning of the focus group, the participants were provided a form and requested to fill in the main characteristics they would evaluate if they were responsible for admitting immigrants into the country.

and their corresponding labels. The attributes and levels used in the experiment closely reflect the characteristics of the immigrant population presented in Table 1.

The identified attributes and their levels return a full factorial of 1,411,200 foreigner profiles. To select a combination of profiles that provides sufficient variability to identify efficiently the effects of each attribute on the admission decision, I performed an efficient design based on a multinomial logit. In addition to the linear specification in equation 3, I considered interactions between country and education, and education and gender. The specification requires at least 95 profiles to have enough degrees of freedom for estimation. For an expected sample size of 2,500, I generated a design with 600 profiles grouped into three profiles per choice set and three choice sets per respondent. This configuration is the same for each experiment, with and without the neither option.¹² That is, each experiment has a total of 200 choice sets (three choice situations per choice set, and three profiles per choice situation). The optimization was restricted to avoid profiles with improbable combinations of attribute labels, such as being a medical doctor without formal education.

Through the formation of choice situations with different immigrant profiles, the CE approach provides exogenous variability for eliciting individual stated preferences. However, the decision setup may produce order bias. This bias occurs when respondents' choices are affected by the order of the profiles, or the attributes within each profile. In this application, the unlabeled alternatives precluded that responses would be affected by the order of profiles. To avoid bias due to the order of the attributes, I randomly sorted the attributes within each choice situation. That is, all three profiles in each choice situation have the same order, but the order is randomly arranged across different choice situations.

4. Sampling Frame and Data

¹² Importantly, in the experimental design and sampling, I prioritized increasing sample variability to obtain greater population representativeness. Depending on the priorities, other research may include a text before the experiment to evaluate its impact. I did not include a general question on attitudes toward immigration, to avoid any type of potential predisposition of the respondent.

The choice experiments were applied as part of a broader face-to-face survey implemented in urban areas of the Dominican Republic between November 2015 and early March 2016. The sampling was performed in three stages. First, a target sample of 2,500 interviews was split between seven cities that concentrate around 67 percent of the total urban households in the country.¹³ Second, within each city, I randomly selected the districts, which are geographical units composed of between 150 and 1,000 households. Third, within each district, I randomly selected “areas” composed of 40-100 households. Depending on the size of the area, between four and 15 households were randomly selected for the interview. The number of respondents within each area was defined *ex ante* to reduce the capture of redundant information. Within each area, respondents were randomly selected according to a preestablished selection rule. The rate of respondents accepting the interview was 77 percent. Of those accepting the interview, 4 percent stopped the interview at some point.¹⁴ All interview rejections were replaced to reach the target sample size.

Given the sample distribution, CE-A and CE-B were randomly pre-assigned to have an equal number of respondents in both experiments. That is, each choice set was applied six times, and 100 choice sets were applied one additional time. Further, after the choice experiments were applied, the respondent was requested to rate each foreigner profile on a scale from 1 (definitely should not be admitted) to 5 (definitely should be admitted).¹⁵ In addition, the survey captured information on socioeconomic characteristics of the respondent, such as employment status, household income, and gender, among others.

After dropping respondents who were not citizens of the Dominican Republic, respondents younger than age 18 years, and respondents who did not answer the choice set section, the total sample contains 2,479 respondents, 1,230 respondents for

¹³ According to the Population Census of 2012.

¹⁴ Following a random selection process, a total of 3,427 doors were knocked, from which 610 households rejected the interview and 217 did not answer.

¹⁵ I chose not to include a question on general opinion on immigration, to avoid potential pre-conditioning of respondents to the choice experiments. The period of the interview coincided with several related events involving immigrants from Haiti.

CE-A and 1,249 respondents for CE-B.¹⁶ Table 3 presents the descriptive statistics, showing no significant differences between the respondents in both types of experiments. Around 70 percent of the respondents were females whose average age was 48 years, and had eight years of schooling. This sample is mainly constituted of respondents whose father was born in the Dominican Republic. These respondents belong to households with monthly per capita income of US\$185 and an average of 3.7 family members. The unconditional rate of admitted profiles is 66 percent in both experiments. That is, the 2,479 respondents evaluated a total of 22,311 profiles (nine profiles per respondent), supporting the admission of around 14,725 candidates.

As a word of caution, this sample presents some differences with respect to urban areas in the Dominican Republic. Although the per capita income is statistically similar, the sample seems to have a greater participation of women (respondents), lower rate of employment, and greater household size.

5. Results

This section presents the empirical results for the different models and specifications. Tables 4 and 5 summarize the estimations of the experiments without and with the neither option, respectively. In each table, the first column presents the results of a multinomial model in which all coefficients are assumed to be constant across respondents. The second column presents the estimations of the random parameter logit (RPL) without heterogeneity in the mean. The third column presents the preferred RPL model with the parameter mean depending on the education level of the respondent. Other specifications were tested for random parameters and independent variables explaining the mean coefficient heterogeneity. For heterogeneity in the mean, I tested specifications with income, gender, age, and employment status, obtaining similar not statistically significant results.¹⁷

¹⁶ In the case of the experiment without the neither option, there were 19 respondents who did not answer a choice set. In most cases, this occurred in the final choices, which may be mainly interpreted as fatigue.

¹⁷ Results available upon request.

Estimated preference weights. Across all models, the estimated parameters are similar in terms of coefficient sign and statistical significance for both experiments. Overall, the estimations indicate that younger immigrants with a good command of Spanish, and with a high-skilled profession tend to be preferred for admission. In particular, high-skill professions, including entrepreneurs, have greater preference weights on the probability of being accepted into the country. A possible interpretation is that respondents evaluate those immigrants as potentially having greater immediate positive impact on the local economy. Another common result in all models is that the gender of the foreigner seems not to be a relevant characteristic for admission. For country of origin, candidates from the United States, Spain, and Italy are the most preferred for admission. The respondents appear to be indifferent to the nationality of candidates from other Latin American countries, Japan, and China. In contrast, the estimated parameter for candidates from Haiti is negative and statistically significant across models. As commented in the background section, these results may be explained by the long history between the two countries, as well as the growing level of Haitian immigration in recent years. In the next subsection, I explore these results in greater detail.

Work experience is not significant in CE-A, but always significant in CE-B, where candidates with greater experience are preferred. These findings may indicate that experience becomes a relevant factor for admission once the decision maker has the possibility of denying access to all candidates (choosing the neither option).

For the legal status of the immigrant, columns 1 and 2 return estimates congruent with the literature. Being currently illegal plays against receiving support for admission. However, this result does not hold in the preferred model in column 3.

Altogether, the results support the hypotheses that foreigner alignment to norms and cultural identity are preferred, and immigrants are generally not perceived as a threat in the labor market. However, some signs of prejudice may be inferred from the observed higher preferences for immigrants from developed countries.

Heterogeneity in preferences. The heterogeneity of the estimations is measured by the standard deviation of the random parameters. The results indicate a great degree of heterogeneity in individual preferences for immigrants' education level, country of

origin, religion, profession, and current resident status. Further, as greater heterogeneity is allowed in the estimations, moving from the more restrictive multinomial model (column 1) to the RPL model (column 3), a better fit of the data is observed in the sequence of native choices, measured by the log likelihood at the bottom of the tables.

Sources of heterogeneity in preferences for immigrants' attributes. Panel C in Tables 4 and 5 suggests that respondent characteristics do not play a significant role in explaining their preferences toward immigrant attributes. Only in CE-A, forced choice, the education of the respondents seems to be inversely correlated with their preferences for some countries of origin—China, Spain, Italy, and the United States—and weakly correlated with preferences for candidates from Japan. It is tempting to interpret these findings as suggesting that Dominicans with a higher level of education may be less likely to support immigrants from developed countries, who may have higher levels of education as well, therefore representing competition in the labor markets. However, the direct “expected” correlation between education of the respondents and the candidates is not significant. This result holds for CE-B, with the neither option.

Aside from the education of the respondent, no other variable is relevant in explaining heterogeneity in preferences for immigrants' attributes. These results are similar for various specifications, as well as with the inclusion of other covariates.¹⁸ Together with the results in panel B, the findings may indicate that preferences for immigrants' characteristics are indeed heterogeneous between citizens. But such heterogeneity seems to respond to a random distribution of preferences, instead of to specific drivers, such as the education, gender, or income of the citizens.

To further evaluate whether the preferences of natives are explained by their observable characteristics, I take advantage of the RPL model, which allows generating the full distribution of the random parameters across individuals. In Figure 1 (CE-A) and Figure 2 (CE-B), I plot the distribution (box plots) of the estimated parameters for the country of origin, education, religion, and profession of the

¹⁸ Additional regressions included gender of the respondent and employment status. The results are available upon request.

immigrant, by income groups of the respondents. This inspection verifies that preferences by immigrants' characteristics are not driven by respondents' observable characteristics, in this case, income. Moreover, except for religion, the distributions of the preference weights are similar for both types of experiments.

Predicted probability of admission. Figure 3 presents the distribution of probabilities by type of experiment and estimation model. The predictions of the CE with the neither option return lower probabilities of admission. In this type of CE, the average probability of admission is around 25 percent, while in the forced choice experiments it is 33 percent. The difference in acceptance rates seems to be systematic, although the neither option was only selected in 5 percent of the choice situations.

To evaluate whether this difference reflects individual preferences instead of influences of the choice setting in which the respondents made their evaluations, I explore three potential sources of bias: attribute balance, balance in characteristics of respondents, and status quo bias. For immigrants' attributes balance, Annex 1 shows balance in the profiles between both experiments. Similarly, the balance between observable and non-observable characteristics of the respondents, between both types of CE, are ensured by the random distribution of the choice sets. Further, Table 3 verifies balance in the observable characteristics.

Evaluating the presence of status quo bias is challenging. The usual approach of adding an alternative specific constant may be misleading in this case, because, by choosing the neither option, natives may be signaling their opinion about immigration. Therefore, I explore patterns in respondents' responses and time spent answering each choice set between both types of experiments. If respondents took the neither option as a shortcut, it would be expected that the time spent in evaluating the profiles would be significantly less for choice situations corresponding to CE-B than for CE-A. Annex 2 presents the results of ordinary least squares (OLS) regressions. Columns 1 to 3 evaluate whether there are significant differences in time dedicated per choice situation between the types of experiments. The following control variables are added gradually: dummies indicating the order in which each choice situation was applied per respondent, the age of the respondents, and years of schooling. Columns 4 to 6

evaluate the difference between respondents who selected the neither option and other respondents only in the experiment with the neither option. The estimated coefficients have negative signs, but they are not statistically significant, suggesting that respondents allocate the same effort in evaluating profiles in forced choice experiments as when the neither option is allowed. An interesting result is that the time spent per choice situation decreases nonlinearly as the respondents advance in the choice set. These reductions may be associated with a greater familiarity of the respondents with the requested exercise.

Preferred immigrant profiles. Following the approach of Hainmueller and Hopkins (2015), I illustrate the results for the preferred foreigner profiles by calculating the profiles at several percentiles of the probability of admission. Figures 4 and 5 present the characteristics of the chosen candidates at the 1st, 25th, 50th, 75th, and 99th percentiles of the predicted probability of acceptance into the country. The figure shows similar patterns in both types of experiments, and indicates that citizens' support is greatly driven by the composition of attributes in the immigrant profile. In CE-A and CE-B, the 1st percentile is occupied by immigrants from Haiti and China, with low education levels, no profession, and poor command of Spanish. The probability of being admitted for these profiles is less than 10 percent. Higher percentiles, the 75th and 99th, correspond to foreigners from developed countries, Italy and the United States, with a higher level of education. Profiles in these percentiles would be admitted with probabilities of 50 and 75 percent, respectively, both above the average probability of acceptance (42 percent).

These findings are consistent with the literature in the sense that more educated immigrants with skilled professions receive greater support, while candidates from some countries, with cultural dissimilarities, or difficulties in speaking the local language, may be penalized. In this regard, interesting results by Hartman et al. (2014) and Hainmueller and Hopkins (2015) suggest that prejudice could play a role in preferences for specific countries of origin and/or ethnicity considerations. However, the authors also find evidence, in the United States, that those negative effects on support for admission are generally outweighed by the potential contribution of the immigrant to the economy. Examination of this trade-off is relevant in the context under study. To a great extent, education may signal the candidate's potential, as

education is correlated with skilled occupations. Therefore, and given the previous findings, Figure 6 plots the predicted probability of admission by education level, grouped by developed countries (Italy, Spain, and the United States), developing countries plus Japan (China, Colombia, Ecuador, Peru, and Venezuela), and Haiti. As the attribute levels were randomly sorted between profiles, this figure reflects conditional means.¹⁹ The figure shows a premium for candidates from developed countries and a market penalty for Haitians. A plausible explanation is the presence of cognitive bias in the respondents. That is, they may correlate country of origin with other characteristics, such as income. On the other hand, this result may suggest the existence of racial bias. This last type of bias has been registered in the context of the provision of public goods by politicians in the United States and South Africa (McClendon 2016).²⁰

Robustness check. I explore the robustness of the results by using an alternative estimation approach and a different dependent variable. First, I use an OLS model to estimate the preference weights and probabilities of acceptance. For example, Hainmueller and Hopkins (2015) base their analysis on OLS models relying on a random sampling of profiles and large sample size. As a second check, I replicate the estimations of Tables 3 and 4, but with a new dependent variable. The new dependent variable for the choice of acceptance is based on the score provided by the respondent. I dichotomize the score provided by the respondent to a given candidate in each choice experiment, with a cutoff score of 3. In principle, under this unrestricted context, providing a score (or ranking) of the profiles represents a previous step in the cognitive process of deciding on the most preferred candidate for admission. The use of a decision variable generated in a different way allows testing the robustness of the results to a somewhat different selection method.

The results are available in Annexes 3, 4, and 5, showing no significant change in the estimates. Moreover, the OLS seem to perform well, with estimates that are aligned with the discrete choice models and returning predicted probabilities mostly

¹⁹ Restrictions were not imposed between country of origin and level of education, or between education and language, religion, age, legal status, job experience, or gender.

²⁰ There is also evidence of racial bias in the literature of labor economics, see for example Bertrand and Mullainathan (2004).

within the $[0,1]$ range.²¹ The results with the dichotomized ordered dependent variable are also quite similar to the main results.

6. Conclusions and Discussion

This paper investigates citizens' preferences for immigrants' attributes in the Dominican Republic, based on two types of choice experiments, forced choice and with neither option. The empirical approach allows for individual heterogeneity and examining how those preferences change with native individuals' characteristics. Overall, the findings indicate that education, occupation, and country of origin affect the probability of immigrants obtaining citizen support for admission into the country. That is, foreigners with higher schooling and skilled jobs, and from developed countries tend to receive greater support for admission. Norm adherence and cultural resemblance also positively influence the chances of being accepted. The gender of the immigrant is not relevant. Significant heterogeneity is observed in the estimated preference weights of the immigrants' attributes. However, the heterogeneity is not explained by the observable characteristics of the respondent, suggesting that most of the heterogeneity is of random nature.

The estimated parameters and their distributions tend to be similar between the two types of experiments that were implemented. However, there are two relevant distinctions. First, the distribution of the predicted probability of acceptance is skewed to the left. That is, *ceteris paribus*, there are lower chances of acceptance in the experiment with the neither option, a result that seems to reflect citizens' preferences instead of the choice setting. Second, the labor experience of the immigrant is significant only in this type of experiment, suggesting that having more information on the foreigner's background is relevant once the decision setting becomes more stringent.

For country of origin, an interesting finding is that the estimated preference weights tend to be higher and statistically significant for developed countries.

²¹ About 2 percent of the observations have predicted negative values for probabilities. No predicted probability is greater than 1.

Regardless of the levels of the other attributes, immigrants from developed countries seem to be preferred for admission. The respondents appear to be indifferent about the nationality of immigrants from developing countries. The noticeable exception is for candidates from Haiti, who face a strong negative penalty in their chances of getting support for admission.

The results are aligned with previous literature evaluating natives' attitudes toward individual immigrants. Immigrants with attributes signaling greater potential to contribute to the economy, greater norm adherence, and cultural resemblance tend to be preferred.

It is important to highlight a potential limitation of the stated preferences design used here. The current composition of the immigrant population in a given country may affect the stated preferences of the respondents. That is, despite the exogenous variation provided by the CE design, respondents may have priors based on their experience or overall perception (which may be based on media coverage) of immigration. This may trigger an aversion to certain attribute levels while reducing attention to other candidates' attributes that otherwise may lead to a favorable opinion. This could be the case for Haitians in this case study, who are, by and large, the main immigrant group with relatively low formal education levels.

This study was based on a face-to-face survey, which makes it difficult to test ethnocentric preferences. For greater understanding of attitudes toward immigrants from developed countries, in developing countries, future research may use computer-based surveys, which can introduce visual variability for race to test such preferences. Another topic that may be a subject for further research, and particularly relevant in the current context, is testing the effects of vignettes of citizen responses (e.g., information on the contributions of immigrants, or wording that appeals to altruism). The results of the study reported here seem to indicate that support for immigrants is mainly based on their attributes. However, the experiments were not designed to test the effects of alternative decision frames. Such studies may inform public policies aimed to increase tolerance toward the expected increasing migration flows.

References

- Aalberg, T., S. Iyengar, and S. Messing. 2012. "Who Is a 'Deserving' Immigrant? An Experimental Study of Norwegian Attitudes." *Scandinavian Political Studies* 35 (2): 97–116.
- Akay, A., A. Constant, and C. Giulietti. 2014. "The Impact of Immigration on the Well-Being of Natives." *Journal of Economic Behavior & Organization* 103: 72–92.
- Alesina, A., J. Harnoss, and H. Rapoport. 2016. "Birthplace Diversity and Economic Prosperity." *Journal of Economic Growth* 21 (2): 101–38.
- Bertoli, S., V. Dequiedt, and Y. Zenou. 2016. "Can Selective Immigration Policies Reduce Migrants' Quality?" *Journal of Development Economics* 119: 100–09.
- Bertrand, M., and S. Mullainathan. 2004. "Are Emily and Greg More Employable Than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination." *American Economic Review* 94 (4): 991–1013.
- Blinder, S. 2015. "Imagined Immigration: The Impact of Different Meanings of 'Immigrants' in Public Opinion and Policy Debates in Britain." *Political Studies* 63 (1): 80–100.
- Card, D., C. Dustmann, and I. Preston. 2012. "Immigration, Wages, and Compositional Amenities." *Journal of the European Economic Association* 10 (1): 78–119.
- Chassamboulli, A., and T. Palivos. 2013. "The Impact of Immigration on the Employment and Wages of Native Workers." *Journal of Macroeconomics* 38: 19–34.
- Distelhorst, G., and Y. Hou. 2014. "Ingroup Bias in Official Behavior: A National Field Experiment in China." *Quarterly Journal of Political Science* 9 (2): 203–30.
- Dustmann, Christian, and Ian P. Preston. 2007. "Racial and Economic Factors in Attitudes to Immigration." *Journal of Economic Analysis & Policy* 7 (1): article 62.
- Facchini, G., A. M. Mayda, L. Guiso, and C. Schultz. 2008. "From Individual Attitudes towards Migrants to Migration Policy Outcomes: Theory and Evidence." *Economic Policy* 23 (56): 651–713.
- Facchini, G., and A. M. Mayda. 2012. "Individual Attitudes towards Skilled Migration: An Empirical Analysis across Countries." *World Economy* 35 (2): 183–96.
- Hainmueller, J., and M. 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, J., and D. J. Hopkins. 2014. "Public Attitudes toward Immigration." *Annual Review of Political Science* 17: 225–49.
- Hainmueller, J., and D. J. Hopkins. 2015. "The Hidden American Immigration Consensus: A Conjoint Analysis of Attitudes toward Immigrants." *American Journal of Political Science* 59 (3): 529–48.
- Hanson, G. and McIntosh, C., 2016. Is the Mediterranean the New Rio Grande? US and EU Immigration Pressures in the Long Run. *The Journal of Economic Perspectives*, 30(4), pp.57-81.

- Hartman, T. K., B. J. Newman, and C. S. Bell. 2014. "Decoding Prejudice toward Hispanics: Group Cues and Public Reactions to Threatening Immigrant Behavior." *Political Behavior* 36 (1): 143–63.
- Iyengar, S., S. Jackman, S. Messing, N. Valentino, T. Aalberg, R. Duch, K. S. Hahn, S. Soroka, A. Harell, and T. Kobayashi. 2013. "Do Attitudes about Immigration Predict Willingness to Admit Individual Immigrants? A Cross-National Test of the Person-Positivity Bias." *Public Opinion Quarterly* 77 (3): 641–65.
- Malchow-Møller, N., J. R. Munch, S. Schroll, and J. R. Skaksen. 2008. "Attitudes towards Immigration: Perceived Consequences and Economic Self-Interest." *Economics Letters* 100 (2): 254–57.
- Manning, A., and S. Roy. 2010. "Culture Clash or Culture Club? National Identity in Britain." *Economic Journal* 120 (542): F172–F100.
- Mayda, A. M. 2006. "Who Is Against Immigration? A Cross-Country Investigation of Individual Attitudes toward Immigrants." *Review of Economics and Statistics* 88 (3): 510–30.
- McClendon, G. H. 2016. "Race and Responsiveness: An Experiment with South African Politicians." *Journal of Experimental Political Science* 3 (01): 60–74.
- Newman, B. J. 2015. "Unfamiliar Others: Contact with Unassimilated Immigrants and Public Support for Restrictive Immigration Policy." *International Journal of Public Opinion Research* 27 (2): 197–219.
- OECD (Organisation for Economic Co-operation and Development). 2011. "Immigrant Integration in the South." In *Tackling the Policy Challenges of Migration: Regulation, Integration, Development*. Paris: OECD.
- O'Rourke, K. H., and R. Sinnott. 2006. "The Determinants of Individual Attitudes towards Immigration." *European Journal of Political Economy* 22 (4): 838–61.
- Ortega, F. and Polavieja, J.G., 2012. Labor-market exposure as a determinant of attitudes toward immigration. *Labour Economics*, 19(3), pp.298-311.
- Peri, G. 2012. "The Effect of Immigration on Productivity: Evidence from US States." *Review of Economics and Statistics* 94 (1): 348–58.
- Train, K.E., 2009. *Discrete choice methods with simulation*. Cambridge university press.
- UN (United Nations). 2016. *International Migration Report 2015*. New York: Department of Economic and Social Affairs, Population Division, United Nations.
- Wright, M., M. Levy, and J. Citrin. 2016. "Public Attitudes toward Immigration Policy across the Legal/Illegal Divide: The Role of Categorical and Attribute-Based Decision-Making." *Political Behavior* 38 (1): 229–53.

Table 1: Characteristics of the Immigrant Population in Dominican Republic

<i>A. Country of origin</i>	Total (%)	Male(%)	Female(%)
All countries	100	64.4	35.6
Haiti	87	65.4	34.6
United States of America	2.6	52.7	47.3
Spain	1.3	62.5	37.5
Puerto Rico	0.8	55.8	44.2
Italy	0.8	74.5	25.5
China	0.7	64.9	35.1
France	0.7	70.3	29.7
Venezuela	0.7	47.7	52.3
Cuba	0.6	58.4	41.6
Colombia	0.5	51.0	49.0
Other countries	4.0	55.5	44.6
Observations	524,632		

<i>B. Education level</i>	%
Without formal education	17.4
Basic Education	50.1
Secondary Education	21.4
Higher Education	8.7
Postgraduate	0.8
Observations	659,142

<i>D. Age range</i>	%
15-29 years old	55.4
30-39 years old	26.8
40-49 years old	10.7
50-59 years old	5.1
More than 59 years old	2.0
Observations	453,754

<i>C. Religion</i>	%
Catholic	42.3
Evangelist	31.9
Adventist	4.2
Other	18.3
None	3
No information	0.4
Observations	608,340

<i>E. Command of spanish</i>	%
Try to speak but is unable	18.5
Broken Spanish	28.2
Fluency in Spanish	53
Observations	667,850

Source: National Survey of Immigrants 2012.

Table 2. Attributes for Immigrant Profiles in the Choice Experiments

Attributes	Labels
a. Country of origin	China Spain Haiti Japan Ecuador (base level) Venezuela Colombia Peru Italy United States of America
b. Education	Without formal education (base level) Primary education Secondary education Technic education Incomplete college Complete college Complete graduate degree
c. Gender	Male (base level) Female
d. Age range	18-25 years old (base level) 26-35 years old 36-45 years old 46-55 years old More than 55 years old
e. Religion	Catholic (base level) Protestant Non-determine
f. Reason for Application	Reunite with family members already in R.D. (base level) Seek better job in R.D.
g. Profession	Without profession Construction worker (base level) Nurse Professor Scientific Medical doctor Entrepreneur
h. Job experience	No experience (base level) One to two years Three to five years More than five years
k. Language	Fluency in Spanish (base level) Broken Spanish Try to speak English but is unable Does not speak Spanish
l. Immigrant Status	Applying to residence from the country of origin (base level) Currently is in R.D. with tourist visa Currently is in R.D. illegally

Table 3: Descriptive Statistics of the Sample

Variables	Without Neither Option		With Neither Option		Total Survey		Urban Dom. Rep.*	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Per capita household income, US\$)	185	2.28	182	2.00	184	1.52	180	4.01
Gender (female=1)	0.71	0.00	0.69	0.00	0.70	0.00	0.59	0.01
Age	48.6	0.1	48.5	0.1	48.6	0.1	47.4	0.2
Schooling	8.33	0.04	8.42	0.04	8.38	0.03	.	.
Employment status	0.59	0.00	0.60	0.00	0.59	0.00	0.63	0.01
Household size	3.67	0.01	3.71	0.01	3.69	0.01	3.38	0.02
1 if profile is admitted	0.67	0.00	0.66	0.00	0.66	0.00	.	.
1 if father from another country	1.00	0.00	0.99	0.00	1.00	0.00	.	.
# Respondents	1230		1249		2494		4862	

Note: *Urban Dominican Republic calculated with data from National Survey of Labor Force 2015, second semester. To choose a set of comparable respondents, a person was randomly selected among the household head and the spouse/wife. Values are expanded using population factor

Table 4: Main Results – CE without neither option

Choice	(1)		(2)		(3)	
	Coef.	SE	Coef.	SE	Coef.	SE
<i>Fixed parameter/component</i>						
Education level	.07736***	0.021	.16054***	0.032	.14689**	0.064
Gender	0.05524	0.044	0.06794	0.060	0.06795	0.062
Age range	-.03511**	0.016	-.05054**	0.022	-.05275**	0.023
Labor experience	0.03145	0.022	0.03748	0.030	0.03737	0.031
Language	-.08548***	0.022	-.12739***	0.031	-.13545***	0.032
China	-.23494*	0.125	-.34007*	0.177	0.29241	0.341
Spain	.29921**	0.152	.42974**	0.202	1.40372***	0.415
Haiti	-.66229***	0.127	-1.17512***	0.206	-1.02957***	0.380
Japan	-0.11491	0.126	-0.11318	0.166	0.40456	0.330
Ecuador	-0.16015	0.152	-0.14685	0.197	-0.07271	0.407
Colombia	-0.16687	0.154	-0.22446	0.204	0.14539	0.433
Peru	-0.01769	0.152	-0.00134	0.199	0.53163	0.409
Italia	0.05867	0.124	0.0791	0.167	.82030**	0.325
USA	.40281***	0.127	.59087***	0.177	1.52109***	0.359
Protestant	-.29965***	0.054	-.42282***	0.078	-.44658***	0.156
Non-determine	-.27182***	0.054	-.39313***	0.080	-.60978***	0.163
Seek better job in R.D.	-.08669**	0.044	-.12386**	0.062	-.21562*	0.128
Without profession	-.22345***	0.066	-.39510***	0.107	-0.29287	0.199
Nurse	.49995***	0.083	.64659***	0.115	.93184***	0.239
Professor	.68320***	0.111	.81368***	0.159	.87127***	0.329
Scientific	.77435***	0.109	.94869***	0.158	1.28912***	0.324
Medical doctor	1.01267***	0.110	1.25149***	0.165	1.30351***	0.341
Entrepreneur	.76886***	0.109	.93627***	0.161	.92287***	0.326
Currently is in R.D. with tourist visa	-0.03962	0.052	-0.04952	0.072	-0.15662	0.148
Currently is in R.D. illegally	-.19266***	0.053	-.29206***	0.079	-0.21678	0.161
<i>SD of the random parameter</i>						
Education level			.29456***	0.037	.30784***	0.040
China			.96218***	0.232	1.02105***	0.240
Spain			0.08143	0.698	0.04497	0.563
Haiti			1.70920***	0.255	1.78522***	0.257
Japan			0.09076	0.541	0.30829	0.401
Ecuador			0.13182	0.630	0.12924	0.628
Colombia			0.26356	0.824	0.43866	1.072
Peru			0.05542	0.586	0.03264	0.534
Italia			.83386***	0.270	.81535***	0.292
USA			1.09466***	0.227	1.18899***	0.233
Protestant			0.34762	0.292	0.37358	0.283
Non-determine			.57839***	0.211	.56041**	0.223
Seek better job in R.D.			0.14789	0.490	0.16002	0.421
Without profession			.90743***	0.222	.92682***	0.229
Nurse			0.17663	0.420	0.16515	0.450
Professor			0.69251	0.476	.92261**	0.376
Scientific			0.4567	0.679	.81611**	0.382
Medical doctor			.73223*	0.441	.97507**	0.410
Entrepreneur			.90635**	0.359	1.04263***	0.342
Currently is in R.D. with tourist visa			0.23545	0.229	0.25782	0.228
Currently is in R.D. illegally			.81103***	0.169	.86128***	0.172
<i>Heterogeneity in mean</i>						
Education level					0.00202	0.006
China					-.08057**	0.036
Spain					-.11743***	0.044
Haiti					-0.02843	0.038
Japan					-.06553*	0.035
Ecuador					-0.01432	0.043
Colombia					-0.05119	0.044
Peru					-0.06622	0.043
Italy					-.09178***	0.035
USA					-.10976***	0.037
Protestant					0.00063	0.016
Non-determine					0.02399	0.017
Seek better job in R.D.					0.01073	0.013
Without profession					-0.01365	0.020
Nurse					-0.03075	0.025
Professor					0.0016	0.034
Scientific					-0.03767	0.033
Medical doctor					0.00682	0.034
Entrepreneur					0.00556	0.033
Currently is in R.D. with tourist visa					0.01243	0.016
Currently is in R.D. illegally					-0.01003	0.017
McFadden Pseudo R-squared	0.122		0.145		0.149	
Log likelihood	-3533.0		-3466.5		-3449.7	

Note: (1), (2), (3) indicate multinomial, random parameter logit (RPL), and RPL with heterogeneity in mean. ***, **, * denote significance at 1, 5, 10 percent level. Total observations = 11,070. Total respondents = 1,230. Based on 500 replications using Halton draws.

Table 5: Main Results – CE with neither option

	(1)		(2)		(3)	
	Coef.	SE	Coef.	SE	Coef.	SE
<i>Fixed parameter/component</i>						
Education level	.04482**	0.021	.15096***	0.038	.15317**	0.067
Gender	0.04451	0.044	0.05741	0.070	0.06398	0.067
Age range	-.06512***	0.017	-.09524***	0.027	-.08976***	0.026
Labor experience	.05578**	0.022	.07823**	0.036	.07944**	0.034
Language	-.12374***	0.022	-.23068***	0.038	-.21532***	0.036
China	-.24058**	0.121	-.35180*	0.199	-0.46291	0.320
Spain	.42582***	0.143	.63183***	0.223	0.44152	0.412
Haiti	-.76994***	0.120	-1.70193***	0.262	-1.75554***	0.379
Japan	-.05733	0.119	-.08143	0.192	-0.32759	0.318
Ecuador	-.34418**	0.153	-.56741*	0.301	-0.47175	0.444
Colombia	-.36382**	0.154	-.59507**	0.270	-.90203*	0.469
Peru	-.0319	0.147	-.020666	0.254	0.08318	0.443
Italia	0.08397	0.121	0.10088	0.197	0.16301	0.317
USA	.48291***	0.120	.85008***	0.203	.80931**	0.323
Protestant	-.19552***	0.053	-.34408***	0.090	-0.14277	0.173
Non-determine	-.28846***	0.053	-.48402***	0.094	-.34565**	0.174
Seek better job in R.D.	-0.06442	0.044	-0.10239	0.074	-0.22652	0.144
Without profession	-.21850***	0.067	-.59741***	0.132	-.40999*	0.233
Nurse	.44303***	0.085	.64858***	0.138	.82551***	0.267
Professor	.83971***	0.113	1.19924***	0.188	1.05506***	0.352
Scientific	.85080***	0.111	1.09116***	0.182	1.24462***	0.347
Medical doctor	1.20240***	0.112	1.80248***	0.213	1.95757***	0.365
Entrepreneur	.84428***	0.110	1.16140***	0.196	1.19040***	0.365
Currently is in R.D. with tourist visa	0.00185	0.054	-0.07162	0.092	-0.29067	0.178
Currently is in R.D. illegally	-.10426*	0.054	-.20181**	0.095	-0.17061	0.183
<i>SD of the random parameter</i>						
Education level			.40097***	0.035	.37337***	0.032
China			.91301***	0.315	.80937**	0.320
Spain			0.22827	1.075	0.53639	0.638
Haiti			2.21072***	0.318	2.03698***	0.300
Japan			.82441***	0.313	.85172***	0.275
Ecuador			1.04395	0.840	0.86956	0.708
Colombia			0.77182	0.702	0.87513	0.626
Peru			1.23864	0.826	1.06096	0.815
Italia			1.10530***	0.257	1.16950***	0.228
USA			1.51887***	0.249	1.41218***	0.234
Protestant			.69213***	0.252	.66016***	0.245
Non-determine			.76252***	0.203	.68511***	0.212
Seek better job in R.D.			.58574**	0.249	.55818**	0.222
Without profession			1.57604***	0.224	1.51398***	0.210
Nurse			.73847**	0.311	0.39122	0.456
Professor			0.20063	0.544	0.27585	0.464
Scientific			0.35844	0.602	0.37892	0.702
Medical doctor			.91485*	0.484	0.09713	1.532
Entrepreneur			1.26923***	0.406	1.14662***	0.408
Currently is in R.D. with tourist visa			.81666***	0.243	.49444*	0.264
Currently is in R.D. illegally			1.09694***	0.185	.86959***	0.191
<i>Heterogeneity in mean</i>						
Education level					-0.00081	0.007
China					0.01555	0.030
Spain					0.02377	0.042
Haiti					0.01938	0.035
Japan					0.02777	0.030
Ecuador					-0.00419	0.044
Colombia					0.03279	0.045
Peru					-0.03048	0.044
Italy					-0.01045	0.031
USA					-0.00184	0.031
Protestant					-0.02013	0.018
Non-determine					-0.01281	0.018
Seek better job in R.D.					0.01537	0.015
Without profession					-0.01853	0.023
Nurse					-0.0223	0.027
Professor					0.01325	0.036
Scientific					-0.01883	0.036
Medical doctor					-0.03119	0.037
Entrepreneur					-0.0063	0.037
Currently is in R.D. with tourist visa					0.02947	0.018
Currently is in R.D. illegally					-0.00303	0.019
McFadden Pseudo R-squared	0.112		0.238		0.239	
Log likelihood	-4106.1		-3958.9		-3950.5	

Note: (1), (2), (3) indicate multinomial, random parameter logit (RPL), and RPL with heterogeneity in mean. ***, **, * denote significance at 1, 5, 10 percent level. Total observations = 14,988. Total respondents = 1,249. Based on 500 replications using Halton draws sequences.

Figure 1: Distribution of Coefficients by Income Group of the Respondents in CE-A
Figure 2.A: Country of Origin

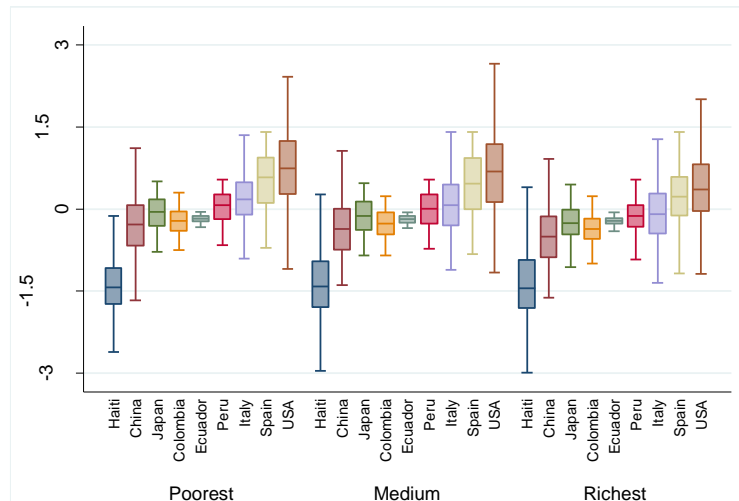


Figure 2.B: Education

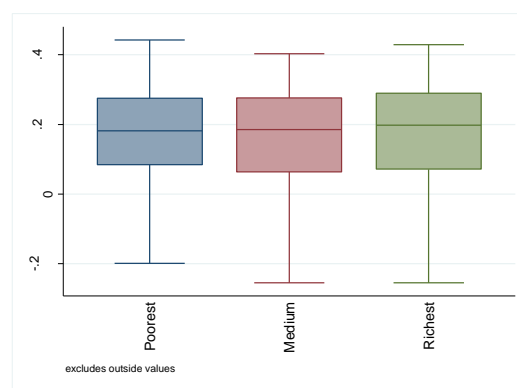


Figure 2.C: Religion

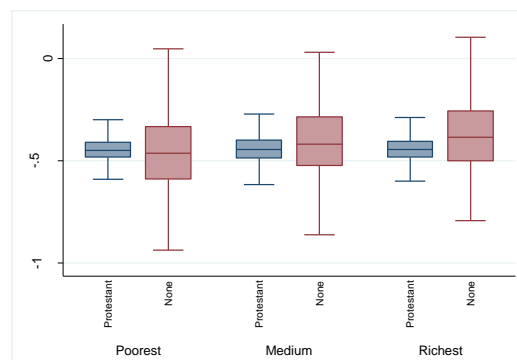


Figure 2.C: Profession

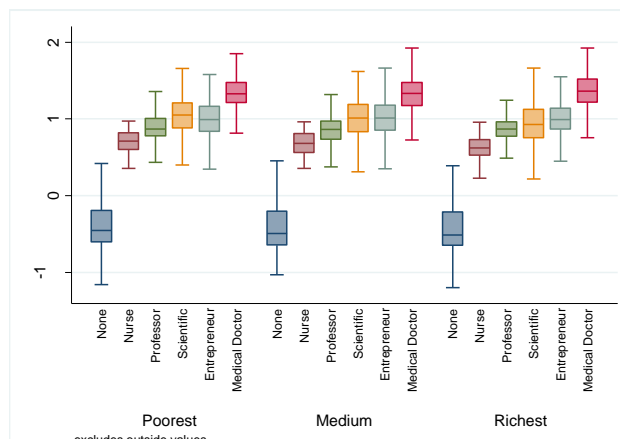


Figure 2: Distribution of Coefficients by Income Group of the Respondents in CE-B

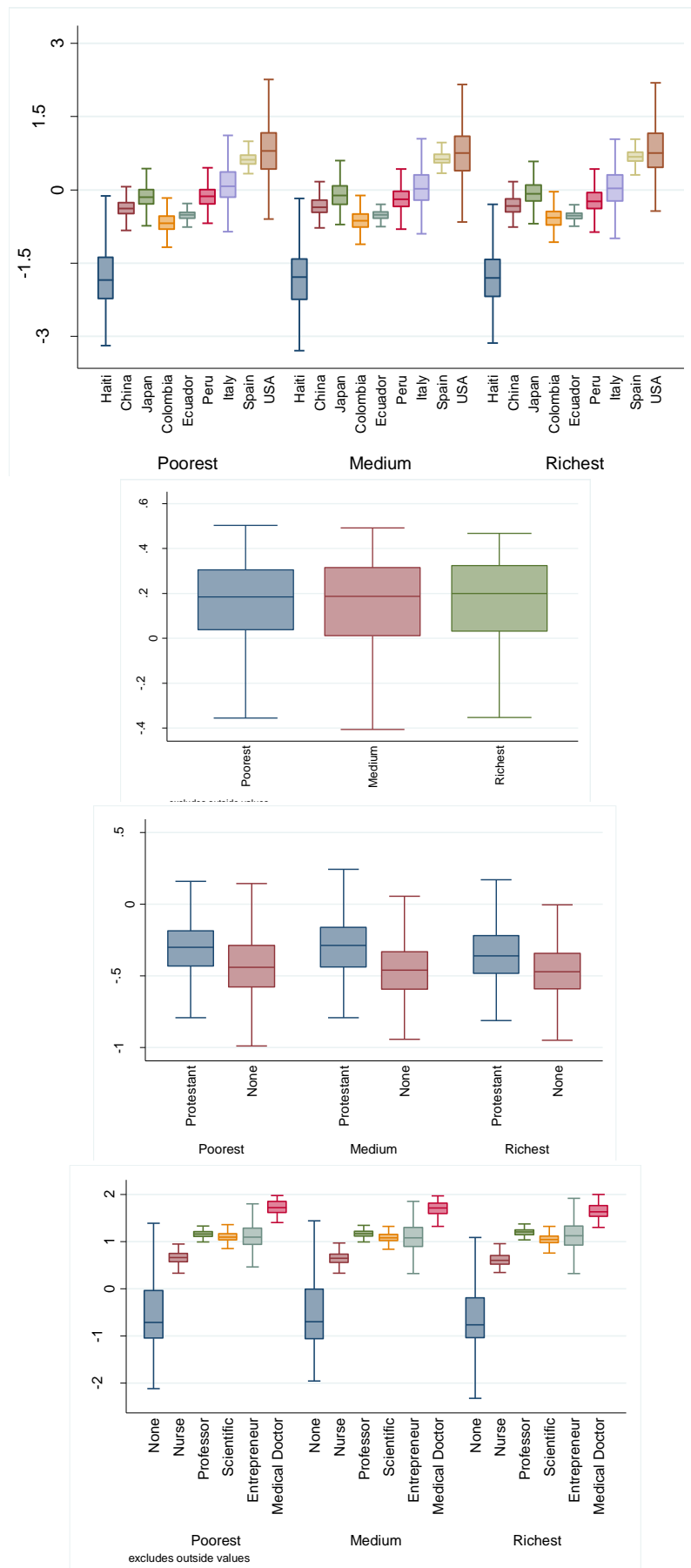
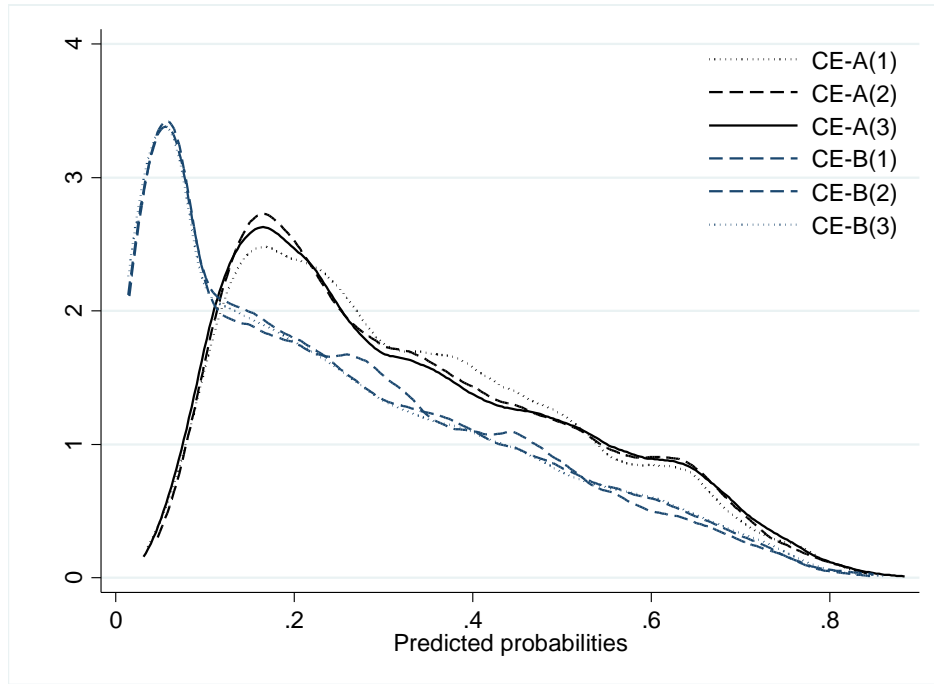


Figure 3: Distribution of Predicted Probabilities of Admission



Note: Kernel density estimates of individual probability of admission to the country. CE-A = experiment without the neither option; CE-B = experiment with the neither option; (1) = multinomial model; (2) = random parameter logit (RPL) model; (3) RPL model with mean heterogeneity. For RPL models, the random parameters are education, country of origin, profession, legal status, and religion.

Figure 4: Profiles of Immigrants, CE-A

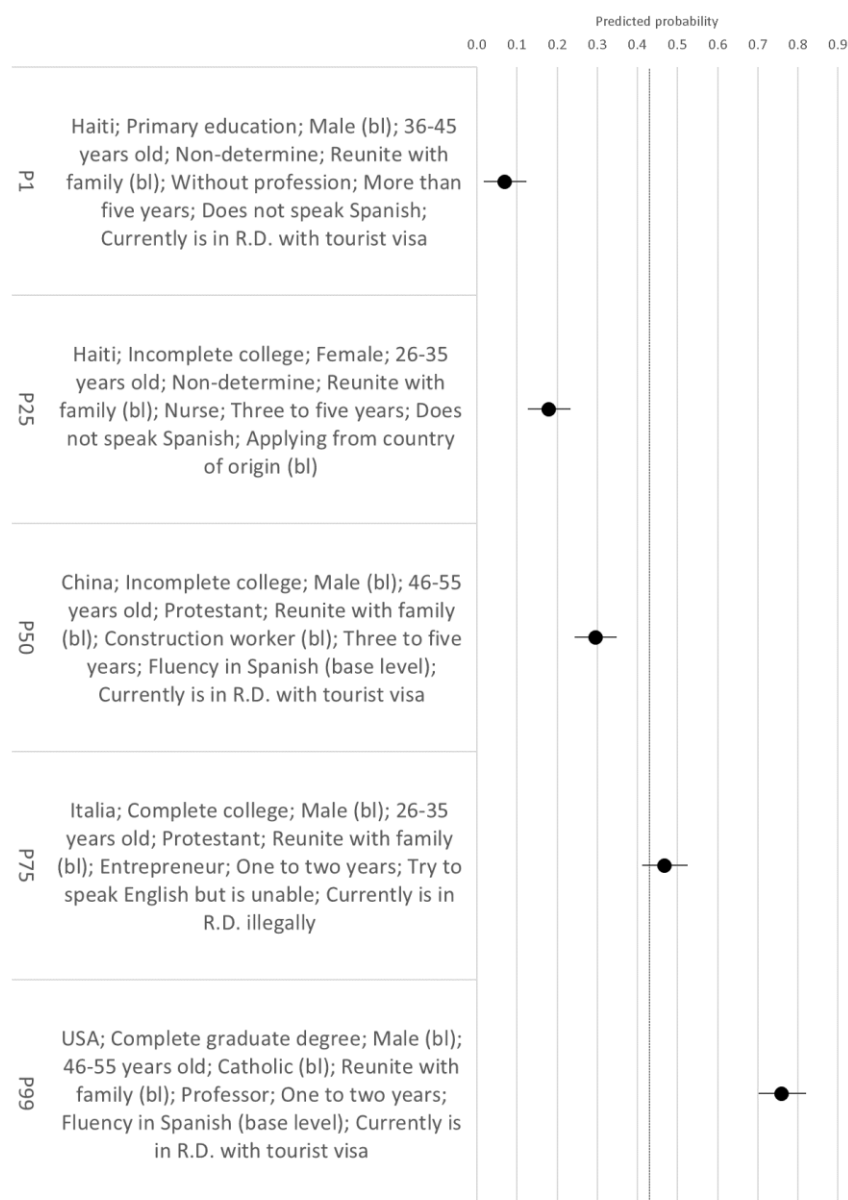


Figure 5: Profiles of Immigrants, CE-B

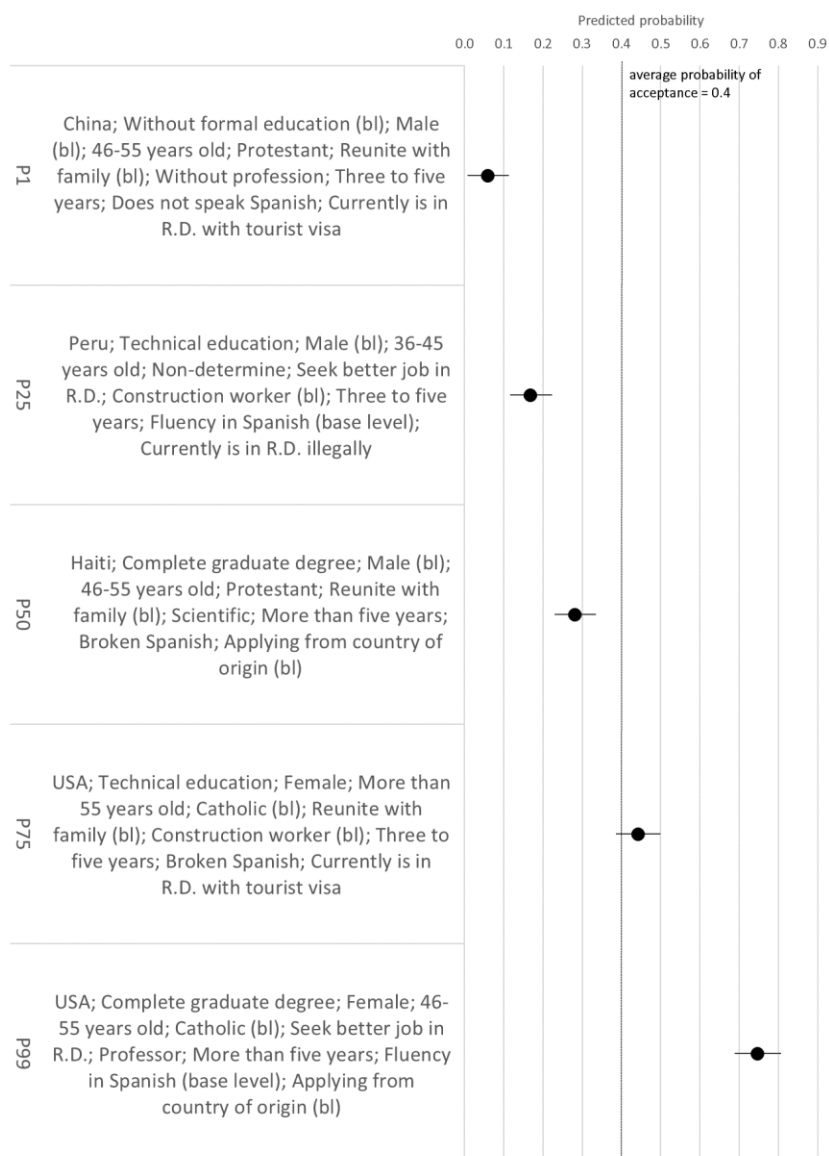
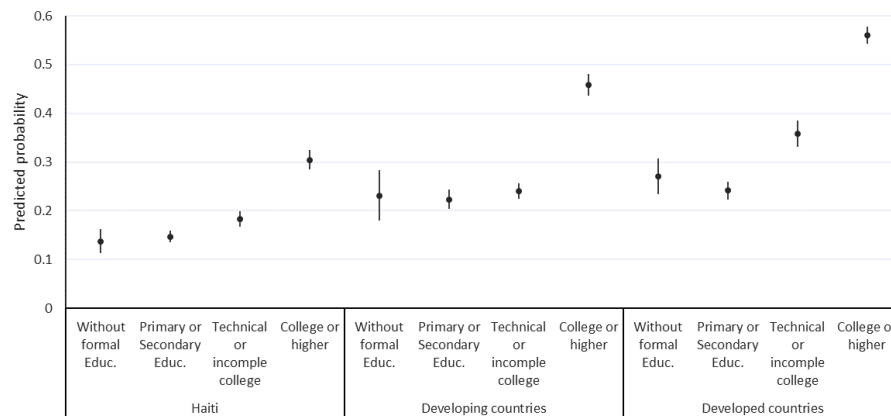
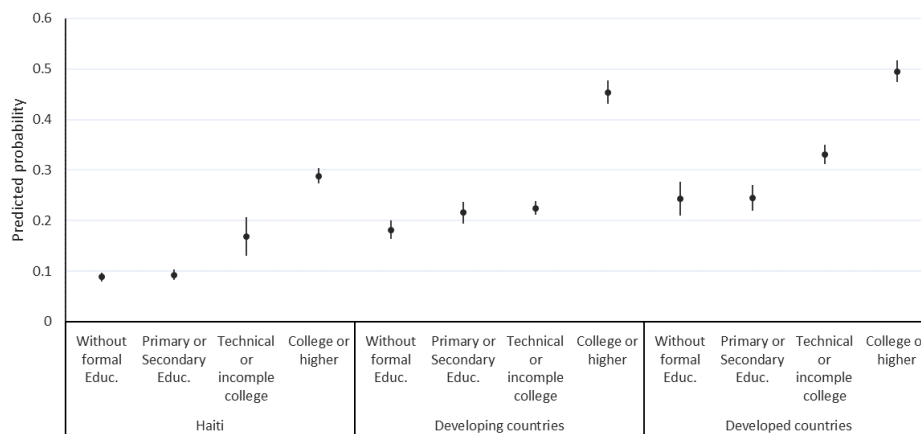


Figure 6: Predicted Probabilities by Educational Level of the Immigrant and Country of Origin

CE-A



CE-B



Annexes

Annex 1: Attribute Balance per Type of CE

Attributes	Mean Level	
	Force Choice	With Neither Option
a. Country of origin	5.442	5.439
b. Education	4.465	4.457
c. Gender	1.500	1.500
d. Age range	3.062	3.074
e. Religion	1.999	2.000
f. Reason for Application	1.499	1.500
g. Profession	3.112	3.104
h. Job experience	2.731	2.729
k. Language	2.199	2.203
l. Immigrant Status	2.001	2.001

Annex 2: Differences in Time Spent per Choice Situation

	Dependent: Minutes per choice situation (CS)					
	(1)	(2)	(3)	(4)	(5)	(6)
Type of CE (1 if CS has either option)	-0.018 (0.043)	-0.018 (0.043)	-0.015 (0.043)			
1 if neither option is selected (only CE-B)				-0.181 (0.142)	-0.140 (0.144)	-0.166 (0.145)
Order in which CS were applied (1 if 2nd)		-0.140*** (0.017)	-0.140*** (0.017)		-0.147*** (0.023)	-0.147*** (0.023)
Order in which CS were applied (1 if 3rd)		-0.219*** (0.017)	-0.219*** (0.017)		-0.199*** (0.027)	-0.198*** (0.027)
Age of the respondents			0.005** (0.002)			0.008*** (0.002)
Schooling of the respondent			-0.021*** (0.005)			-0.019** (0.007)
Constant	2.757*** (0.031)	2.877*** (0.032)	2.812*** (0.110)	2.749*** (0.031)	2.862*** (0.034)	2.619*** (0.146)
Observations	7437	7437	7437	3747	3747	3747
Adj. R-sq	-0.000	0.005	0.021	0.001	0.005	0.028

Note: Ordinary least squares regressions. The unit of observation is the choice situation per respondent. There are three choice situations per respondent. Standard errors, in parentheses, are clustered by respondent. The dependent variable is the number of minutes spent per choice situation. Columns (1) to (3) pool both experiments, forced choice and with the neither option, with a total of 2,479 respondents. In these regressions, 'Type of CE' indicates if there is a significant difference between types of experiments. Columns (4) to (6) evaluate only the sample in the experiment with the neither option, with a total of 1,249 respondents. In these regressions, 'Neither option' indicates if time spent by respondents who selected that option in a given choice situation is different from those who did not. * p < 0.05, ** p < 0.01, *** p < 0.001.

Annex 3: Main Results with Alternative Dependent Variable (CE-A)

Choice	(1)		(2)		(3)	
	Coef.	SE	Coef.	SE	Coef.	SE
<i>Fixed parameter/component</i>						
Education level	.07250***	0.020	.15025***	0.032	.16505***	0.063
Gender	0.01304	0.044	0.00383	0.061	0.00227	0.062
Age range	-.03721**	0.016	-.05427**	0.022	-.05585**	0.023
Labor experience	0.03013	0.022	0.03579	0.030	0.03528	0.031
Language	-.08288***	0.022	-.12571***	0.031	-.13050***	0.032
China	-0.19129	0.125	-.31658*	0.179	0.11295	0.336
Spain	.38878***	0.151	.55698***	0.204	1.30481***	0.408
Haiti	-.65758***	0.127	-1.22596***	0.213	-1.35475***	0.383
Japan	-0.09954	0.125	-0.11528	0.168	0.23901	0.323
Ecuador	-0.07126	0.151	-0.04537	0.199	-0.18381	0.400
Colombia	-0.17633	0.153	-0.26139	0.209	-0.12347	0.421
Peru	0.00466	0.152	0.01541	0.201	0.30152	0.401
Italia	0.07536	0.124	0.08722	0.169	.67100**	0.320
USA	.37658***	0.126	.56353***	0.178	1.08795***	0.344
Protestant	-.25522***	0.054	-.36671***	0.079	-.32953**	0.157
Non-determine	-.23795***	0.054	-.34881***	0.079	-.43973***	0.157
Seek better job in R.D.	-.09325**	0.044	-.13789**	0.063	-.22422*	0.126
Without profession	-.21238***	0.066	-.37295***	0.106	-0.27979	0.195
Nurse	.47883***	0.083	.63432***	0.116	.85206***	0.235
Professor	.64359***	0.110	.76749***	0.159	.56250*	0.323
Scientific	.75932***	0.109	.93036***	0.158	1.22480***	0.315
Medical doctor	1.00117***	0.110	1.27157***	0.170	1.10795***	0.338
Entrepreneur	.77096***	0.108	.96571***	0.168	.74761**	0.332
Currently is in R.D. with tourist visa	-0.05779	0.052	-0.06087	0.073	-0.23733	0.148
Currently is in R.D. illegally	-.21032***	0.053	-.33064***	0.081	-.27418*	0.160
<i>SD of the random parameter</i>						
Education level			.28652***	0.038	.29186***	0.039
China			1.02777***	0.232	1.08216***	0.236
Spain			0.02453	0.650	0.05785	0.558
Haiti			1.70963***	0.260	1.75612***	0.259
Japan			0.0369	0.434	0.05026	0.450
Ecuador			0.10467	0.660	0.06062	0.632
Colombia			0.39105	0.727	0.40793	0.869
Peru			0.04721	0.468	0.02784	0.435
Italia			.85144***	0.268	.87774***	0.275
USA			.99982***	0.233	1.04887***	0.236
Protestant			.52729**	0.241	.57405**	0.232
Non-determine			.49175**	0.226	.44927*	0.256
Seek better job in R.D.			0.11669	0.406	0.00671	0.409
Without profession			.86336***	0.233	.86385***	0.237
Nurse			0.01235	0.538	0.14387	0.524
Professor			0.65308	0.565	.87986**	0.379
Scientific			0.57384	0.448	0.6247	0.432
Medical doctor			.95165**	0.399	1.01604**	0.398
Entrepreneur			1.25757***	0.323	1.30646***	0.322
Currently is in R.D. with tourist visa			0.36522	0.224	0.29199	0.239
Currently is in R.D. illegally			.86194***	0.168	.86554***	0.170
<i>Heterogeneity in mean(Education of the respondent)</i>						
Education level					-0.00143	0.006
China					-0.05572	0.035
Spain					-.09078**	0.043
Haiti					0.00708	0.038
Japan					-0.04587	0.034
Ecuador					0.01254	0.042
Colombia					-0.0216	0.044
Peru					-0.03765	0.042
Italy					-.07258**	0.034
USA					-.06413*	0.036
Protestant					-0.00619	0.016
Non-determine					0.00918	0.016
Seek better job in R.D.					0.01064	0.013
Without profession					-0.01235	0.020
Nurse					-0.02632	0.024
Professor					0.02912	0.033
Scientific					-0.03302	0.032
Medical doctor					0.02092	0.034
Entrepreneur					0.0274	0.034
Currently is in R.D. with tourist visa					0.02164	0.016
Currently is in R.D. illegally					-0.00585	0.017
McFadden Pseudo R-squared	0.112		0.137		0.141	
Log likelihood	-3558.3		-3499.4		-3481.7	

Note: In these regressions, the dependent variable is generated from the score provided by the respondent. (1), (2), (3) indicate multinomial, random parameter logit (RPL), and RPL with heterogeneity in mean. ***, **, * denote significance at 1, 5, 10 percent level. Total observations = 14,988. Total respondents = 1,249. Based on 500 replications using Halton draws sequences.

Annex 4: Main Results with Alternative Dependent Variable (CE-B)

	(1)		(2)		(3)	
	Coef.	SE	Coef.	SE	Coef.	SE
<i>Fixed parameter/component</i>						
Education level	.04330**	0.021	.13678***	0.035	.16265**	0.065
Gender	0.00595	0.044	3.37688***	0.316	0.01291	0.066
Age range	-.06926***	0.017	0.00582	0.066	-.09719***	0.025
Labor experience	.05345**	0.022	-.09938***	0.026	.07535**	0.034
Language	-.12209***	0.022	.07599**	0.034	-.20232***	0.035
China	-.26018**	0.120	-.20544***	0.036	-0.44188	0.322
Spain	.33323**	0.143	-.41511**	0.193	0.49302	0.407
Haiti	-.78840***	0.120	.51765**	0.214	-1.53607***	0.354
Japan	-0.12602	0.119	-1.49209***	0.235	-0.31354	0.316
Ecuador	-.33517**	0.152	-0.18477	0.184	-0.46615	0.438
Colombia	-.34283**	0.152	-.41895*	0.254	-.95478**	0.472
Peru	-0.08442	0.147	-.51349*	0.274	-0.01628	0.462
Italia	0.0237	0.120	-0.31332	0.250	0.13797	0.310
USA	.42608***	0.120	0.04817	0.185	.84666***	0.317
Protestant	-.16957***	0.052	.72320***	0.189	-0.16207	0.171
Non-determine	-.25477***	0.053	-.29320***	0.085	-.29879*	0.168
Seek better job in R.D.	-0.07187	0.044	-.40976***	0.087	-0.19986	0.139
Without profession	-.23601***	0.066	-0.10993	0.070	-0.36013	0.224
Nurse	.43660***	0.084	-.55305***	0.123	.74255***	0.260
Professor	.80551***	0.112	.60957***	0.129	1.07393***	0.345
Scientific	.83880***	0.110	1.08994***	0.178	1.07491***	0.340
Medical doctor	1.16783***	0.111	1.05558***	0.173	1.85045***	0.360
Entrepreneur	.80108***	0.110	1.67792***	0.204	1.06002***	0.357
Currently is in R.D. with tourist visa	0.01817	0.053	1.03648***	0.183	-0.25517	0.175
Currently is in R.D. illegally	-.09931*	0.053	-0.02662	0.086	-0.11243	0.177
<i>SD of the random parameter</i>						
Education level			.37298***	0.032	.36566***	0.031
China			1.11276***	0.265	1.11345***	0.251
Spain			0.26864	0.911	0.65274	0.542
Haiti			1.88445***	0.301	1.74423***	0.281
Japan			.89367***	0.273	.97124***	0.253
Ecuador			0.65146	1.013	0.84509	0.782
Colombia			0.77819	0.939	0.96414	0.686
Peru			1.55337**	0.631	1.49050**	0.665
Italia			.92170***	0.257	.97886***	0.253
USA			1.26121***	0.243	1.25233***	0.234
Protestant			.71162***	0.215	.73329***	0.201
Non-determine			.69285***	0.203	.56874**	0.230
Seek better job in R.D.			.60398***	0.204	0.37687	0.273
Without profession			1.40981***	0.214	1.45903***	0.204
Nurse			0.36698	0.363	0.08831	0.425
Professor			0.04645	0.452	0.00151	0.435
Scientific			0.05871	0.573	0.4268	0.488
Medical doctor			0.62223	0.559	0.17389	0.632
Entrepreneur			1.09951**	0.428	1.10594***	0.375
Currently is in R.D. with tourist visa			.62291***	0.240	.54823**	0.227
Currently is in R.D. illegally			.93175***	0.180	.77768***	0.184
<i>Heterogeneity in mean(Education of the respondent)</i>						
Education level					-0.00263	0.0066
China					0.003	0.03081
Spain					0.00177	0.04163
Haiti					0.00897	0.03311
Japan					0.01138	0.03034
Ecuador					-0.00029	0.04293
Colombia					0.0432	0.04414
Peru					-0.03558	0.04637
Italy					-0.01484	0.03024
USA					-0.01821	0.03103
Protestant					-0.01272	0.01771
Non-determine					-0.01166	0.0173
Seek better job in R.D.					0.0105	0.01443
Without profession					-0.02469	0.02293
Nurse					-0.01381	0.02626
Professor					0.00354	0.03502
Scientific					-0.00054	0.03526
Medical doctor					-0.02323	0.03573
Entrepreneur					-0.00127	0.03635
Currently is in R.D. with tourist visa					0.0293	0.01789
Currently is in R.D. illegally					-0.01057	0.01817
McFadden Pseudo R-squared	0.110		0.245		0.247	
Log likelihood	-4043.9		-3919.6		-3909.7	

Note: In these regressions, the dependent variable is generated from the score provided by the respondent. (1), (2), (3) indicate multinomial, random parameter logit (RPL), and RPL with heterogeneity in mean. ***, **, * denote significance at 1, 5, 10 percent level. Total observations = 14,988. Total respondents = 1,249. Based on 500 replications using Halton draws sequences.

Annex 5: Main Results (OLS)

	Forced Choice		With Neither Option	
	Coef.	SE	Coef.	SE
Pais de origen				
a. Country of origin				
China				
Spain	0.090	0.025	0.127	0.025
Haiti	-0.080	0.015	-0.075	0.015
Japan	0.027	0.015	0.043	0.015
Ecuador (bl)	-0.016	0.026	-0.041	0.025
Venezuela	0.051	0.026	0.062	0.028
Colombia	0.011	0.025	-0.068	0.024
Peru	0.030	0.026	0.050	0.026
Italia	0.055	0.016	0.064	0.016
USA	0.122	0.016	0.137	0.015
b. Education				
Without formal education (bl)				
Primary education	0.030	0.017	0.024	0.017
Secondary education	0.001	0.017	0.022	0.016
Technical education	0.070	0.018	0.041	0.017
Incomplete college	0.051	0.017	0.018	0.017
Complete college	0.112	0.030	0.060	0.029
Complete graduate degree	0.117	0.034	0.048	0.033
c. Gender				
Male (bl)				
Female	-0.003	0.009	0.009	0.008
d. Age range				
18-25 years old (bl)				
26-35 years old	0.014	0.014	-0.001	0.014
36-45 years old	-0.011	0.016	-0.018	0.016
46-55 years old	-0.004	0.017	-0.050	0.016
More than 55 years old	-0.030	0.017	-0.058	0.017
e. Religion				
Catholic (bl)				
Protestant	-0.064	0.011	-0.042	0.011
Non-determine	-0.053	0.011	-0.056	0.011
f. Reason for Application				
Reunite with family (bl)				
Seek better job in R.D.	-0.013	0.008	-0.007	0.008
g. Profession				
Without profession				
Construction worker (bl)	0.044	0.011	0.037	0.011
Nurse	0.121	0.018	0.129	0.018
Professor	0.186	0.033	0.203	0.032
Scientific	0.199	0.034	0.195	0.033
Medical doctor	0.255	0.033	0.300	0.033
Entrepreneur	0.221	0.033	0.213	0.034
h. Job experience				
No experience (bl)				
One to two years	0.030	0.015	0.046	0.015
Three to five years	0.043	0.015	0.045	0.016
More than five years	0.040	0.017	0.039	0.017
k. Language				
Fluency in Spanish (base level)				
Broken Spanish	-0.047	0.013	-0.060	0.014
Try to speak English but is unable	-0.064	0.013	-0.062	0.014
Does not speak Spanish	-0.041	0.013	-0.087	0.014
l. Immigrant Status				
Applying from country of origin (bl)				
Currently is in R.D. with tourist visa	-0.012	0.011	0.000	0.011
Currently is in R.D. illegally	-0.043	0.011	-0.018	0.011
Constant	0.206	0.029	0.200	0.028
Observations	11220		11316	

Note: Clustered standard errors.