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Interactions in a High Immigration Context*

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Abstract

In recent decades, sudden massive migration influxes have become a new driving force of migration increases. These types of migration flows present potential challenges to social and economic integration. In this paper, we study the socioeconomic integration using controlled laboratory experiments in the context of the massive inflow of Venezuelan migrants in Peru, where the share of Venezuelan immigrants increased from almost zero in 2016 to 2.5 percent of the country's population in 2019. Using adult (non-student) native-born Peruvians and Venezuelan immigrants as subjects, we conducted homogeneous (same nationality) and mixed (different nationality) experimental sessions in Lima, to examine interactions that require cooperation, coordination, trust, and reciprocity to achieve a Pareto superior outcome. We find no evidence of discrimination or difference in those measures of behavior between the in-group and the out-group (based on nationality). Within this context, we further find no differentials in normative or empirical expectations in the behavior of non-nationals relative to those of nationals, and only a small to moderate implicit bias. This lack of differential treatment may be interpreted as a short-run economic integration between immigrants and natives in a challenging context of massive influxes of migrants.

Keywords: Immigration, Cooperation, Coordination, Trust, Economic Interactions, Lab Experiments.
JEL codes: C70, C71, J15.

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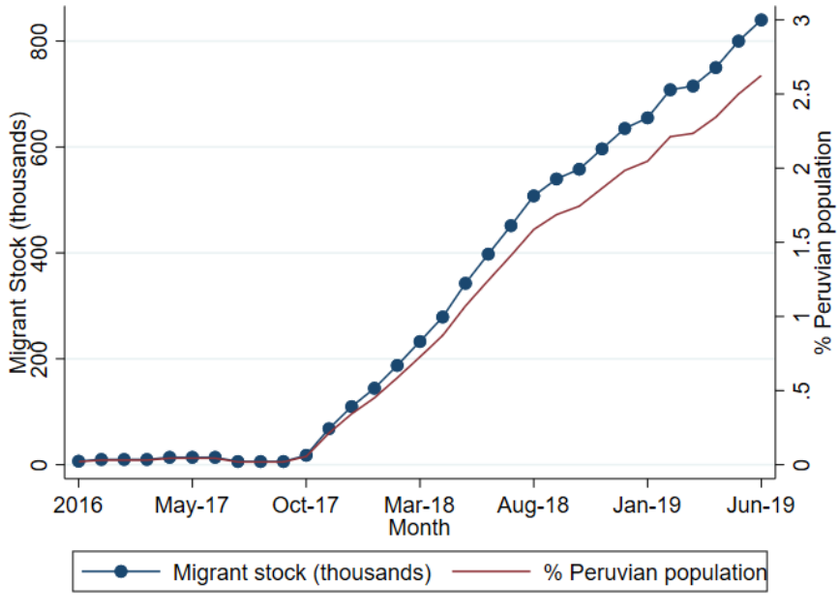
1. Introduction

Although the share of migrants as a percentage of the world's population has been steadily rising, sudden massive migration influxes have become a new driving force of migration increases. In recent decades, different motives have sparked multiple instances of abrupt and massive flows of refugee migrants. The civil war in Syria (6.5 million), the socioeconomic and humanitarian crises in Venezuela (6.1 million), and the Russian war on Ukraine (5.9 million) have caused the international displacement of over 18.5 million individuals.[1]

These sudden massive influxes of migrants present new challenges to host countries, including heightened pressure on the provision of public services. In addition to (and perhaps also as an extension of) the straining of public services, abrupt massive inflows of migrants may also strain social integration. All this may limit productive social and economic interactions and potentially generate social animosity and even political backlash.

This paper explores how strategic economic interactions may be shaped in the context of sudden and massive migration influxes. To do so, we report results from laboratory experiments conducted in 2019 with Peruvian nationals and Venezuelan migrants in Lima, the capital city of Peru.[2] Not only do Venezuelan migrants account for a large share of Lima's population, but as Figure 1 illustrates, this influx happened suddenly. According to Census data, 81% of the 47,481 Venezuelans living in Peru in 2017 entered after 2011. In only two years (2017-2019), the Venezuelan migrant population grew more than 20 times, and it became more concentrated in Lima, which hosted 97% of migrants by the end of 2018.[3]

Figure 1: *Peru: Stock of Venezuelan Immigrants: 2016 - 2019*



Source: Taken from Torres and Galarza Arellano (2024).

This quick, massive inflow of migrants affected public opinion. According to a survey conducted in 17

[1] Forced displacement across national borders has increased faster than voluntary international migration, to the point that refugees now account for 12% of all international migrants, up from 9.5% in 2000 (https://www.unhcr.org/global-trends).

[2] Lima is the main city of Perú; it accounts for almost a third of the population and about 43% of the country's gross domestic product.

[3] As of December 2023, with a population of about 11.2 million, Lima hosted 1.15 million Venezuelan migrants.

Peruvian Regions by IEP (2019), 70.9% of the respondents in Lima expressed disagreement with Venezuelan immigration. Such xenophobic feeling was similar (75%) among young adults (25-39 years) and adults (40 and older) and ranked the highest among Peruvians who had no contact with Venezuelans (83%).[4] As a likely result of this negative view of Venezuelan migrants, 35.6% of them expressed having felt discriminated against -mainly by strangers (80.5%) by the end of 2018.[5]

In this context of a large migration inflow shock, we study economic interactions among immigrants and natives in a controlled environment. We recruited a sample of Peruvian natives and Venezuelan immigrants with similar levels of income or education among Lima's economically active non-student population via personal contact and flyers in public spaces.

The main contribution of this paper is to examine the effect of nationality-based natural identity, in a developing country facing a high and rapid immigration context, on one-shot positive-sum strategic interactions. We focus on two-player strategic games requiring cooperation, coordination, or trust to increase efficiency and welfare. Studying the nature of these strategic interactions is essential from an economic and social standpoint. In addition to allowing us to differentiate opinions expressed in surveys from choices with salient economic consequences, it will enhance our understanding of the extent of the migrants' economic assimilation in Lima, the capital of the second-largest receiving country of Venezuelan migrants in Latin America.

The results do not find any significant differences in cooperation in a Prisoner's Dilemma, payoff-dominant coordination play in a Stag-Hunt game, and trust and reciprocity in a binary trust game with interactions of in-group versus out-group-based natural national identities. We supplement the pre-registered analysis by examining heterogeneity in differential rates of cooperation, payoff-dominant play, trust, and reciprocity at the individual level. We find no systematic differences in interactions with out-group members among Peruvians and Venezuelans. We further complement the analysis with data from additional experimental sessions conducted with samples recruited from the same populations, where we used the implicit association test (IAT) and elicited normative and empirical expectations of play by players from both nationalities. Again, we find no differences in empirical or normative expectations across groups and only minor to moderate implicit bias towards non-nationals, which is not different across nationalities. Furthermore, the IAT lacks explanatory power in generating differentials in empirical and normative expectations between nationalities in all the games.[6] We interpret this absence of in-group versus out-group differences in interactions as suggestive of a surprisingly robust economic integration despite the complex context. This absence of differential treatment in interactions between natives and Venezuelan migrants is in accordance with findings for Uruguay, the least unequal country and one of the least prejudiced countries toward migrants in the Region.

We discuss this finding and other related studies in section 2. Sections 3 and 4 describe the experimental design and empirical strategy and data. Section 5 discusses the results from the pre-registered analysis, and section 6 presents a complementary analysis that explores the data from the main experiment, looking for individual heterogeneity and data from additional experiments, looking for differences in expectations and implicit biases. Section 7 concludes.

[4]The most common reasons for such disagreement are the perception of job loss and insecurity.

[5]Figures from the ENPOVE–Encuesta a la Población Venezolana en el Perú, a survey conducted by the Peruvian official Statistics Office (INEI).

[6]The only exception is that Venezuelans with a higher implicit bias tend to expect greater differences in reciprocal behavior between Venezuelans and Peruvians.

2. Related Literature

This paper contributes to several lines of research. The first one is related to conducting experimental research between migrants and natives to measure discrimination or otherwise differential treatment of immigrants.[7] The literature involving experiments in which migrants interact with natives is scant and recent.[8] Using a sample of mostly adults, El-Bialy et al. (2022) use a Prisoner's Dilemma game in which nationality was common knowledge to examine nationals' and Syrian refugees' in-group cooperativeness in Germany (a country with relatively little cultural similarity) and Jordan (a culturally similar country). The authors find in-group favoritism for Syrian refugees living in both countries but not for nationals, who, in turn, do not discriminate against refugees. Using a sample of a different age cohort, Barron et al. (2023) conduct a sharing experimental task with native Jordanian and Syrian children attending school in Jordan and find little discrimination. Hassan et al. (2022) examine several dimensions of prosocial behavior, taken as measures of integration, for Syrian migrants living in Egypt, a country that has been relatively welcoming to Syrian refugees. Using a series of Prisoner's Dilemma, Ultimatum, and Dictator Games in which the nationality of the counterpart was salient, the authors find that locals are *more* pro-social with Syrians than with co-nationals, while Syrians' behavior is independent of the partner's nationality. This paper takes a related approach, as we also use the prisoner's dilemma game to measure cooperation within a different context of massive migration shocks, using Venezuelan migrants in Peru instead of Syrian refugees in various countries. In addition to looking at a different population, this paper also examines other strategic games capable of creating net positive earnings (a stag-hunt game and a binary trust game).

In a similar vein, recent work for Latin America by Gandelman and Lamé (2024) uses a Trust Game to examine differences between natives and Venezuelan and Cuban migrants in Uruguay, one of the countries with the lowest inequality and one of the least prejudiced toward migrants in the Region. Using a representative sample of the adult population in Montevideo, the country's capital, the authors find no difference in trust and mixed results in reciprocity attributable to nationality. Their subject pool may exhibit more significant cultural differences between groups (as Uruguay tends to be very European) than the one in this study, and the influx of Venezuelan migrants in Uruguay is much smaller than that experienced in Peru.[9] Another study that focuses on Venezuelan migrants in the region is that of Rodriguez Chatruc and Rozo (2024). In this online study, native Colombians were randomly assigned either to watch a video documentary displaying the difficulties faced by Venezuelan migrants when they cross the borders on foot or to play an online game that engaged them with the life of a migrant. They find that both treatments increase altruism toward migrants. In addition to incentivized measures of altruism, the authors rely on self-reported answers to survey questions on trust in migrants.[10] In this experiment, we do not focus on altruism but on strategic interactions capable of generating surpluses. We expand the measures beyond trust and reciprocity by including cooperation and payoff-dominant (but risk-dominated) coordination.

This paper also contributes to the literature on group identity, particularly the one that explores natural identity.[11] Natural identities have been used to examine several social interactions, including ethnic dis-

[7] For a survey on (mainly) field experiments on discrimination, see Bertrand and Duflo (2017). There is also a growing literature on interventions to reduce prejudice; see Paluck et al. (2021) for a review and meta-analysis.

[8] An exception as an early pioneer is Cox and Orman (2015), who use an online moonlighting game experiment in which migrants (from any nationality) and US natives interact. The authors find that migrants are treated less generously than native Americans, but especially so by other migrants.

[9] We are also aware of the study by Cettolin and Suetens (2019), in which Dutch trustees play with either another Dutch participant or a non-Western immigrant; they find that reciprocation rates are lower by up to 12 percent in the latter case.

[10] As opposed to the present study, notice that the sample used by Rodriguez Chatruc and Rozo (2024) comes mainly from college students and white-collar workers.

[11] In economics, the methods used to study in-group favoritism have usually been either "near-minimal groups" (labeling) or social (real) groups, with some authors also using priming methods to study the role of fragmenting or common identities. Chen and Li (2009) were the pioneers using "near-minimal groups" to examine how group identity can influence behavior in social dilemmas.

crimination. Fershman and Gneezy (2001) use names in Israel as a racial signal to investigate differential treatment in trust, dictator, and ultimatum games. Adida et al. (2016) also use names, in addition to looks and manners, to study discrimination against Muslims in France. Chen et al. (2014) use priming methods (ethnicity—Chinese and Caucasian, and school—U. Michigan) to study the effect of natural identities on cooperation and coordination, using PD and minimum-effort games (MEG). They find that, when priming a fragmenting (ethnic) identity, participants are less likely to choose the high effort in the MEG. In contrast, priming a common organization (school) identity increases the choice of the joint payoff maximizing strategy in the Prisoner's Dilemma game.[12]

This paper is closest to Adida et al. (2014) in that they use a within-subject design to study discrimination against Muslims in France. They use out-group salience (given by the increase in the number of Muslim migrants in the 10-player sets of experimental subjects, composed of French and Muslim and Christian Senegalese migrants) to examine the French's behavior towards the Muslims; they find taste-based discrimination against Muslims.

This paper tackles four dimensions of economic integration of recent immigrants to Peru. The experiments bring to the laboratory Peruvian natives with recent Venezuelan immigrants. Unlike previous studies, which use names as a signal to detect a differential treatment (e.g., Fershman and Gneezy (2001), Adida et al. (2014), Adida et al. (2016)), we use the nationality introduced inconspicuously to reduce demand effects. We use a balanced within-subjects design to investigate the in-group (same nationality) versus out-group (different nationality) behavior in economic interactions involving cooperation, coordination, trust, and reciprocity. Unlike Chen et al. (2014), where the interaction is among students and the organizational environment is mainly hypothetical, the subject pool in this paper is already in the labor market. Arguably, the subjects from this paper can be more naturally motivated in these interactions since all immigrants are employed or actively searching for jobs, as well as the Peruvians we targeted for this study, who are non-college students also employed or pursuing jobs. Furthermore, since this study takes place in a context of rapid and massive immigration flows from Venezuelans, this design provides a great setting to examine the relevance of the information on the nationality of the counterpart readily available to subjects in different strategic decisions that allow increases in payoffs by relying on cooperation, coordination, and trust.

3. Experiments

At the beginning of each experimental session, subjects were informed that it consisted of multiple parts. The first part was a non-incentivized questionnaire to obtain nationality information, concealed among six other questions to reduce potential demand effects. Following the questionnaire, subjects played three different two-player games of interest for this paper: a prisoner's dilemma, a stag hunt, and a binary trust game.[13]

All subjects played each game four times (in the same order) using a perfect stranger matching protocol

Their results are consistent with participants being more altruistic toward an in-group match: matched with an in-group member, participants are more likely to show charity concerns, less envy, more positive reciprocity, and less punishing behavior, and more likely to choose social maximizing actions.

[12]Other experimental works show that inducing a common identity also enhances cooperation in a repeated Voluntary Contribution Mechanism game (Eckel and Grossman (2005)) and PD games (Goette et al. (2006)), which are attained overcoming individual self-interest.

[13]The entire experimental session included three other tasks (not reported in this paper), conducted after the three games. Those tasks, analyzed separately, included the Kimbrough and Vostroknutov (2018)'s rule-following task, the Fischbacher and Föllmi-Heusi (2013)'s cheating task, and an additional nationality-contingent task (a risk task framed as migration decision for Venezuelans, and a conjoint analysis on perceptions of Venezuelan migrants' profiles, for Peruvian natives). Although subjects were informed at the beginning that the experiment consisted of several tasks, they did not initially receive any information on the content or details of each task.

(within the game). To minimize wealth, portfolio, and other confounding effects, there was no feedback on earlier outcomes or information on the counterpart's choices.

We conducted two types of sessions: homogeneous sessions, which included only participants of the same nationality (all—P or all—V), and mixed sessions, which included participants of both nationalities (P-V). Interactions with someone from the same nationality took place both in homogeneous and mixed sessions, but interactions with players of other nationalities could only occur in mixed sessions; in this type of session, we vary within subjects whether their counterpart is a co-national or from a different nationality. Since we are interested in interactions between two types of players (Peruvian citizens -P- and Venezuelan migrants -V), the main treatment variable is whether participants interact with members of the same nationality (P-P or V-V), or with members of different nationality (P-V). We report data from 286 individuals, 157 Venezuelan migrants (54.9%), and 129 Peruvian citizens (45.1%) that took part in 28 sessions (17 mixed and 11 homogeneous).

3.1. Games

The three games chosen allow us to measure the disposition to cooperate in a social dilemma, to coordinate on a risky but high payoff equilibrium, and to trust and reciprocate others. Table 1 shows the parameters and main features of the games played. The prisoner's dilemma game (PDG) was chosen to study cooperation in a social dilemma. In this simultaneous-move game, the Pareto optimal outcome is attained when both players cooperate, but the dominant strategy is to defect. The payoffs to each player for mutual cooperation were PEN 30. Playing off-diagonally leads to a payoff of PEN 10 for cooperating and PEN 50 for defecting. Under the dominant strategy equilibrium of mutual defection, each gets a payoff of PEN 15.

Table 1: *Experimental games and parameters*

Games	**Parameters (figures expressed in PEN)**
Prisoner's dilemma (PDG): Cooperation	Both players cooperate: (30, 30); both defect: (15, 15); off-diagonal payoffs where one cooperates, the other defects: (10, 50) or (50,10).
Stag Hunt (SHG): Coordination	Both players coordinate on the Pareto-dominant equilibrium: (30, 30); both coordinate on the risk-dominant equilibrium: (15, 15); miscoordination: (10, 15) or (15,10).
Binary trust (BTG): Trust and Reciprocity	No trust: (15, 15); trust followed by trustworthiness: (30, 30); trust followed by lack of trustworthiness: (10, 50).

Note: All subjects played the three games during four periods. Potential actions were framed using non-descriptive labels (A/B in the PD, X/Y in the SH and J/K, R/S in the BTG). In the BTG, all subjects made decisions in both roles (using the strategy method). All choices were made without feedback. The average exchange rate at the time of the experiment was PEN 3.30 per USD 1.

A version of the Stag Hunt game (SHG) was chosen to examine a social dilemma of coordination. This simultaneous-move game has two pure-strategy equilibria: A Pareto dominating (high-payoff) equilibrium and a risk-dominant (low-payoff) equilibrium. In the Pareto-dominant equilibrium, each player receives PEN 30. In the risk-dominant equilibrium, each earns PEN 15.

Finally, we used a Binary Trust Game (BTG) to examine trust and reciprocity. This game shares the same basic properties as the Berg et al. (1995)'s trust game but with a restricted action space (as in McCabe et al. (2003)). In this sequential game, the first player chooses to either exit the game (PEN 15 to each) or pass

the decision on to the second player, who can either reciprocate (PEN 30 to each) or not (PEN 10 and PEN 50, respectively). Solving by backward induction, player 2 selects the high-paying option for herself (PEN 50), betraying the trust of player 1, who ends up worse off (PEN 10) by trusting. Thus, the unique sub-game perfect equilibrium in this game is for player 1 to not trust and exit with a socially sub-optimal outcome of PEN 15 for each (and for player 2 not to reciprocate). In this game, subjects played both roles. We used the strategy method to elicit the second-mover decision -that is, subjects had to make a decision as second-mover contingent on the first mover having chosen to trust.

Subjects followed the same order of play across all sessions: PDG – SHG – BTG and played four periods of each game with a different anonymous counterpart, without feedback.

3.2. Experimental Sessions

As previously mentioned, we conducted two types of sessions: homogeneous (participants of the same nationality, $all—P$ or $all—V$) and mixed (participants of different nationality, P—V) sessions. We used a perfect stranger matching protocol in each game for all sessions. Thus, we ensure that each subject never interacts with the same counterpart more than once in each of the four periods within the same game. For the mixed sessions, the matching protocol included an additional restriction so that subjects interacted with a counterpart from the same nationality (PP or VV: in-group) in two periods and with a counterpart from a different nationality (PV or VP: out-group) in the remaining two periods.[14]

The mixed sessions allow us to examine the within-subject difference between a participant's interactions with co-nationals and those with a counterpart of a different nationality. Within-subject designs offer some advantages, such as increasing statistical power, as they remove the effects of individual differences between treatments. Still, they come with some limitations, especially regarding identification threats. Given the within-subject design, the main concern regarding identification threat is the potential for experimenter demand effects.[15] To minimize potential experimenter demand effects, we took two measures. First, the information about the nationality of the counterpart was introduced inconspicuously: nationality was presented with other anonymity-preserving information about their counterpart. This inconspicuous information should make the experimenter's focus on the treatment variation less salient, as compared to asking, for instance, to condition their action on the nationality of their counterpart. In addition, the information provided was framed as allowing them to verify the perfect stranger-matching protocol.[16] We believe this design mitigates the limitations and exploits the advantages so that the design offers net advantages on balance.

In this high-immigration context, interacting with someone from a different nationality may activate various psychological mechanisms that generate spillovers when interacting with co-nationals –a carry-over effect. For instance, interacting with non-co-nationals might reduce overall cooperative or trusting behavior with anyone. Alternatively, it may enhance cooperative play with co-nationals due to the contrasting effect of interacting with someone from a different nationality. Thus, we conducted homogeneous sessions that allowed us to observe interactions among co-nationals absent these potential spillovers. That is, this design also allows us to study the role of salience in interactions between subjects from the same nationality in both homogeneous and mixed sessions, thus being able to capture any spillover effects.

[14] Due to errors in the application of the algorithm, there is imperfect compliance along this dimension, which affects 76 subjects.

[15] Other potential threats to identification in within-subjects designs include the order of exposure and carry-over (Charness et al., 2012). This design allows us to capture any carry-over effects by comparing interactions with co-nationals in homogeneous and mixed sessions, as explained in detail in the next paragraph. Order of exposure (to counterpart nationality treatment) is mitigated by being assigned randomly.

[16] The experiment instructions stated: "During this part, in each round, you will always interact with a different person as a counterpart and will always remain anonymous. In other words, you will never have the same counterpart more than once. To ensure that, we will give you some information about your counterpart, although you will never be able to know their identity."

As shown in Table 2 below, in total, 166 individuals (58% of the total) participated in 17 mixed sessions (83 Venezuelans and 83 Peruvians) and 120 (42%) in 11 homogeneous sessions (74 in $all—V$ and 46 in $all—P$ sessions).[17]

Table 2: *Participants by session type*

	All	**Mixed**	**Homogeneous**
Sessions	28	17	11
Total Participants	286	166	120
	100.0%	58.0%	42.0%
Venezuelans	157	83	74
	100.0%	52.9%	47.1%
Peruvians	129	83	46
	100.0%	64.3%	35.7%

3.3. Recruitment and Protocols

We recruited participants by distributing flyers in public spaces, including parks, bus stations, shopping centers, and parking lots (where Venezuelans used to park their bikes and do food delivery jobs). We aimed at recruiting nationals and migrants with similar levels of job experience and earnings (which, in the case of Peruvians, implied being employed in entry-level jobs since we knew from the ENPOVE that most Venezuelans earned the minimum wage). The flyers provided information about expected earnings, the location of the experiments, and a contact phone number. Once they called, research assistants sent the schedules available[18] and asked for their confirmation to authorize access to the university campus.

On campus, upon arrival, participants were directed to a registration room, where we waited until we had at least 6 people for the mixed sessions (at least 3 pairs of each nationality, often more) or 8 persons for the homogeneous sessions before we started a given session.[19] Subjects were then assigned to one of several computer labs, where research staff promptly directed subjects to a computer workstation cubicle. They could not interact with each other, and decisions were private.[20] After a general introduction explaining the multiple parts of the experiment (see Appendix A), obtaining informed consent, and completing the initial questionnaire, the experimental tasks began. Subjects made decisions privately. No communication was allowed, and subjects interacted with each other only through the computer terminals using z-Tree (Fischbacher (2007)). All tasks required only a basic knowledge of computer use.

Given the nature of the subject pool, we took several measures to ensure a proper understanding of each game, to introduce the treatment manipulation (nationality of their counterpart) inconspicuously, and to ensure attention is free to focus on the treatment manipulation. First, to ensure proper understanding, we presented detailed instructions, asked control questions, and designed an interface to ensure informed decisions. Each game was introduced in a separate experimental part with a thorough set of specific computerized instructions

[17] The 17 mixed sessions had 6, 8 or 12 participants; the 11 homogeneous sessions (7 all-V and 4 all-P sessions) had 8 to 14 participants per session. In total, we ran 37 sessions. We discarded several sessions due to errors in programming or the protocol implementation.

[18] A pilot survey allowed us to set the days of the week and times when the Venezuelan migrants stated they would be more available.

[19] We aimed to have at least two-thirds of participants in the mixed sessions, according to the pre-registered plan.

[20] While walking to the computer labs (located next to the registration room) and during the sessions, participants were not allowed to talk. Although participants may have noticed whether other participants were Peruvians or Venezuelans in the registration room, they did not know the tasks they would perform or who they would interact with until the session started. Thus, only by looking at the counterparts' information on the screen will they realize whether they were interacting only with a co-national or not.

(see Appendix B. for details on the three games played). Following the instructions, participants had to complete four multiple-choice control questions presented sequentially. Subjects had to select the correct answer to advance to the next question. They received feedback after each attempted answer to reinforce why their answer was correct, in case they did, otherwise giving them a hint as to how to get to the correct answer.[21] After all subjects completed the control questions, they proceeded to the four periods of each game. In addition to the control questions, we designed the interface to ensure a proper understanding of the task and the consequences of a choice when making decisions. Upon selecting an option, the contingent payoffs for both players based on the option selected were displayed, and subjects were asked to confirm. Only once the subject was fully aware of the possible consequences of her selected option and confirmed her choice did she advance to the next period (see Appendix B.1.2 for an example from the PDG).

As for the main treatment (nationality of the counterpart), the information was introduced inconspicuously. In each period before making a decision, subjects were presented with the nationality, among five other pieces of information of their counterpart, framed to allow them to verify the perfect stranger-matching protocol.[22] To not compromise attention to treatment and ease information processing demands on subjects, we designed the interface so that the screens presented the information sequentially and guided their attention. At the beginning of each period, the information about their counterpart was presented first. It was the only information on the subjects' screens, with no possibility of skipping it or advancing to the next screen. Five seconds later, the game payoffs were displayed on the screen. Five seconds later, the choice buttons were activated, and they could proceed to make a decision. Notice that this method cannot guarantee subjects paid attention and focused on the treatment information on the nationality of their counterpart. But it does provide the information in a clean, uncompromising fashion and makes it readily available in the context of sudden massive immigration flows that we study.

At the end of the experimental session, one period of one game was randomly chosen for payment for all subjects (this information was explained in the instructions before the start of the experiment). Once a game was chosen, one period was selected randomly for each subject, and they were paid according to the decisions made in that period. For the BTG, the role (player 1 or player 2) was also randomly chosen.[23]

The experiments were conducted between July and August 2019 at the Universidad del Pacífico's computer lab in Lima, Peru. The number of participants per session varies between 6 and 14. The typical session lasted about 2.5 hours. The average payment was PEN 50 (including a PEN 15 show-up fee), about USD 15.12. These payoffs represent significant stakes for the sample: it is more than the daily income for about 60% of the sample earning the monthly minimum wage (PEN 930).

4. Hypotheses, Empirical Plan and Data

We registered the hypotheses and empirical analysis plan using the Open Science Framework. The preregistered plan is available at https://osf.io/39j7m. Our variable of interest (Y_{it}) is a binary variable on the prosocial action in each two-person game. That is, Y_{it} takes the value of 1 if the choice of participant i in period t was to cooperate in the PD game (0 otherwise). In the SH game, it takes the value 1 if they attempt to coordinate on the Pareto-dominant equilibrium (0 otherwise). In the BT game, it is 1 if they selected to trust the counterpart in stage 1, and for the second stage if they chose to reciprocate.

[21] To prevent them from mindlessly guessing and advancing by trial and error, their computer screen was blocked after two incorrect attempts, and they had to call a monitor to unlock it. Monitors were instructed to clarify and ensure subjects understood before they could proceed. Only once all questions (see an example in Appendix B.1.1) were correctly answered could subjects begin making decisions.

[22] We presented the following information about the counterpart: gender, month of birth, nationality, year of birth, and civil status.

[23] All random draws and the payoffs in each game were shown on the screen at the end of the experiment. Subjects knew precisely what their possible payoffs were before drawing the game for pay.

We first focus on the mixed sessions, which exploit the within-subject variation, by estimating the following specification using random effects separately for each game:

$$Y_{it} = \alpha_0 + \alpha_1 I_t^{PVUVP} + \alpha_2 I_t^{PVUVP} V_t + \alpha_3 I_t^{FFUMM} + \alpha_4 I_t^{FFUMM} F_t + Z'\delta + \varepsilon_{it}. \quad (1)$$

The vector of controls, Z, includes period and session fixed effects, as well as marital status and month and year of birth of individual i's counterpart in period t, V_t denotes Venezuelan nationality for i's counterpart in round t, and F_t denotes female gender for i's counterpart in round t. In this specification, the coefficient α_1 captures the average effect on prosocial behavior of interacting with out-group members (PV or VP) instead of in-group members (VV or PP). The coefficient α_2 captures the average additional effect of out-group interactions when a Peruvian participant interacts with a migrant (PV versus VP). The coefficient α_3 captures the difference in behavior for same-gender matches versus different-gender pairs; α_4 captures the difference in interactions between matches with a female counterpart versus a male counterpart (FF or MF versus FM or MM). We use robust standard errors.

Main Hypotheses

Hypothesis 1: Cooperation, coordination, trust, and reciprocity are less likely when interacting with subjects of a different group ($H_0 : \alpha_1 \geq 0; H_a : \alpha_1 < 0$).

Hypothesis 2: Cooperation, coordination, trust, and reciprocity, when interacting with subjects of a different (foreign) group, is not equal for Venezuelan migrants as for Peruvians ($H_0 : \alpha_2 = 0; Ha : \alpha_2 \neq 0$).

Two additional hypotheses include $H_0 : (\alpha_1 + \alpha_2) = 0$ (PV versus in-groups, VV and PP) and $H_0 : (\alpha_3 + \alpha_4) = 0$ (FF versus out-groups FM and MF).

In addition, we will also estimate the following random effects regression model for each game in all sessions (mixed and homogeneous pooled):

$$\begin{aligned} Y_{it} = \beta_0 + \beta_1 I_t^{PPUVV} + \beta_2 I_t^{PPUVV} HS_i^V + \beta_3 I_t^{PPUVV} MS_i^{VP} + \beta_4 I_t^{PPUVV} MS_i^{VP} V_t + \\ \beta_5 MS_i^{VP} V_t + \beta_6 I_t^{FFUMM} + \beta_7 I_t^{FFUMM} F_t + \beta_8 F_t + X'\delta + \varepsilon_{it}, \end{aligned} \quad (2)$$

where I^{PPUVV} and I^{FFUMM} are indicator variables for both participants being of the same nationality (PP or VV) and the same gender (FF or MM), respectively. HS^V is a dummy for a homogeneous session where all participants are of Venezuelan nationality, MS^{VP} is a dummy for a mixed session (of Venezuelan migrant and Peruvian national subjects), V_t denotes Venezuelan nationality, F_t denotes female gender for i's counterpart in round t. X is a vector of controls similar to Z, except that it replaces the individual fixed effects with self-reported individual characteristics: income (category), level of education, the cognitive reflection test score (Frederick (2005)), and time living in Peru for Venezuelan citizens. We clustered the standard errors at the individual level to account for any potentially correlated decisions across periods.

In this specification, the coefficient β_1 captures the average, aggregate effect from interactions between in-group members (PP or VV). Then, when $\beta_1 > (<)[=] 0$, we see greater (lower) [equal] prosocial behavior in an interaction between co-nationals. The coefficient β_2 captures the average additional effect of an in-group interaction between Venezuelans compared to an interaction between Peruvians. Thus, if $\beta_2 > (<)[=] 0$, we see a greater (lower) [equal] level of prosociality between Venezuelans than between Peruvians. β_3 measures the average effect of in-group interactions in mixed vis-á-vis homogeneous sessions, capturing potential spillover effects. Then, when $\beta_3 > (<)[=] 0$, we see a greater (lower) [similar] level of prosociality in mixed sessions in-group interactions, where nationality is more salient, compared to in-group interactions in homogeneous sessions. β_4 captures the effect of in-group interactions between Venezuelans (VV) and Peruvians (PP) in mixed sessions, and β_5 measures the additional effect of out-group interactions when a local interacts with a migrant counterpart (PV versus VP).

Hypotheses 3 & 4: Cooperation, coordination, trust and reciprocity are more likely when interacting with subjects of the same group ($H_0 : \beta_1 \leq 0; H_a : \beta_1 > 0$), and this is especially the case when participating in mixed sessions (as group identity is more salient) ($H_0 : \beta_3 \leq 0; H_a : \beta_3 > 0$).

Hypothesis 5: Cooperation, coordination, trust, and reciprocity differ among the two groups ($H_0 : \beta_4 = 0; H_a : \beta_4 \neq 0$).

Secondary hypotheses:

Hypothesis 6: Cooperation, coordination, trust, and reciprocity for Peruvians when interacting with subjects of a different group (Venezuelan migrants) is lower (as Venezuelans are the natural outgroup in Lima) ($H_0 : \beta_5 \geq 0; H_a : \beta_5 < 0$).

Hypothesis 7: Cooperation, coordination, trust, and reciprocity are higher for Venezuelan migrants with a higher level of education (e) and/or with more time living in Peru (l) ($H_0 : \delta_{e,l} \leq 0; H_a : \delta_{e,l} > 0$).

Three additional hypotheses will be tested, $H_0 : (\beta_1 + \beta_3) = 0$ (in-group interactions, VV and PP, versus out-groups, VP and PV), $H_0 : (\beta_3 + \beta_4) = \beta_2$ (VV in mixed versus homogeneous sessions) and $H_0 : (\beta_6 + \beta_7 + \beta_8) = 0$ (FF versus all other gender matches, FM, MF, MM).

4.1. Data

The sample under scrutiny consists of 286 individuals, 129 Peruvian citizens and 157 Venezuelan migrants. Table 3 presents descriptive statistics of the sample. On average, participants are 29 years old, 47% are female, and 71% are single. Subjects in our sample have a considerably high level of education (much higher that of the average Peruvian working-age person,[24] which is reassuring in terms of their ability to perform the experimental tasks), as well as relatively low-income levels. Thus, 60% of individuals in our sample have at least one year of university education, and 56% earn up to PEN 930 (which is the 2019 minimum wage, equivalent to USD 310), while 35% receive a monthly income of PEN 930-2.000. The income distribution within the sample responds to our interest in matching, as best as possible, nationals and immigrants with similar income levels.

Compared to the sample of Venezuelans, the Peruvian natives in the sample are younger (28 years of age versus 31), have a larger share of women (53% versus 43%), and are more likely to be single (79% versus 65%). Moreover, we see relatively higher levels of education for Venezuelans than for Peruvians (see the highest to education categories), but lower levels of income for Peruvians (52% earn the minimum wage versus 60% of Venezuelans, while 17% earn PEN 2.000 or more, versus 1% of Venezuelans). Also important is the time the immigrants have stayed in Peru, 13 months, on average, with 49% of them living in Peru for 13 to 35 months.[25]

Further, the (non-incentivized) Cognitive Reflection Test (CRT) score captures the ability to refrain from providing an intuitive yet incorrect answer to three seemingly simple questions (Frederick (2005)). Though Peruvians perform better than Venezuelans on this test (0.80 versus 0.46, with *p-value* = 0.0005), both groups do poorly (average CRT score of 0.62 on a 0-to-3 scale).

[24]The share of the working-age population with a high education degree is close to 25%, as of 2012 (Haimovich (2017).

[25]Compared to the ENPOVE sample of Lima, our sample of Venezuelan immigrants is similar in several dimensions except for marital status and education. Thus, our sample is slightly younger (31 versus 33), has a lower proportion of women (43% versus 47%), a higher proportion of singles (65% versus 42%), is significantly more educated (4% with only some secondary education, versus 27%), has a lower self-reported income (60% earns up to PEN 930, versus 52%), and is living in Peru for fewer months (13 versus 16).

Table 3: *Descriptive Statistics and Choices in Experiments*

	All	**Venezuelans**	**Peruvians**	**Means Test**[3/]
Age (years)	29.48	30.84	27.82	0.0098
Female	0.472	0.427	0.527	0.0912
Single	0.713	0.650	0.791	0.0086
Some Secondary Education	0.046	0.045	0.047	0.9383
Some Technical Education	0.213	0.191	0.240	0.3136
Complete Technical Education	0.140	0.159	0.116	0.2990
Some University Education or Higher	0.601	0.605	0.597	0.8885
Some University Education	0.308	0.242	0.388	0.0078
University and Graduate Studies	0.294	0.363	0.209	0.0044
Income [. , PEN930)	0.563	0.599	0.519	0.1795
Income [PEN 930–2,000)	0.353	0.388	0.310	0.1683
Income [PEN 2,000–4,000)	0.049	0.013	0.093	0.0017
Income [PEN 4,000, .)	0.035	0.00	0.077	0.0000
Living in Peru (months)	–	12.91	n.a.	
CRT Score (0-3)[1/]	0.62	0.46	0.80	0.0005
Choices in Experiments (percent)				
Cooperate (chose A)	0.449	0.481	0.411	
Coordinate (chose X)[2/]	0.743	0.735	0.752	
Trust (chose J)	0.504	0.535	0.465	
Reciprocate (chose R)	0.597	0.631	0.554	
N	286	166	120	

Note: [1/] This is Frederick (2005)'s Cognitive Reflection three-item test (CRT).

[2/] Play the risky option, presumably in an attempt to coordinate on the Pareto-dominant choice.

[3/] p-value for the null of the difference being equal to zero is reported.

5. Results

We aim to analyze the effect of any out-group differential treatment on prosocial behavior captured in the three games played by our subjects. The premise is that differential out-group treatment would signal problems of socioeconomic integration (this is our hypothesis), while the absence of such differential treatment would suggest a higher degree of socioeconomic integration between immigrants and natives (and, thus, higher chances of assimilation in the short-term).

We first present descriptive evidence about in-group and out-group interactions. Regarding choices made by subjects' nationality, we see in Table 3 (lower panel) that, while natives and immigrants coordinate in a similar intensity, immigrants cooperate, trust, and reciprocate at higher levels than natives. We also observe that all subjects are more likely to choose the option to coordinate on the payoff-dominant equilibrium in the SHG than to choose the option to cooperate in the PDG: 74% versus 45%. This suggests that subjects are responding to the incentives presented in the structure of the games.

We now move on to the pre-registered regression analysis explained in Section 4 that controls for observables that may be influencing their decisions. We start with results from mixed sessions, where we can examine out-group versus in-group interactions more clearly. Table 4 presents the coefficients of interest from regressions estimating equation (1) for decisions in the PDG (column 1), SHG (column 2), and both roles of the BTG (columns 3 and 4).

As shown in the table, the coefficient α_1 that captures interactions with the out-group is not statistically significant in all three games examined. Thus, we cannot reject the null of differential out-group interactions. Looking at column 1, the coefficient implies that subjects paired with non-co-nationals are 6.7 percentage points less likely to cooperate, as compared to interactions with peers from the same nationality. The point estimates for coordination (column 2) and trust (column 3) suggest a more prosocial behavior, but they are all statistically insignificant. Similarly, looking at the coefficient α_2, we cannot reject the null that the effect of out-group interactions is equal for Venezuelans and Peruvians for any of the games. In addition, examining the linear combination of $(\alpha_1 + \alpha_2)$, we cannot reject the null that Peruvian-Venezuelan (PV) matches behave differently than in-groups (VV and PP), except for the trusting behavior. Nor can we reject the one stating that female-female pairs interact differently than different-gender matches (FM or MF) $(\alpha_3 + \alpha_4)$, except for cooperation.

The previous results showed no significant difference between out-groups and in-group interactions, which could be due to the nonexistence of such an effect or to the fact that participating in mixed sessions has an effect in itself –a carry-over effect). It could be that the presence of out-group members in a session triggers a psychological effect that applies to all members, regardless of group membership. In other words, if participating in mixed sessions has an effect that goes in the same direction as the effect of interacting with out-group members, we would not be able to detect any out-group versus in-group differences. Anticipating this possibility, our design contemplated conducting homogeneous (All-P and All-V) sessions. Thus, including different types of sessions would allow us to disentangle whether that result is due to the session type.

Table 5 below presents the regression estimates from equation (2) using the pooled sample, which includes mixed and homogeneous sessions. It follows the structure of Table 4, presenting the results for the PDG, SHG, and (both roles of the) BTG, with full controls. We find no aggregate average effect of in-group versus out-group interactions, as the coefficient β_1 on *Same Nationality* is not statistically significant at conventional levels for any type of interaction. The coefficient β_2 on *Same Nationality*$\times HS^V$ captures the additional effect of Venezuelans interacting with co-nationals in homogeneous sessions. Here, we find a large positive and statistically significant effect on trust (column 3). This estimate suggests that Venezuelan migrants are 27 percentage points (*p.p.*) more likely to trust a fellow Venezuelan in homogeneous sessions.

Table 4: *Interactions: Mixed Sessions*

	(1) PDG Cooperate	(2) SHG Coordinate	(3) BTG: T Trust	(4) BTG: R Reciprocate
α_1Different Nationality	-0.067	0.031	0.041	0.005
	(0.072)	(0.064)	(0.075)	(0.061)
α_2Different Nationality $\times V_t$	0.046	0.030	0.104	0.023
	(0.067)	(0.077)	(0.100)	(0.084)
α_3Same Gender	0.680***	-0.547	-0.666*	-0.276
	(0.253)	(0.352)	(0.383)	(0.362)
α_4Same Gender $\times F_t$	-1.452***	1.052	1.232	0.520
	(0.485)	(0.698)	(0.765)	(0.726)
α_5F$_t$	0.660***	-0.540	-0.599	-0.265
	(0.247)	(0.350)	(0.387)	(0.367)
α_1 + α_2 = 0 (p-value)	0.772	0.326	0.073	0.682
α_3 + α_4 = 0 (p-value)	0.001	0.151	0.145	0.508
R-Squared	0.468	0.514	0.352	0.535
N	664	504	552	552

Note: all specifications include a constant, counterpart controls, period, session & subject FEs. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 5: *Regression Results on Interactions: All Sessions*

	(1) PDG Cooperate	(2) SHG Coordinate	(3) BTG: T Trust	(4) BTG: R Reciprocate
β_1Same Nationality	-0.031	-0.178	0.139	-0.084
	(0.151)	(0.152)	(0.120)	(0.187)
β_2Same Nationality $\times$ HS^V	0.179	0.047	0.270***	-0.021
	(0.136)	(0.137)	(0.096)	(0.144)
β_3Same Nationality $\times$ MS^{VP}	-0.063	0.193	-0.178	0.013
	(0.145)	(0.156)	(0.121)	(0.183)
β_4Same Nationality $\times$ MS$^{VP}\times$V$_t$	0.189*	-0.069	0.021	0.122
	(0.097)	(0.108)	(0.097)	(0.121)
β_5MS$^{VP}\times$V$_t$	-0.060	0.027	0.024	-0.073
	(0.061)	(0.062)	(0.076)	(0.079)
β_1 + β_3 = 0 (p-value)	0.167	0.813	0.552	0.318
β_3 + β_4 = β_2 (p-value)	0.719	0.621	0.000	0.469
Number of clusters	286	246	258	258
R-Squared	0.050	0.052	0.076	0.050
N	1144	984	1032	1032

Notes: All specifications include a constant term, counterpart´s controls, and period and session fixed effects. Clustered standard errors at the individual level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

The coefficient β_3 measures the average effect of in-group interactions in mixed vis-á-vis homogeneous sessions, capturing the potential spillover effects we referred to in the paragraphs above. β_4 measures the

differential effect of in-group interactions between Venezuelans (VV) vis-à-vis Peruvians (PP) in mixed sessions. We find no evidence for spillover effects of in-group interactions in mixed sessions. Although we do see a large and positive ($\sim$ 19 *p.p.*) effect of Venezuelans interacting with other co-nationals in mixed sessions in the PDG (column 1), it is not statistically significant according to the pre-registration criteria. Note, however, that we find no significant difference of Venezuelans (interacting within groups) in mixed versus homogeneous sessions: the linear combination of ($\beta_3 + \beta_4$) is not significantly different from β_2, in general (again, in the case of trust, Venezuelan trust more other co-nationals in homogeneous sessions, compared to mixed sessions). The coefficient β_5 captures the differential effect of out-group interactions of the type PV (in mixed session) for Venezuelan migrants. We see that it is not statistically significant.

6. Supplementary Analysis

The previous section presented the null-result findings for the pre-registered analysis of our hypotheses. In this section, we explore our findings' robustness and potential explanation. First, we examine heterogeneity. In the previous section, we saw null results for *average* differences in cooperative behavior, coordination, trust, and reciprocity among Peruvian citizens and Venezuelan migrants. We then supplement the analysis with data from a complementary experiment conducted with a different sample from the same pool of Venezuelan and Peruvian nationals in which we measure implicit bias using the Implicit Association Test (Greenwald et al., 1998), and we experimentally elicit empirical and normative expectations over behavior in the games analyzed here.

6.1. Heterogeneity

So far, the regression analysis has not found any evidence of aggregate differences in *average* cooperation, efficient coordination, trust, or reciprocity between migrants and Peruvian citizens when interacting with each other relative to interacting with co-nationals. In this subsection, we explore the heterogeneity of behavior to rule out whether differences in individual behavior in opposing directions (i.e., players of a nationality having polarized attitudes that cancel each other) are concealed by the null mean effects.

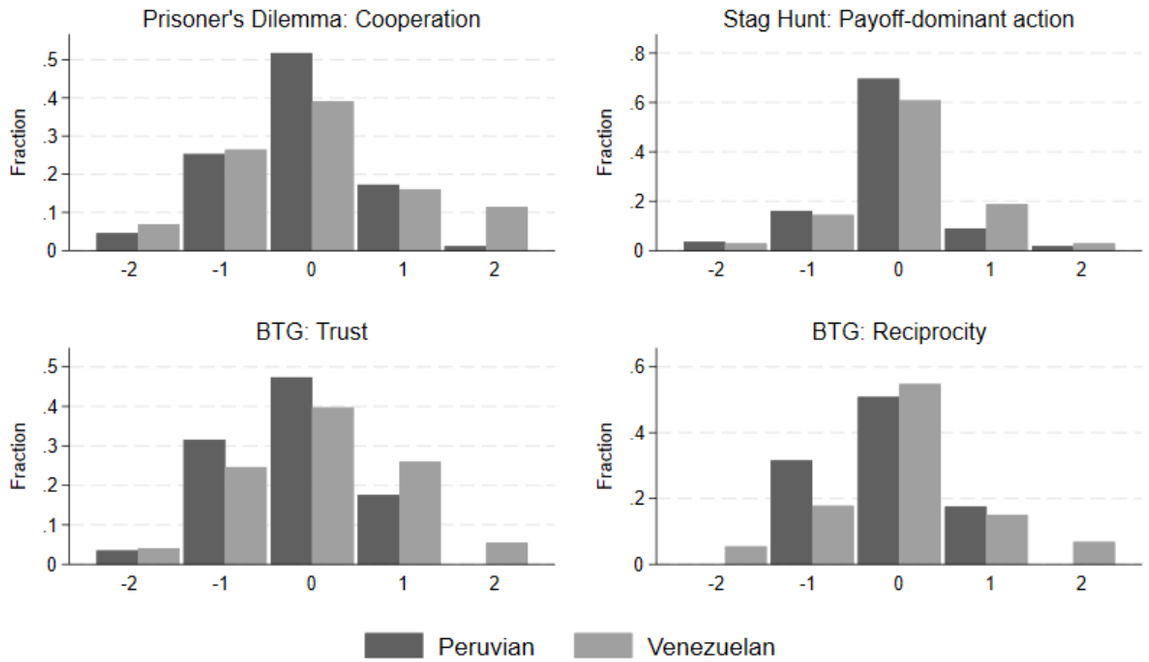
The four observations we collect per individual in each game allow us to analyze heterogeneity according to the proportion of times each individual chooses cooperation, the payoff dominant action, trusting, and reciprocating. The analysis in this section focuses on behavior contingent on the counterpart's nationality in mixed sessions where participants played each game twice with co-nationals and twice with participants from a different nationality.[26] We take, for each game, the number of times $n_i^c \in \{0, 1, 2\}$ that individual i playing with a counterpart $c \in \{\text{co-national, non-national}\}$ plays the cooperative/efficient action: the cooperative action in the Prisoner's Dilemma game, the payoff-dominant action in the Stag-Hunt game, the trusting action as first mover in the Binary Trust Game, and the reciprocating action as second mover in the Binary Trust Game. Then, for each individual, we compute the difference in play propensity between co-national and non-national counterparts: $d_i = n_i^{co} - n_i^{non}$; thus, $d_i \in \{-2, -1, 0, 1, 2\}$.

Figure 2 presents the distribution of d-type subjects by nationality for each game. A positive/high (respectively, negative/low) d_i can be interpreted as a propensity to cooperate, to choose the payoff-dominant action, to trust, or desire to reciprocate more (less) with a co-national than a non-national. Four results stand out from the graphs. First, there is relatively little mass in the extreme values of d (-2 and 2); in fact, less than 2% of Peruvian nationals have a $d = 2$ in the Prisoner's Dilemma and the Stag Hunt games (it is zero in any role of the BTG). Second, the distributions are centered at zero. The modal (and median) value of d is

[26] Refer to Appendix C for an examination of heterogeneous behavior by nationality in homogeneous and mixed sessions.

zero across all games, and the mean d is not statistically different from zero for either group across any games -except for Peruvians in the first mover of the binary trust game, where the mean ($d = -0.211$) is statistically lower than 0 ($p = 0.045$). Third, across all games, the proportion of players with a strictly positive d is *lower* for Peruvians than for Venezuelans. Except for the Prisoner's Dilemma, Peruvians have a higher proportion of players with negative d than Venezuelans. Lastly, the distributions differ only for the second mover in the Binary Trust Game.[27] In sum, we do not find evidence on the extensive margin for discrimination in favor of co-nationals by Peruvians.

Figure 2: Heterogeneity of differences in behavior based on counterpart nationality (in mixed sessions)



Each panel presents, for a different game/role, the distribution of differences in the number of times an individual plays a cooperative/efficient when playing with a co-national vs. a non-national. Specifically, for each game, we record the difference (when the counterpart is co-national minus when the counterpart is from the other nationality) between the number of times a player selects: (i) the cooperative action in the Prisoner's Dilemma game, (ii) the payoff-dominant action in the Stag-Hunt game, (iii) the trusting action as first mover in the Binary Trust Game, and (iv) the the reciprocating action as second mover in the Binary Trust Game.

6.2. Implicit Bias

We now explore the possibility of implicit biases towards other-nationals that may not have been fully reflected in the strategic games played in the lab. We use data from a second set of experiments conducted with a separate sample of 58 Peruvian citizens and 39 Venezuelan migrants drawn from the same pool of subjects, following the same recruitment procedures as explained in Section 3.3. They participated in sessions scheduled for different laboratory experiments between October and December 2019 at Universidad del Pacífico.

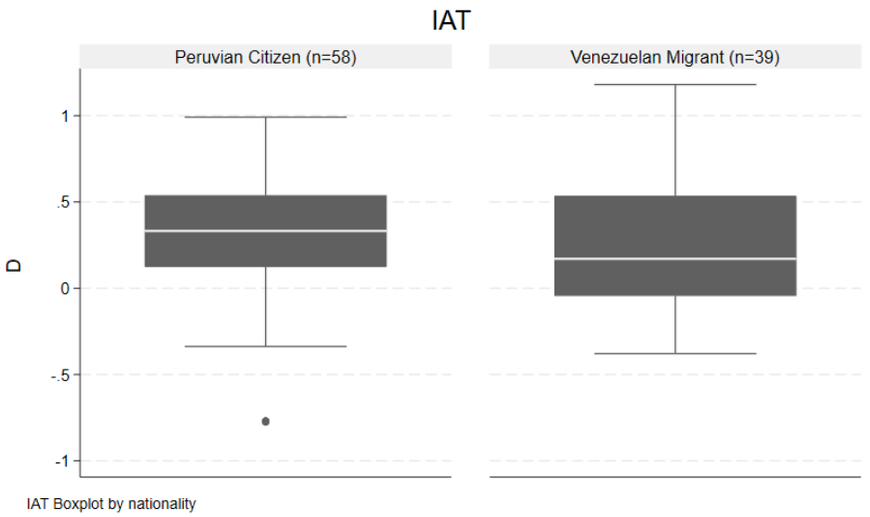
[27] Pearson $\chi^2(2) = 9.352$, $p = 0.053$ for PDG, $\chi^2(2) = 2.730$, $p = 0.604$ for SHG, $\chi^2(2) = 5.174$, $p = 0.2704$ for (BTG) Trust, $\chi^2(2) = 9.787$, $p = 0.044$ for (BTG) Reciprocate. Note, however, that in the PDG, the main difference is a higher mass at $d = 0$ for Peruvians, and for reciprocity in the BTG, Peruvians have no mass on the extreme tails.

In these sessions, we collected data on empirical and normative expectations regarding players' behavior in the three games examined earlier. After we elicited all the nationality-contingent normative and empirical expectations for a game, we described in detail the next game and proceeded analogously. After completing the elicitation of normative and empirical expectations, subjects took part in the Implicit Association Test (IAT), which provides a measure of the relative strength of implicit or automatic associations between two target concepts with words that have a positive or negative valence. To do so, relying on latencies in responses across different pairwise concept associations, the test is summarized by the D-score (Greenwald et al., 2003). The D-score captures the average of standardized differences (across two pairs of stages comparisons) in latencies between co-nationals and other-nationals.

Figure 3 presents box plots of the IAT D-scores by nationality. As shown below, we find no differences across nationality in the D-score mean ($t = 0.943, p = 0.348$), median (Pearson $\chi^2(1) = 1.344, p = 0.246$, continuity corrected), or variance ($f = 0.886, p = 0.668$). Furthermore, the mean and median D-scores are small (0.290 and 0.279) and statistically different from zero, $t = 7.780, p < 0.0001$ (78 positive differences, $p < 0.0001$).[28] To put this into perspective, consider the results from a YouGovPolimetrix administered study conducted in 2008, which reports a mean D-score of 1.65, indicating a large implicit bias of the non-Hispanic white sample contrasting Latino immigrants and White immigrants in the US (Pérez, 2010). In this sample, however, the D-score for the $75^{th}\% - ile$ of Peruvians (Venezuelans) is 0.538 (0.535).[29]

To sum up, despite the context of sudden massive migration inflows, we find only slight-to-moderate implicit preference for co-nationals for the majority of participants in the sample, and this is not different between Peruvian nationals and Venezuelan migrants.

Figure 3: Implicit Association Test



6.3. Expectations

To further examine the role of expectations, we now rely on the data on empirical and normative expectations we collected in the additional sessions. Following Bicchieri (2005), by empirical expectations, we mean first-order factual beliefs regarding the behavior of a well-defined reference group (i.e., Venezuelans/Peruvians

[28] For Peruvians, the mean (median) D-score is 0.318 (0.332); for Venezuelans, the mean (median) is 0.247 (0.171).

[29] For the pooled sample, just over 55% (71%) [81%] of them had a D-score below 0.35 (0.5) [0.65].

who participated in a previous session). On the other hand, normative expectations refer to the second-order beliefs regarding the normative appropriateness of specific actions -that is, the beliefs about the normative beliefs of a well-defined reference group for a particular action. After an introduction in these sessions, we described each game in detail, including all the possible outcomes and payoffs, and elicited the normative expectations (on a five-point scale of social appropriateness)[30] of each action (2) for each player's nationality (2), followed by empirical expectations.[31]

Note that the elicitation of nationality-contingent normative and empirical expectations is not subtle. It is clear to the subjects what we are studying. However, we did not ask how they would behave; instead, we incentivized them to reveal their beliefs about the behavior or the normative beliefs of a well-defined group of others. Thus, we do not expect Social Desirability Bias to influence the results; instead, we expect that if there are differences in normative expectations or expected behavior by nationality among the sample under scrutiny, we should be able to identify them here. Put differently, if there were an actual difference in how participants would interact with someone of a different nationality, but that difference was not detected because participants missed the information of the nationality of their counterpart, we should observe differences here in expected behavior or in normative expectations by nationality. To formally test this, we estimate the following regression equation:

$$Y_i = \gamma_0 + \gamma_1 V_i + \gamma_2 Male_i + \gamma_3 IAT_i + W'\delta + \varepsilon_i \tag{3}$$

In this equation, V_i denotes that subject i is a Venezuelan migrant, $Male_i$ denotes he is a male, IAT_i is the D-score in the Implicit Association Test for subject i, and W is a vector of controls that includes session fixed effects, marital status, year of birth, level of education, order of group-expectation elicitation, and total number of players in the session. In addition, we add a specification with an interaction of Venezuelans and the D-score in the Implicit Association Test, *Venezuelan* × *IAT*.

For empirical expectations (see Table 6), the dependent variable Y_i is the difference between the expectation that a majority of their co-nationals would choose the cooperative outcome and the expectation that a majority of the other-nationals would choose it. Odd columns show the specification described in regression equation 3; even columns add the interaction term described in the previous paragraph. As the table shows, the results are not statistically significant for any action in any game. The coefficient on Venezuelan migrants indicates that there is no difference in expectations according to the subject's nationality. The constant term shows no statistically significant difference in the expectations for the two groups, except for the trusting behavior (columns 5 and 6, though the difference is marginally significant).

For normative expectations (Table 7), the dependent variable exploits all the information elicited from each subject and uses how the difference in the normative expectations for the two actions available in a game differs across the nationality of players. That is, $Y_i = (NE_P^A - NE_P^B) - (NE_V^A - NE_V^B)$. This can be interpreted as the difference in second-order expectations of different nationalities in the gradient of appropriateness of the alternative actions available in a game. We estimate the same specifications as in Table 6.

The constant term in Table 7 above captures the mean difference across groups in the gradient of normative expectations for the alternatives of each game (in the different columns). The results show no statistically significant difference for any game. The coefficient on the variable *Venezuelan Migrant* captures the difference relative to Peruvian nationals in the mean difference across groups in the gradient of normative expectations for the alternatives of each game. The coefficients are generally negative, suggesting a smaller difference relative to Peruvians, but are not statistically significant.

[30] The categories are: Very inappropriate, inappropriate, not applicable, appropriate, and very appropriate. We code them from -2 to 2 for the analysis.

[31] "What do you think was the option chosen by the majority of Venezuelans/Peruvians?" for each nationality (2).

Table 6: *Empirical Expectations: Differences across different national groups*

	PDG: Cooperate		SHG: Coordinate		BTG: Trust		BTG: Reciprocate	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Venezuelan Migrant	-0.0630	-0.129	-0.103	0.0239	-0.0119	-0.136	0.155	-0.0442
	(0.156)	(0.187)	(0.137)	(0.155)	(0.134)	(0.149)	(0.136)	(0.162)
IAT D-score	0.208	0.105	-0.0648	0.135	-0.163	-0.359*	0.149	-0.165
	(0.205)	(0.247)	(0.196)	(0.244)	(0.177)	(0.213)	(0.200)	(0.304)
Venezuelan × IAT		0.255		-0.493		0.483*		0.775**
		(0.347)		(0.344)		(0.283)		(0.366)
Constant	-0.113	-0.111	-0.885	-0.889	0.807*	0.811*	-0.125	-0.119
	(0.623)	(0.642)	(0.659)	(0.706)	(0.469)	(0.456)	(0.634)	(0.640)
N	97	97	97	97	97	97	97	97
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The dependent variable is the difference between the expectation that a majority of their co-nationals would choose the cooperative outcome and the expectation that a majority of the other-nationals would choose it. Additional controls include session fixed effects, marital status, level of education, order of group-expectation elicitation, and number of subjects in the session. OLS estimates with robust standard errors. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 7: *Normative Expectations: Differences (across different actions) across different national groups*

	PD: Cooperate		SHG: Coordinate		BTG: Trust		BTG: Reciprocate	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Venezuelan Migrant	-0.167	-0.195	-0.0536	0.0107	-0.158	-0.272	-0.275	-0.273
	(0.224)	(0.274)	(0.245)	(0.299)	(0.213)	(0.269)	(0.276)	(0.339)
IAT D-score	0.126	0.0826	-0.191	-0.0896	0.252	0.0723	-0.408	-0.406
	(0.340)	(0.392)	(0.307)	(0.357)	(0.283)	(0.319)	(0.343)	(0.460)
Venezuelan × IAT		0.106		-0.25		0.444		-0.006
		(0.564)		(0.544)		(0.541)		(0.621)
Constant	2.338**	2.339**	0.922	0.920	-1.071	-1.068	0.116	0.116
	(0.961)	(0.975)	(0.789)	(0.784)	(0.883)	(0.914)	(0.754)	(0.759)
N	97	97	97	97	97	97	97	97
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The dependent variable is the difference in Normative Expectations between the two actions for a Peruvian minus the difference for a Venezuelan: $Y = (NE_P^A - NE_P^B) - (NE_V^A - NE_V^A)$, for the corresponding game. Additional controls include session fixed effects, marital status, level of education, order of group-expectation elicitation, and number of subjects in the session. OLS estimates with robust standard errors. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Finally, we examine the possibility of IAT mediating expectations. The coefficient on *IAT* is not statistically significant. When we examine the interaction term, *Venezuelan* × *IAT*, we find that it is significant for Empirical Expectations in the Binary Trust Game (columns 6 and 8 in Table 6). We could interpret this as migrants with a stronger implicit bias expecting a higher trusting behavior and sensitivity of reciprocation within their co-nationals. Note, however, that differences in expectations of the second move in the BTG have the potential to affect the behavior of the first mover. Although this is a different sample (drawn from the same population), we do find this result consistent with the 27 *p.p.* increase in trust among Venezuelans when playing with co-nationals as reported in column 3 of Table 5.[32]

7. Conclusion

We study the economic integration in interactions involving cooperation, risky coordination, trust, and reciprocity between Venezuelan immigrants and native-born Peruvians in a context of sudden and massive immigration. To our surprise, we found no evidence of differential treatment suggesting prejudice or discrimination in economic interactions between migrants and natives. The pre-registered analysis is complemented by exploratory analysis that examines the heterogeneity of behavior among individuals in the experiment. It is further supplemented with analysis from a separate sample of Peruvian and Venezuelan participants who participated in a different experimental task. We do not find systematic differences in expected behavior nor in the second-order beliefs of normative appropriateness of the alternatives across nationalities. We find small and non-differentiated implicit biases towards other-nationals using the IAT. The only way the IAT seems to mediate expectations is for Venezuelans with high implicit bias in the expected behavior of other Venezuelans playing with co-nationals. This result is consistent with estimates of a larger probability of trusting co-nationals exhibited by Venezuelans participating in homogeneous sessions.

Our results are similar to the only other study we are aware of in the Region, for Uruguay, that uses a strategic game (Gandelman and Lamé, 2024). Peru and Uruguay differ along many dimensions, and they have markedly different views towards migration, with Peruvians being amongst the most prejudiced towards migrants in the Region (together with Ecuador, Colombia and Bolivia), according to the Latinobarometer survey 2020.[33] The findings suggest that those economic interactions between immigrants and natives may overrun the public perception about the disapproval of immigration. Putting the results in perspective, a topic worth pursuing in the future is the connection between cultural similarity[34] and in-group favoritism towards co-nationals in contexts under massive and sudden immigration shocks. While we study interactions between individuals from relatively culturally similar countries and do not find evidence of discrimination or in-group favoritism in either direction, the literature on interactions in the context of the Syrian refugee crisis has found mixed results: Syrians living in Egypt do not show in-group favoritism (cooperation, altruism, fairness) but locals are more pro-social with migrants (Hassan et al. (2022)), while Syrians living in Germany and Jordan do (cooperation) and locals do not discriminate against migrants (El-Bialy et al. (2022)). Given the counterfactual complexities and logistical constraints, these mixed results may be challenging. Still, they point to an essential direction of needed research in light of the recent trends of massive and rapid migration movements.

[32] Note that this result holds only for homogeneous sessions.

[33] See https://www.latinobarometro.org/latContents.jsp.

[34] Using the overall cultural proximity index, we see evidence along those lines (see https://world.culturalytics.com for details).

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A. Initial Instruction

A.1. Introduction

Good morning! We warmly welcome you to the Universidad del Pacífico and thank you for being here today. Before we begin, please read and complete the informed consent sheet, which we must submit to the Universidad del Pacífico. By signing this consent, you express your voluntary decision to participate in our study. Rest assured that your information will be used confidentially. You will participate in a study whose purpose is to understand how people make economic decisions.

Today's session is composed of five parts. In some of them, you will complete individual activities, without interacting with anyone else, and in others, you will interact with another participant. All activities will be carried out on a personal computer. No technical knowledge of the use of computers is required, except for basic mouse usage.

A.2. Payment Information

As we offered when recruiting you (flyers), you will receive a fixed payment of PEN 15 for your transportation at the end of today's session. This amount is already yours. In addition, you can earn more money depending on your decisions (and, in some cases, the decisions of others) in each of the five parts of the experiment. At the end of today's session, we will randomly select one of the five parts, and you will receive the winnings from the selected part in cash, privately.

A.3. Rules

Each part begins with the corresponding instructions and rules. We ask you to make your decisions privately, avoiding any contact with other participants once the computer activities begin. This implies having your cell phone in silent mode and putting it away. You are not allowed to speak to any other participant. If you do not abide by this rule, you will be asked to leave the room. If you have any questions, raise your hand, and one of us will assist you privately.

Before starting the experiment, please complete the information requested on your screen. Press the "Continue" button to proceed.

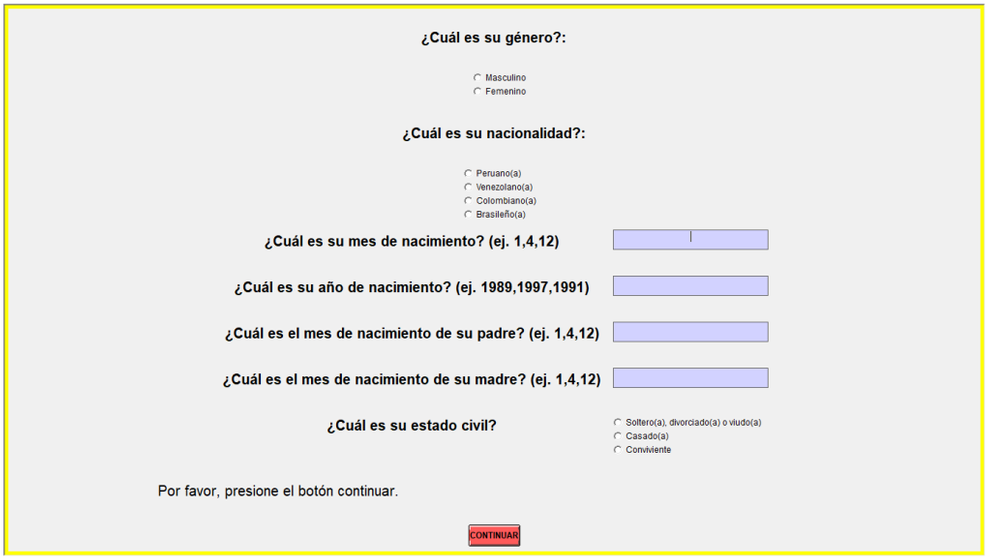
A.4. R. Assistants:

Distribute the consent sheet and ask participants to complete and sign both the top and bottom parts. The bottom part will serve as a receipt for the payment we will give you at the end. Check that everyone has signed before starting. Then, proceed to the following screen with control questions (used to do the matching).

A.5. Initial Questions

- Gender? (Male, Female)
- What is your nationality? (Peruvian, Venezuelan, Colombian, Brazilian)

- What is the month of your birth? (e.g., 1, 4, 12)
- What is the year of your birth? (e.g., 1989, 1997, 1991)
- What is your father's month of birth? (e.g., 1, 4, 12)
- What is your mother's month of birth? (e.g., 1, 4, 12)
- What is your marital status? (Single/Divorced/Widowed, Married, Cohabitating)



(a) Initial information used for matching

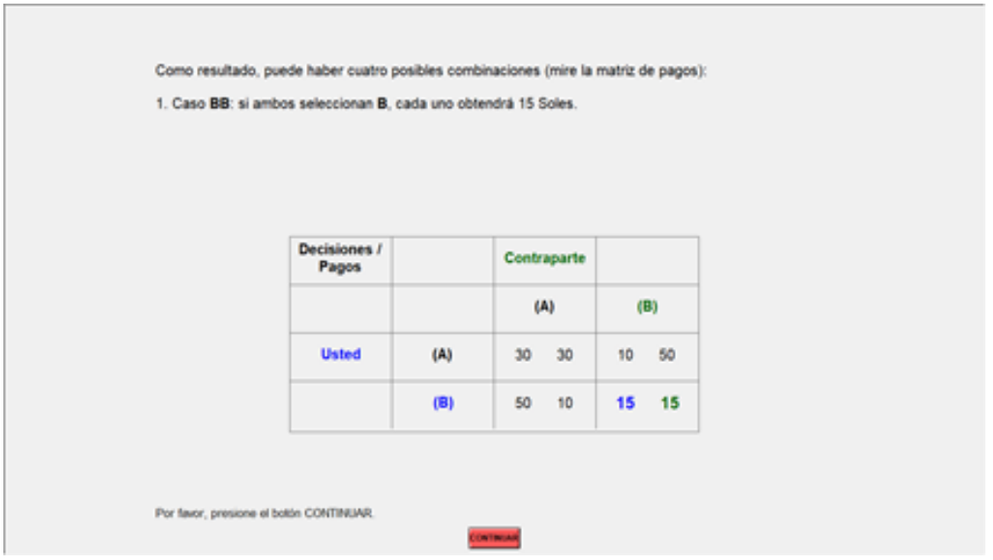
B. Implementation of the Games

B.1. Instructions for the PDG

In this part of the experiment, you will interact with a randomly chosen participant (your "counterpart") in each period. You and your counterpart will independently choose one of two options: A or B. The payoffs you receive will depend on your choice and that of your counterpart. The matrix below describes the payoffs you (in blue) and your counterpart (in green) can receive, depending on the decisions made.

There are four possible outcomes:

1. **Case BB:** If both choose B, each will receive PEN 15.
2. **Case BA:** If you choose B and your counterpart chooses A, you will receive PEN 50, and your counterpart will get PEN 10.
3. **Case AA:** If both choose A, each will receive PEN 30.
4. **Case AB:** If you choose A and your counterpart chooses B, you will receive PEN 10, and your counterpart will get PEN 50.



(a) Case BB as displayed on the screen

You will interact with different participants during each period, remaining anonymous. This procedure will be repeated for four periods. If this part is selected for payment, one period will be chosen at random, and you will be paid in cash based on the selected period. Treat each period as if it might determine your payoffs!

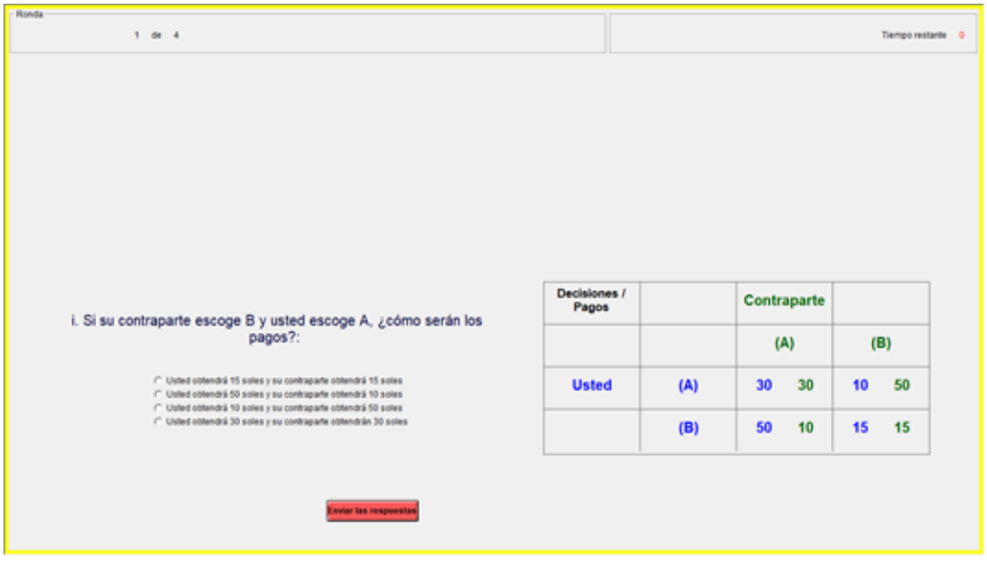
If you have any questions, raise your hand, and one of our assistants will help you privately.

Please press the button to continue.

B.1.1 Sample Control Question in PDG

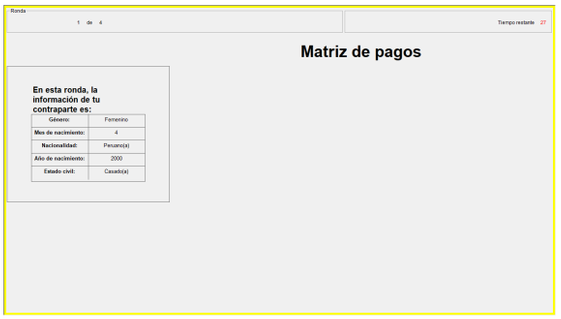
To ensure proper understanding, you must answer four control questions. For each correct answer on the first attempt, you will earn PEN 0.25. If you answer a question incorrectly, you cannot proceed until you provide the correct answer.

Once you have answered all questions correctly, the first round will begin.

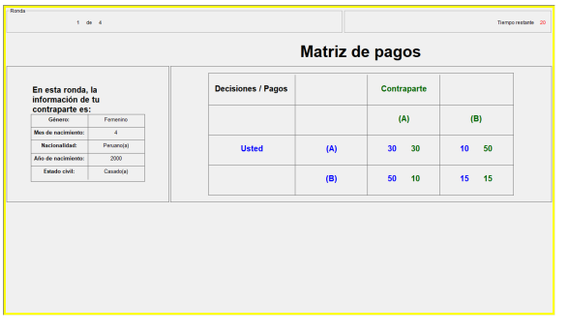


B.1.2 Screenshots for the PDG

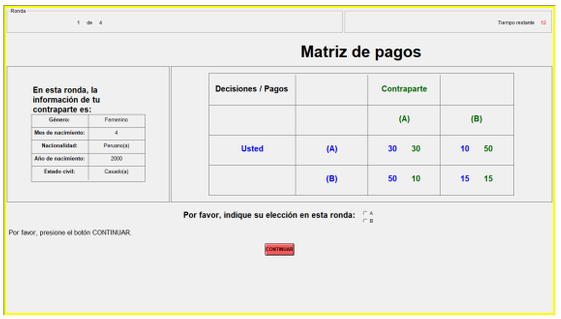
Once participants complete the control questions, the first period of the PDG starts. The following screenshots appeared in sequence for each of the four periods.



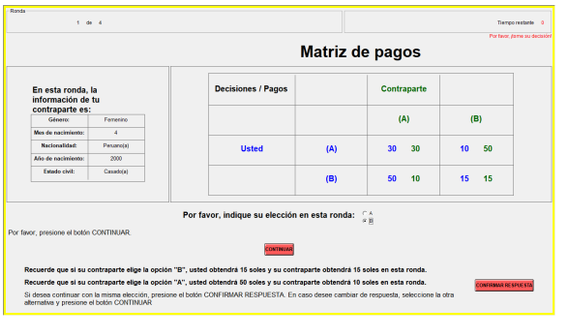
(a) Counterpart's information presented



(b) Payoff matrix added



(c) Choices activated



(d) Consequences of choices before confirmation

B.2. Instructions for the SHG

In this game, you will interact with a different participant in each period, independently choosing one of two options: X or Y. The payoffs depend on both choices. The matrix below describes possible outcomes:

1. **Case YY:** Both choose Y, each receives PEN 15.
2. **Case YX:** You choose Y, your counterpart chooses X, you receive PEN 15, and they get PEN 10.
3. **Case XX:** Both choose X, each receives PEN 30.
4. **Case XY:** You choose X, your counterpart chooses Y, you receive PEN 10, and they get PEN 15.

You will interact with different participants during each period. At the end of the session, one period will be randomly selected for payment.

If you have any questions, raise your hand, and one of our assistants will help you privately.

(a) Case YY as displayed on the screen

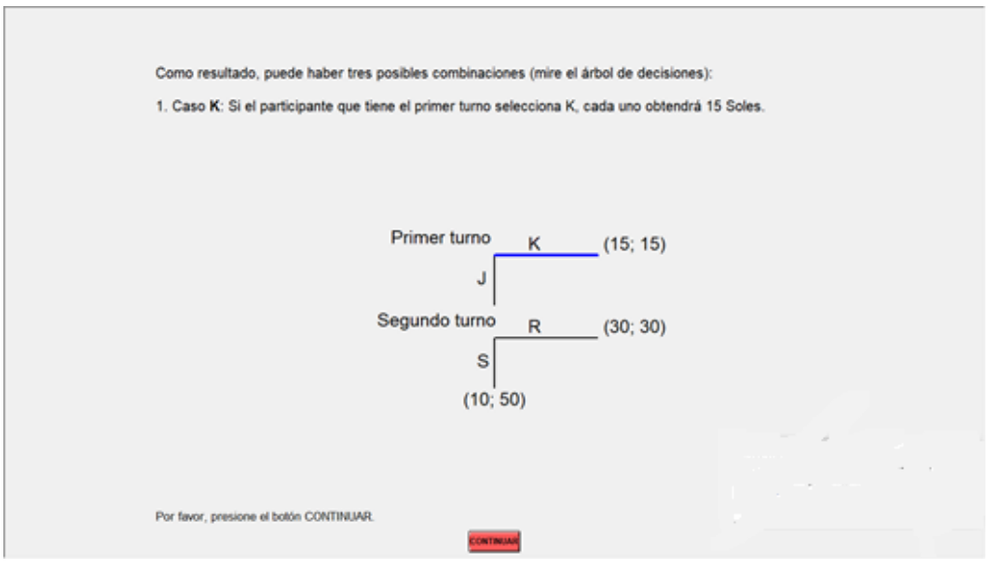
B.3. Instructions for the Binary Trust Game

In this game, you will interact sequentially with a randomly chosen participant (your "counterpart"). One participant will make the first decision, and the other will respond. The payoffs depend on both choices.

The participant making the first decision (first turn) chooses between J or K. If K is chosen, both receive PEN 15. If J is chosen, the second-turn participant chooses between R (PEN 30 for both) or S (PEN 10 for the first-turn participant and PEN 50 for the second-turn participant).

As a result, there can be three possible combinations (see the decision tree below):

1. Case K-: If the participant with the first turn chooses K, each participant will get PEN 15.



(a) Case K as displayed on the screen

2. Case JR: If the participant with the first turn chooses J, and then her counterpart (with the second turn)

chooses R, each participant will get PEN 30.

3. Case JS: If the participant with the first turn chooses J, and then her counterpart (with the second turn) chooses S, the former will get PEN 10 and the latter will get PEN 50.

The order of the decision, between you and your counterpart, will be determined at random. Before knowing who will have the first and second turns, each participant should make a decision for both cases (first and second turns). First, you will make a decision as the participant with the first turn, choosing between J and K. Then, as the participant with the second turn, you will choose between S and R, in case your counterpart has the first turn and chooses J.

When you both finish making your choices, the period will end, the order of play will be determined at random and the choices made will be implemented.

During this part, in each period, you will always interact with a different person as a counterpart and will always remain anonymous. In other words, you will never have the same counterpart more than once. To guarantee that, we will give you some information about your counterpart, although you will never be able to know their identity.

This procedure will be repeated during the four periods of this part of the experiment.

Once today's session finishes, if this part is selected for pay, one of the periods will be chosen at random, and you will be paid in cash the amount you got in the selected period. Until today's session ends, nobody will know which period will determine the winnings, so treat each period as if it were the one determining your payoffs, because it may very well be the case!

If you have any question, raise your hand and one of our assistants will answer in private.

Please, press the button to continue.

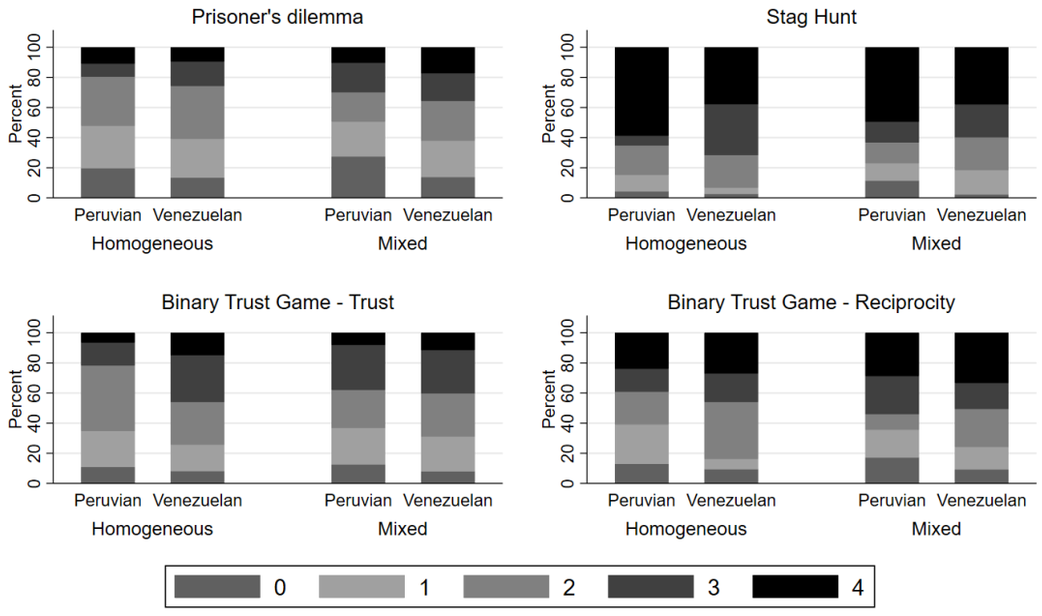
C. Additional Figures on Heterogeneity

For each game, we analyze the number of times an individual selects the cooperative or efficient action. This helps us assess whether there are differences in behavior by nationality.

Figure 4 presents the distribution of individual behaviors by nationality in both homogeneous and mixed sessions. No significant differences are observed in the PDG and in trusting behavior in the BTG. However, in the SHG and BTG, there are notable differences between Peruvians and Venezuelans, specifically in reciprocating behavior in the BTG.

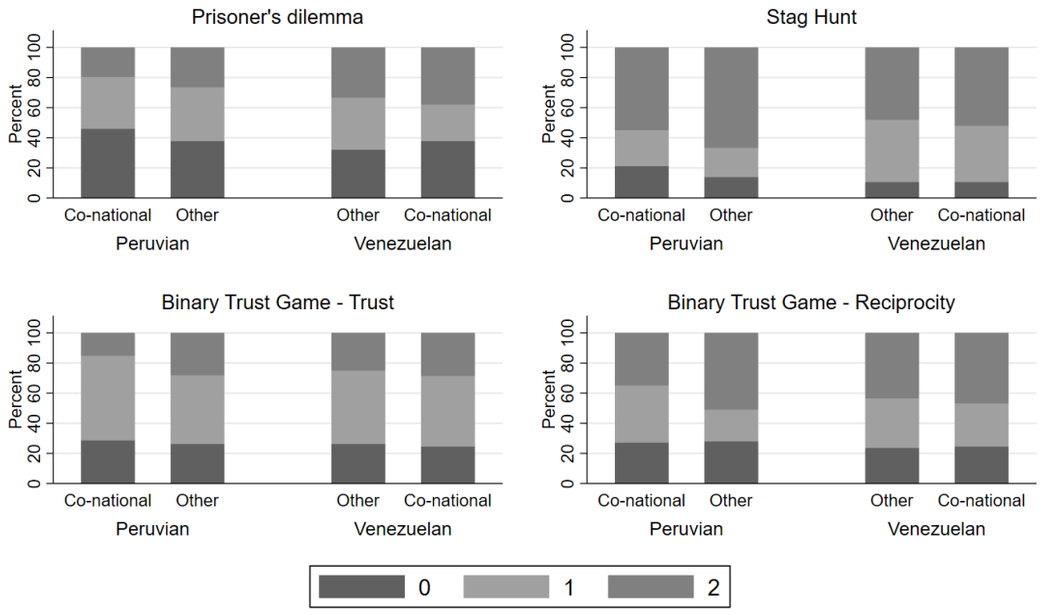
In mixed sessions, in Figure 5 we also observe differences in the SHG and BTG, particularly in how often participants choose the payoff-dominant or reciprocating actions.

Figure 4: *Heterogeneity of behavior across all sessions*



Each panel shows the proportion of individuals from each nationality who select cooperative or efficient actions in the PDG, SHG, and BTG.

Figure 5: *Heterogeneity of behavior across mixed sessions*



Each panel shows the proportion of cooperative or efficient actions in the PDG, SHG, and BTG by nationality, conditional on the counterpart's nationality.