Interactions in a High Immigration Context

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Abstract

Sudden massive migration influxes have been a new driving force of migration increases in recent decades. These types of migration flows present potential challenges to social and economic integration. In this paper we study socioeconomic integration using controlled laboratory experiments in a context of massive inflow of Venezuelan migrants in Peru, where the share of Venezuelan immigrants in the country's population increased from almost zero in 2016 to 2.5 percent 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 efficient outcome. We find no evidence of in-group versus out-group (based on nationality) difference in those measures of pro-social behavior. Within this context, we also find no differentials in normative or empirical expectations in behavior of non-nationals relative to those of nationals, and only small to moderate implicit bias. This lack of differential treatment is suggestive of short-run economic integration between immigrants and natives, in a challenging context of massive influxes of migrants.

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

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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 has been 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, as their public services may become overwhelmed. 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, limiting productive social and economic interactions and potentially generating social animosity and even political backlash.

In this paper, we explore how strategic economic interactions may be affected in the context of sudden and massive migration influxes. To do so, we report results from laboratory experiments with Peruvian nationals and Venezuelan migrants in Lima, the capital city of Peru. As of last December, with a population of about 11.2 million, Lima hosted 1.15 million Venezuelan migrants.[2] Not only do Venezuelan migrants account for a large share of Lima's population, but as Figure 1 illustrates, this influx happened rapidly. 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 became more concentrated in Lima, which hosted 97% of migrants by the end of 2018.

This quick massive inflow of migrants had an effect on public opinion. According to a survey conducted in 17 Peruvian Regions by IEP (2019), 70.9% of the respondents in Lima expressed disagreement with Venezuelan immigration. Such xenophobic feeling is similar (75%) among young adults (25-39 years) and adults (40 and older) but ranks the highest among those Peruvians who had no contact with Venezuelans (83%).[3] This negative view of Venezuelan migrants is reflected in 35.6% expressing in 2018 having felt discriminated -mainly (80.5%) by strangers.[4]

In this context of a migration inflow shock, we study in a controlled environment economic interactions among immigrants and natives. We recruited a sample of Peruvian natives and Venezuelan immigrants with similar levels of income and/or education among the economi-

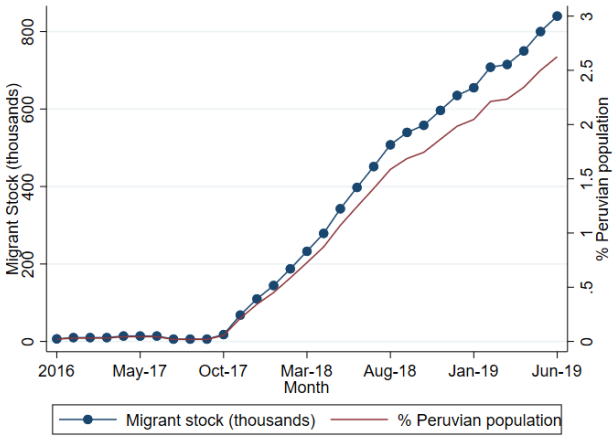
[1] Forced displacement across national borders has increased faster than voluntary international migration, to the point that refugees now account for 12% of all international migrants, up from 9.5% in 2000 (https://www.unhcr.org/global-trends).

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

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

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

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



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

cally active non-student population in Lima via personal contact and flyers in public spaces. Our main contribution is to examine in the lab the effects of nationality-based natural identity, in a high and rapid immigration context, on one-shot (anonymous) pairwise economic interactions that require cooperation, coordination, or trust to increase efficiency and welfare. Studying the nature of these interactions is important from an economic and social standpoint. In addition to allowing us to differentiate inconsequential 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 receiving country of Venezuelan migrants in Latin America).

Our results find no significant differences in cooperation, payoff-dominant coordination play, trust and reciprocity in interactions of in-group versus out-group based natural national identities. We supplement our main analysis by examining heterogeneity in differential rates of cooperation, payoff-dominant play, trust and reciprocity at the individual level and find no systematic differences in interactions with out-group members among Peruvians and Venezuelans. In addition, we complement the analysis with data from additional experimental sessions with a sample recruited from the same population 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 small to moderate implicit bias towards non-nationals, but it 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.[5] We interpret this

[5]The only exception being that Venezuelan's with a higher implicit bias to tend to expect greater differences in reciprocal behavior between

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 a differential treatment in interactions between natives and Venezuelan migrants is in consonance with findings for Uruguay, the least unequal country in the Region.

We discuss this finding, along with other related studies in section 2. Sections 3 and 4 describe, respectively, our experimental design and our empirical strategy and data. Section 5 discusses our findings 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 bias. Section 7 concludes.

2 Related Literature

This paper contributes to several lines of research. The first is related to conducting experimental research between migrants and natives to measure discrimination or otherwise differential treatment of immigrants. The literature involving experiments in which migrants interact with natives is scant and recent.[6] Using a sample of mostly adults, El-Bialy et al. (2022) use a Prisoner 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, and find that nationals do not discriminate against refugees. Using a different age cohort as sample, Barron et al. (2020) conduct experiments with native Jordanian children and Syrian refugee children attending school in Jordan. They find little discrimination using a sharing experimental task. 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 rather 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. In turn, Syrians' behavior is independent of the partner's nationality.

In a similar vein, recent work for Latin America by Gandelman and Lamé (2023) use a Trust Game to examine differences between natives and Venezuelan and Cuban migrants in Uruguay, one of the countries with the lowest inequality in the Region. Using a representative sample of adult population in Montevideo, the capital of the country, the authors find no difference in

Venezuelan's and Peruvians.

[6] An expection 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.

trust and mixed results in reciprocity attributable to nationality. Their subject pool may exhibit greater cultural differences between groups (as Uruguay tends to be very *European*). In our experiment we expand our measures beyond trust and conduct them in an environment with a greater influx of Venezuelan migrants.

Our paper also contributes to the literature on group identity, in particular the one that explores natural identity.[7] Natural identities have been used to examine several social interactions, including ethnic discrimination. 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, whereas priming a common organization (school) identity, increases the choice of the joint payoff maximizing strategy in the PD game.[8]

Our 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. In the case of the dictator game, examined in Adida et al. (2016), they find discrimination against Muslims: one additional Muslim in the group of 10 senders triggers a reduction in French's generosity towards Muslims.

Our paper tackles four dimensions of economic integration of recent immigrants to Peru. To do so, our experiments bring together in 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 and trust, and reciprocity. Unlike Chen et al. (2014), where the interaction is among students and the organizational environment is largely hypothetical, our subject pool is already in the labor market. Arguably, our subjects can be more naturally motivated in these interactions, since all immi-

[7] 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. 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, as well as more likely to choose social maximizing actions.

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

grants are employed or actively searching for jobs, as well as the Peruvians we targeted for our study, who are non-college students also employed or pursuing jobs.

3 Experiments

At the beginning of each experimental session, subjects were informed that it consisted of several 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: the prisoner's dilemma, the stag hunt, and the binary trust game.[9]

All subjects played four times each game (in the same order) using a perfect stranger matching protocol (within the game). To minimize wealth, portfolio, and other confounding effects, there was no feedback on earlier outcomes or information on counterpart's choices.

Since we are interested in interactions between two types of players (Peruvian citizens -P- and Venezuelan migrants -V), our 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). In addition, we conducted two types of sessions: homogeneous sessions included only participants of the same nationality (all—P or all—V) and mixed sessions included participants of both nationalities (P-V). Interactions with someone from the same nationality took place both in homogeneous and in mixed sessions with players of both nationalities. Interactions with players of other nationalities could only take place in mixed sessions, and in this type of sessions we vary within-subjects whether their counterpart is a co-national or from a different nationality. 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 (indicated by the choice of A)

[9]The entire experimental session included three other tasks (not reported in this paper), conducted after our 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 of the content or details of each task.

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, to examine trust and reciprocity we used the Binary Trust Game (BTG). This game shares the same basic properties as the Berg et al. (1995)'s trust game, but is simpler (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 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 to not 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 games with a different anonymous counterpart, without feedback.

3.2 Experimental Sessions

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, our 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.[10]

The mixed sessions allow us to examine the within-subject difference of participants when interacting with co-nationals versus with those of a different nationality. Given the within-subject design, the main concern regarding identification threats was the potential for experimenter demand effects.[11]

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. 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 allow us to observe interactions among co-nationals absent these potential spillovers. That is, our 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.

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).[12]

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 their food delivery job). We aimed at recruiting nationals and migrants with similar levels of job experience and earnings (which, in the case of Peruvians, implied to be employed in entry-

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

[11] Other potential threats to identification include the order of exposure and carry-over (Charness et al. (2012)). We can control in our regressions for the order of exposure to examine any impact it could have. We believe that any potential inter-treatment carry-over effect should be mitigated by the way we provide the information.

[12] 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 in the protocol implementation.

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%

level jobs, since we knew from the ENPOVE that most of the Venezuelans earned the minimum wage). Our flyers provided information about expected earnings, location of the experiments and a contact phone number. Once they called, our assistants sent the schedules available[13] and asked for their confirmation to authorize access to the university campus. On campus, we implemented the necessary logistics to lead them promptly to the labs upon arrival.

As participants arrived to the lab, they were assigned to a computer work station. After a general introduction explaining the multiple parts of the experiment (see Appendix A), obtaining the 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 (i) a proper understanding of each game and (ii) to introduce our treatment manipulation (nationality of their counterpart) inconspicuously. 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 detailed set of computerized instructions specific to it (see Appendix B. for details on the three games played). Following the instructions, participants had to complete four multiple-choice control questions presented sequentially.[14] After all subjects completed the control questions, they proceeded to the four periods of each game. We designed the interface to ensure understanding of the task and the consequences of a choice when making decisions. Upon choosing an option, the contingent payoffs of the decision for both players were displayed and subjects were asked to confirm. Only once the subject confirmed her decision, and was fully aware of the possible consequences of her

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

[14] 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 the correct one, in case they did, otherwise giving them a hint as to how to get to the correct answer. 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 the screen. Monitors were instructed to clarify and make sure 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.

choice, she advanced to the next period (see Appendix B.1.2 for an example from the PDG).

As for our main treatment (nationality of the counterpart), in each period before making a decision, subjects were presented with the nationality of their counterpart, among other information.[15] To minimize potential experimenter demand effects, we took two measures. The information about the nationality of the counterpart was introduced inconspicuously: nationality was presented with other anonymity-preserving information about their counterpart. In addition, the provision of information was framed to allow them to verify the perfect stranger-matching protocol.[16] To ensure the salience of the information, ease information processing demands on subjects, and reduce the possibility of carry-over effects, 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 and was the only information on the subjects' screens for five seconds. Five seconds later, the game payoffs were displayed on the screen. Then, five seconds later, the choice buttons were activated, and they could proceed to make a decision.

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 prior to the start of the experiment). Once a game was chosen, one period was selected at random for each subject, and they were paid according to their decisions made in that period. For the BTG, the role (player 1 or player 2) was also randomly chosen.[17]

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 was 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. This represents significant stakes for our sample: it is more than the daily income for about 60% of our sample earning the monthly minimum wage (PEN 930).

4 Hypotheses, Empirical Plan and Data[18]

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

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

[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."

[17] All random draws, as well as the payoffs in each game were shown on the screen at the end of the experiment. Subjects knew exactly what their possible payoffs were before drawing the game for pay.

[18] We pre-registered our hypotheses and pre-analysis plan at the Open Science Framework. The pre-registered plan is publicly available at https://osf.io/39j7m.

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.

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:

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

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; and 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):

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

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 are different 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

Our sample under scrutiny consists of 286 individuals, 129 Peruvian citizens, and 157 Venezuelan migrants. Table 3 presents descriptive statistics of our sample. Our participants are 29 years old on average, 47% of them are female, and 71% are single. Our sample has a considerably high level of education (much higher that of the average Peruvian working-age person,[19] 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 our sample responds to our interest to match, as best as possible, nationals and immigrants with similar income levels.

Compared to the sample of Venezuelans, the Peruvian natives in our 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 similar levels of education for Venezuelans and Peruvians, in statistical terms, but higher 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.[20]

Further, t.-he (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).

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, 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-run).

We first present descriptive evidence about in-group and out-group interactions. In terms of choices made by nationality, we see in Table 3 (lower panel) that, while natives and immigrants

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

[20] Compared to the ENPOVE sample of Lima, our sample of Venezuelan immigrants is similar in several dimensions with the exception of 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
(Means)

	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 [PEN2,000–4,000)	0.049	0.013	0.093	0.0017
Income [PEN4,000, .)	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.

coordinate in a similar magnitude, immigrants cooperate, trust, and reciprocate at higher levels than natives. We also observe that all subjects are more likely to select the option to coordinate on the payoff-dominant equilibrium in the SHG than to select 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 more clearly the out-group versus in-group interactions. Table 4 presents the coefficients of interest from regressions estimating equation (1) for decisions in the PDG, SHG, and both roles of the BTG.

As shown in the table, in all four games examined, the coefficient α_1 that captures interactions with the out-group is positive but statistically insignificant. Thus we cannot reject the null of differential out-group interactions. Looking at the coefficient α_2, we cannot reject the null that the effect of out-group interactions is equal for Venezuelans and Peruvians. In ad-

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)
$\alpha_1 + \alpha_2 = 0$ (p-value)	0.772	0.326	0.073	0.682
$\alpha_3 + \alpha_4 = 0$ (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

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

dition, 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). Nor can we reject the one stating that female-female pairs interact differently than different-gender matches (FM or MF) $(\alpha_3 + \alpha_4)$.

The previous results of no significant difference between out-groups and in-group interactions could be due to the nonexistence of such effect or to the fact that participating in mixed sessions has an effect in itself. 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 homogeneous (*All-P* and *All-V*) sessions. Thus, including different types of sessions would allow to disentangle if that result is due to the session type or not.

Table 5 below presents the regression estimates of 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 is estimate is large, as it suggests Venezuelan migrants are 27 *p.p.* more likely to trust a fellow Venezuelan in homogeneous sessions.

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)
$\beta_1 + \beta_3 = 0$ (p-value)	0.167	0.813	0.552	0.318
$\beta_3 + \beta_4 = \beta_2$ (p-value)	0.719	0.621	0.000	0.469
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, period FEs and session FEs.

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 our 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. 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 the robustness and potential explanation of our findings. First, we explore heterogeneity. In the previous section we saw null results for *average* differences in cooperative behavior among Peruvian citizens and Venezuelan migrants. We next supplement the analysis with data from a complementary experiment with a different sample from the same pool of Venezuelan and Peruvian nationals where 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, our 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 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. Our analysis in this section focuses on behavior contingent on counterpart's nationality in mixed sessions where participants played each game twice with co-nationals and twice with participants from different nationality.[21] We take, for each game, the number of times $n_i^c \in \{0, 1, 2\}$ that individual i playing with a counterpart $c \in$ {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, $d_i \in \{-2, -1, 0, 1, 2\}$.

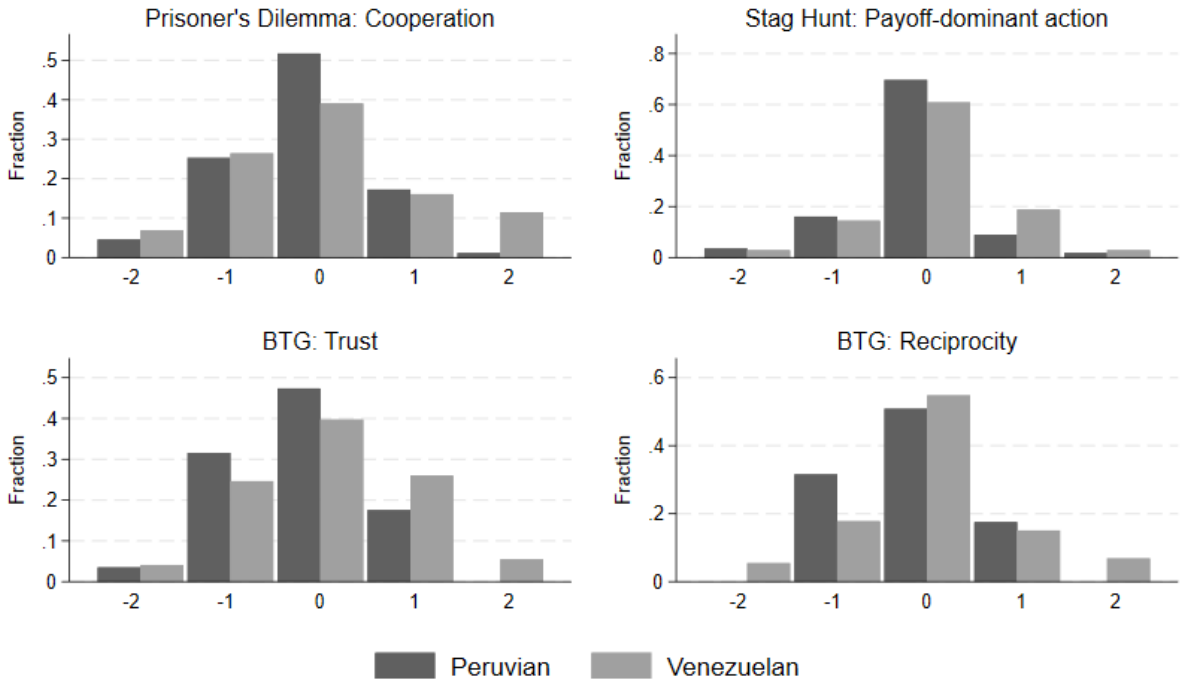
Figure 2 presents the distribution of d-type subjects by nationality, for each game. A positive/high d_i can be interpreted as a propensity to cooperate, to trust, or desire to reciprocate more with a co-national than a non-national, while a negative value can be interpreted as a propensity to prefer those types of actions when playing with a non-national.

A few things stand out from the graphs. First, there is relatively little mass in the extreme

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

types (-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 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. Finally, the distributions differ only for the second mover in the Binary Trust Game.[22] Thus, 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 playing with 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.

[22] 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 case, 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.

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. To do so, we use data from a second set of experiments where we conducted additional sessions 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 a different set of laboratory experiments between October and December of 2019 at Universidad del Pacífico.

In these sessions, we collected data on empirical and normative expectations regarding players' behavior in the three games.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).

The IAT 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, the test relies on latencies in responses across different pairwise concept associations and is summarized in 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.

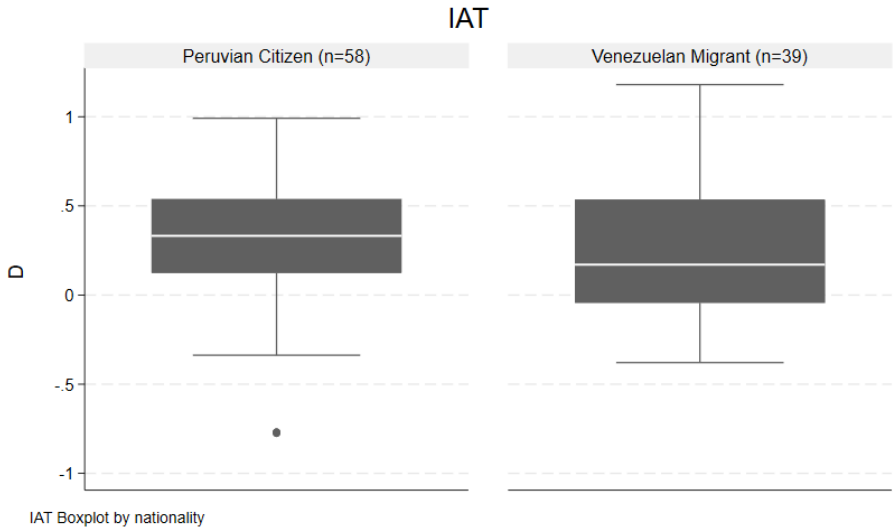
Figure 3 presents box plots of the IAT D-scores by nationality. As the figure shows, we find no differences across nationality in the D-score mean ($t = 0.943, p = 0.348$), median (Pearson $\chi^2(1) = 1.344, p = 0.246$, continuity corrected), or variance ($f = 0.886, p = 0.668$). Furthermore the mean (median) D-score is small: 0.290 (0.279) and it is statistically different from zero, $t = 7.780, p < 0.0001$ (78 positive differences, $p < 0.0001$).[23] To put this into perspective, consider the results from a YouGovPolimetrix administered study conducted in 2008 that 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 contrast, the D-score for the $75^{th}\% - ile$ of Peruvians (Venezuelans) in our sample is 0.538 (0.535).[24]

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 our sample, and this is not different between Peruvian nationals and Venezuelan migrants.

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

[24] For our pooled sample, just over 55% (71%) [81%] with a D-score below 0.35 (0.5) [0.65].

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 who participated in a previous session). Normative expectations on the other hand refer to the second-order beliefs regarding the normative appropriateness of certain actions -that is, the beliefs about the normative beliefs of a well-defined reference group for a specific action. After an introduction we describe each game in detail, including all the possible outcomes and payoffs, and elicit the normative expectations (on a five-point scale of social appropriateness)[25] of each action (2) for each player nationality (2), followed by empirical expectations[26]

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 about 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; rather, we expect that if, among the study population, there are differences in normative expectations or expected behavior by nationality, we should be able to identify them here. To put it differently, if there were a true difference in how participants would interact with someone of a different nationality but that difference was not detected be-

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

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

cause 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 test this, we examine the following regression:

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

In this equation, V_i denotes that subject i is a Venezuelan migrant, M_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), our 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; and 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 constant term shows that there is no statistically significant difference in the expectations for the two groups. The coefficient on Venezuelan migrant shows that there is no difference in expectations according to the nationality of the subject.

Table 6 – Empirical Expectations: Differences across different national groups

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	PDG: Cooperate		SHG: Coordinate		BTG: Trust		BTG: Reciprocate	
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 ... 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.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

For normative expectations (Table 7), our 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.

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

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	PD: Cooperate		SHG: Coordinate		BTG: Trust		BTG: Reciprocate	
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.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

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 it is not statistically significant.

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 second mover in the Binary Trust Game (column 6 in table 6). We could interpret this as migrants with a stronger implicit bias as expecting a higher sensitivity of reciprocate within their co-nationals. Note, however, that differences in expectations of the second move in the (binary) trust game 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.[27]

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

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 evidence suggesting significant levels of economic integration in those interactions between migrants and natives. Our pre-registered analysis is complemented by exploratory analysis that examines 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. And we find small and non differentiated implicit bias 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 in line with those from other countries in the Region (Gandelman and Lamé, 2023). Our findings suggest that those economic interactions between immigrants and natives may overrun the public perception about the disapproval of immigration. Putting our results in perspective, a topic worth pursuing in the future is the connection between cultural similarity[28] 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 in-group favoritism in either direction, the literature on interactions in the context of the Syrian refugees' 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)). This may be challenging given the counterfactual complexities and logistical constraints, but it may be important given the recent trends of large and rapid migration movements.

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

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Appendix

A Initial Instructions

[Instructions were presented on screen, in Spanish.]

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 of 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. As you will see soon, no technical knowledge of the use of computers is required, except for the use of the mouse.

Payment information

As we offered when we recruited you (flyers), you will receive a fixed payment of PEN 15, for your transportation at the end of today's session. That 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 randomly one of the five parts, and you will receive the winnings from the selected part in cash, and privately.

Rules

Each part begins with the corresponding instructions and rules. We ask you, please to make your decisions privately, avoiding any contact with anyone else once the computer activities begin. This implies, having your cell phone in silent mode and putting it away. And 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. Some of us will come to assist you in private.

Before starting the experiment, please complete the information requested below on your screen. Press the continue button to go on.

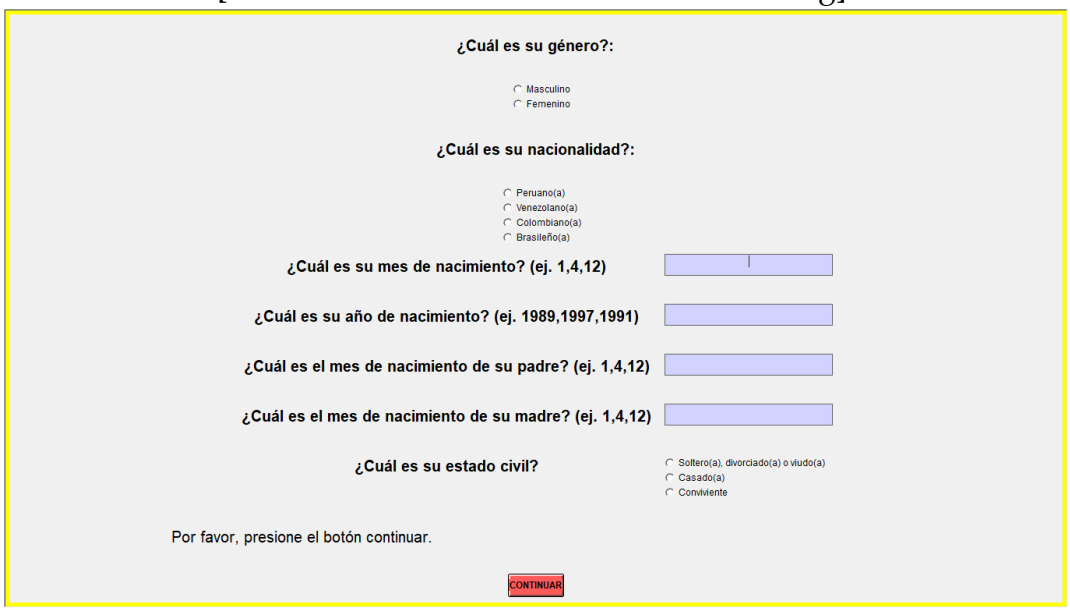
[R. Assistants: Distribute the Consent Sheet and ask to complete and sign the top and bottom parts, which will be the receipt for the payment that we will give you at the end. Check every-

one has signed before starting… Then, run the following screen with control questions (used to do the matching)]

1. - Initial Questions 2.ztt

- Gender? (Male, Female)
- What is your nationality? (Peruvian, Venezuelan, Colombian, Brazilian)
- What is the month of your birth? (Ex: 1, 4, 12).
- What is the year of your birth? (Ex: 1989l 1997, 1991).
- What is your father's month of birth? (Ex: 1, 4, 12).
- What is your mother's month of birth? (Ex: 1, 4, 12).
- What is your marital status? (Ex.: Single/Divorced/Widowed, Married, Cohabitating).

[Initial information used to do the matching]



B Implementation of the games

B.1 Instructions for the PDG

2.- First experiment: Part 1.ztt

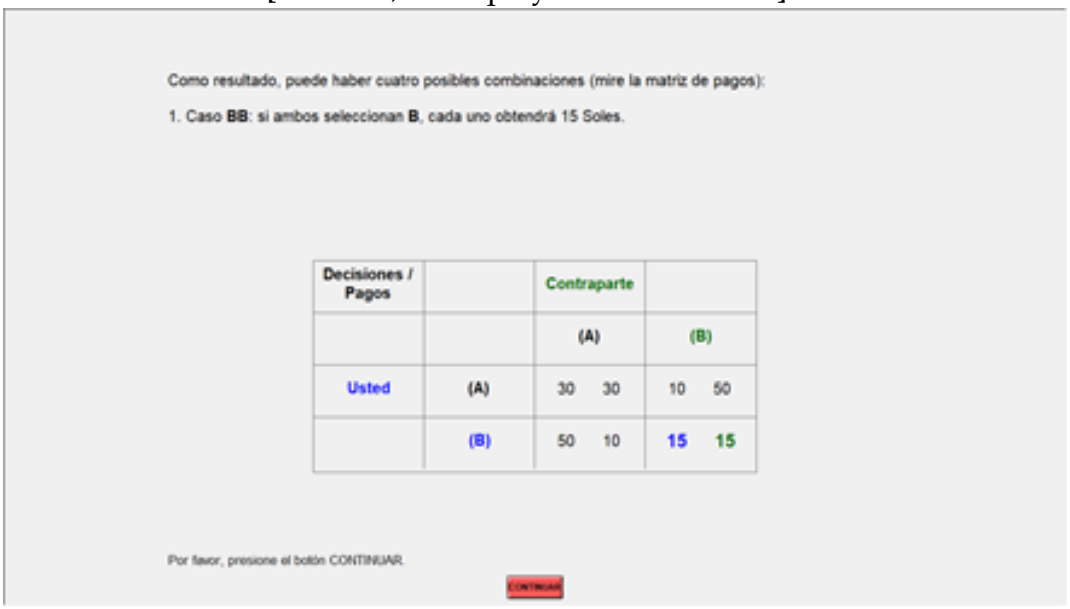
In this part of the experiment, you will interact, in each period, with a participant chosen at random (which we will name your "counterpart"). You and your "counterpart" will choose independently one of two options: A or B. The payoffs you receive will depend on your choice and that of your counterpart.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

As a result, there can be four possible scenarios (look at the matrix):

1. Case BB: if you and your counterpart choose B, each one of you will receive PEN 15.

[Screen. See sample below]

[Case BB, as displayed on the screen]



2. Case BA: if you choose B, and your counterpart chooses A, you will receive PEN 50 and your counterpart will get PEN 10.

[Screen]

3. Case AA: if you and your counterpart choose A, each one of you will receive PEN 30.

[Screen]

4. Case AB: if you choose A, and your counterpart chooses B, you will receive PEN 10 and your counterpart will get PEN 50.

[Screen]

When you both finish making your choices, the period will end.

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 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!

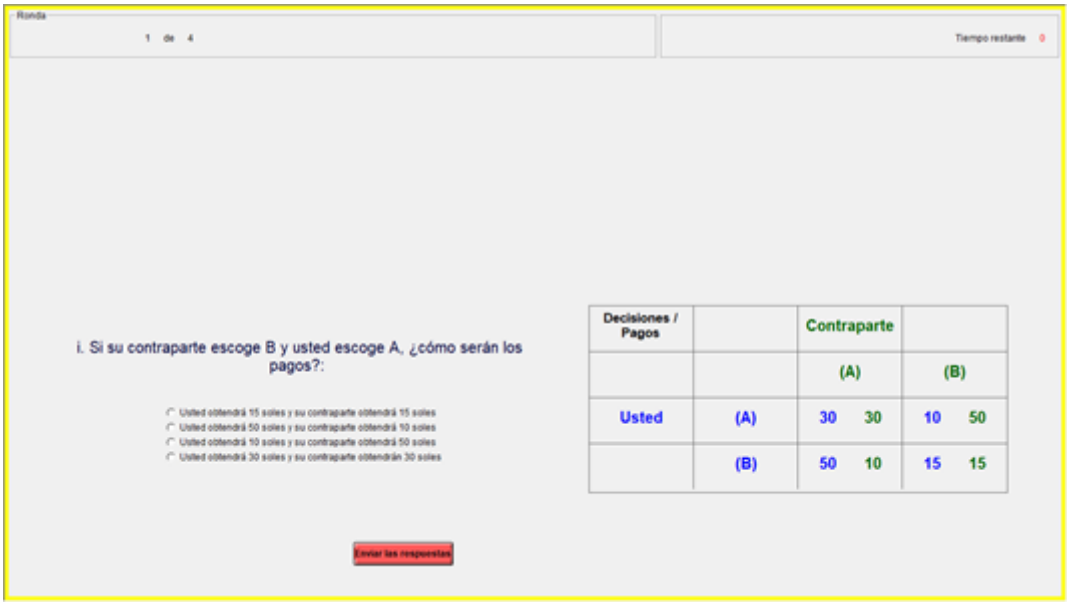
If you have any question, raise your hand and one of our assistants will answer in private.

Please, press the button to continue.

B.1.1 Sample control question in PDG

Considering the instructions mentioned earlier, you should answer four questions to guarantee the proper understanding of the rules of the sessions. For each questions answered correctly in the first attempt, you will earn PEN 0.25. Be warned that, if you do not answer correctly a question, you will not be able to continue.

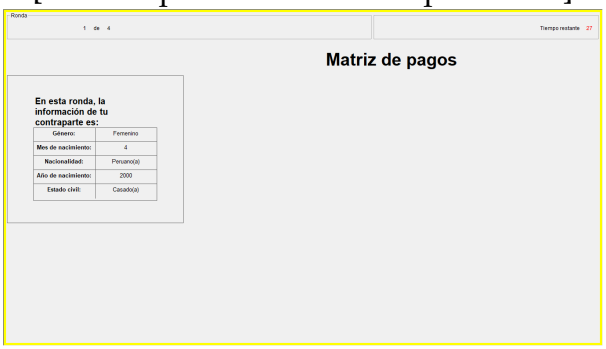
Once you answer correctly all four questions, you will start wit the first round.



B.1.2 Screenshots for the PDG

Once the participant completed the control questions, the first period of the PDG started. Next screenshots appeared in sequence, for each of the four periods of the PDG.

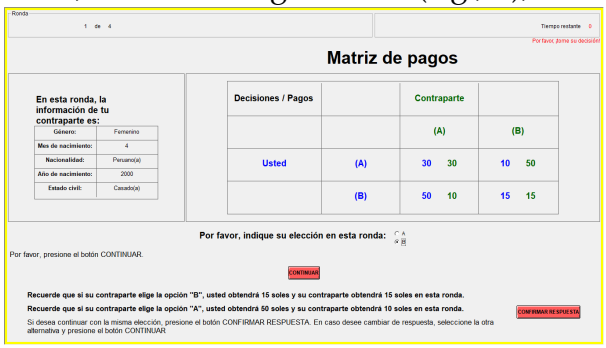
[Counterpart's information presented]



[Payoff matrix added]

[Choices activated]

[Consequences of choices, after selecting a choice (e.g., B), and before confirming it]



B.2 Instructions for the SHG

3.- Second experiment: Part 2.ztt

In this part of the experiment, you will interact, in each period, with a participant chosen at random (which we will name your "counterpart"). You and your "counterpart" will choose independently one of two options: X or Y. The payoffs you receive will depend on your choice and that of your counterpart. The matrix shown below describes the payoffs that you (in blue) and your counterpart can receive (in green), depending on the decisions you make.

As a result, there can be four possible scenarios (look at the matrix):

1. Case YY: if you and your counterpart choose Y, each one of you will receive PEN 15.

[Screen. See sample below]

[Case YY, as displayed on the screen]

2. Case YX: if you choose Y, and your counterpart chooses X, you will receive PEN 15 and your counterpart will get PEN 10.

[Screen]

3. Case XX: if you and your counterpart choose X, each one of you will receive PEN 30.

[Screen]

4. Case XY: if you choose X, and your counterpart chooses Y, you will receive PEN 10 and your counterpart will get PEN 15.

[Screen]

When you both finish making your choices, the period will end.

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 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.

B.3 Instructions for the Binary Trust Game

4.- Fourth experiment: Part 3.ztt

In this part, you will interact with a participant chosen at random in each period (which we will name your "counterpart"). Unlike the previous parts, in this part, you and your counterpart will interact sequentially. That is, one will make the first decision and, based on the outcome of that decision, the other will make a decision.

We next describe the payoffs you and your counterpart may earn, depending in the decisions that both make.

The participant that makes the first decision (first turn) should choose one of two options: J or K. If that participant chooses K, each will get PEN 15. If she chooses J, her counterpart (who has the second turn) will choose between R (which generates PEN 30 for each participant) and S (which will give PEN 10 soles for the participant with the first turn and PEN 50 for the participant with the second turn).

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

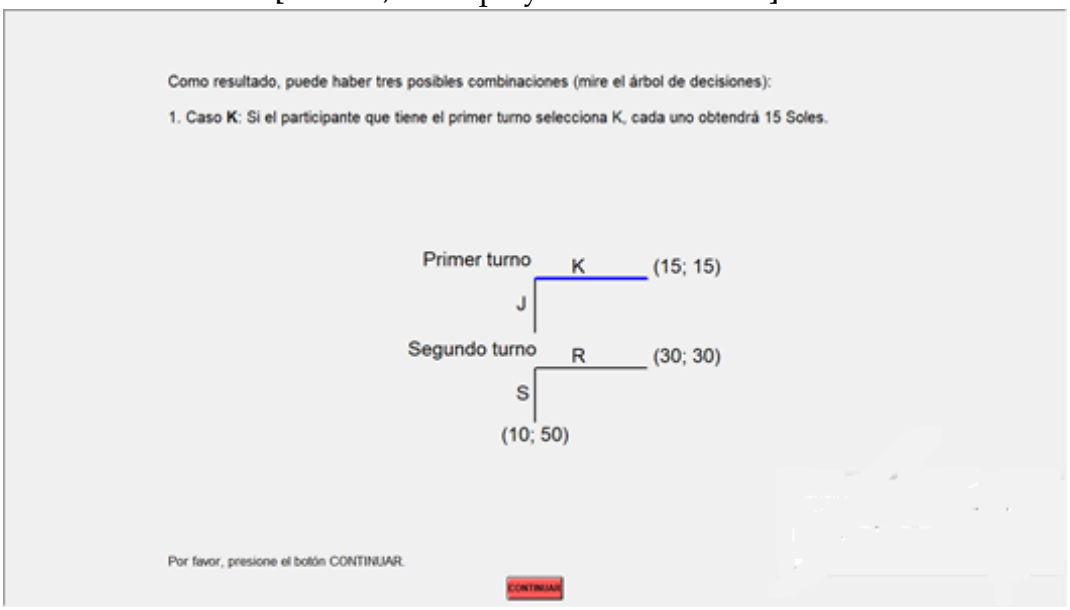
1. Case K-: If the participant with the first turn chooses K, each participant will get PEN 15.

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

[Case K, as displayed on the screen]



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 take the number of times $[0, 1, 2, 3, 4]$ an individual plays the cooperative and/or 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. This allows us to assess whether there are differences across nationalities in the distribution of types of individual propensities observed. In this section, we consider differences in the distribution of types by nationalities.

Figure 4 presents, for each game, the distribution of individual types by nationality for homogeneous and mixed sessions. As the graph shows, there are no relevant differences in the Dictator Game. When comparing the distribution of individual types by proportion of cooperative behavior, we observe no differences in the distribution by nationality ($\chi^2(4) = 2.040, p = 0.728$) in homogeneous sessions nor in mixed sessions ($\chi^2(4) = 6.455, p = 0.168$).

For the Stag Hunt, we do observe some differences in the distributions between Peruvian and Venezuelan nationals ($\chi^2(4) = 13.992$, $p = 0.007$ for homogeneous sessions and $\chi^2(4) = 10.477$, $p = 0.033$ for mixed sessions). In particular, we see that the proportion of participants who play every time the payoff dominant action is higher for Peruvians than for Venezuelans. However, recall that there is no difference in how Peruvians and Venezuelans play contingent on the nationality of the counterpart.

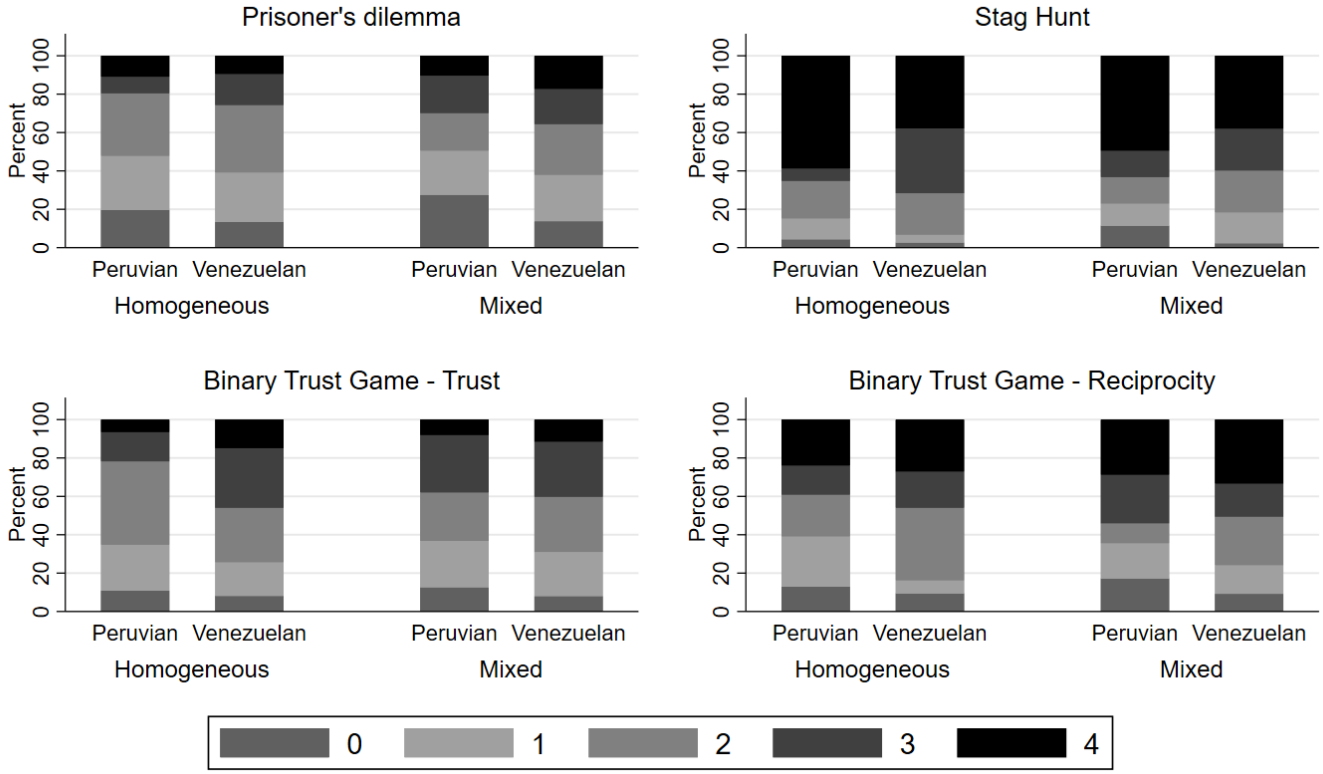
As in the case of the Dictator Game, we find no differences in the distribution of individual types by nationality in trusting behavior ($\chi^2(4) = 7.248$, $p = 0.123$ for homogeneous sessions, and $\chi^2(4) = 1.654$, $p = 0.799$ for mixed sessions).

For reciprocity, like the case for the Stag Hunt, we find some differences in the distribution of types ($\chi^2(4) = 10.468$ $p = 0.033$ for homogeneous sessions and $\chi^2(4) = 9.513$ $p = 0.049$ for mixed sessions). In this case, it seems that there is a higher proportion of Peruvians who never reciprocate or do so only 25% of the time.

For each game, we take the number of times $[0, 1, 2]$ an individual plays the cooperative and/or 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. This allows us to assess whether there are differences across nationalities in the distribution of types of individual propensities observed.

We now move our analysis to the mixed sessions, where participants played each game twice with co-nationals and twice with participants from different nationality. In this case, individuals could choose the cooperative action 0/2 (0%), 1/2 (50%), or 2/2 (100%) with co-

Figure 4 – Heterogeneity of behavior across all sessions



Each panel presents the proportion of individuals from each nationality who select [0,4] times: (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 reciprocating action as second mover in the Binary Trust Game.

nationals and non-nationals. Figure 5 presents, for Peruvian and Venezuelan nationals in mixed sessions, based on their counterpart, the distribution of individual proportion of PD cooperative choices (top left panel), payoff dominant actions in the Stag Hunt (top right panel), trusting action (bottom left), and to reciprocate (bottom right). Starting with the prisoner's dilemma. χ^2 tests do not allow us to reject for each nationality that the distributions differ ($\chi^2(4) = 6.455$, $p = 0.168$). The results for trust follow the exact same pattern, with no statistical differences across nationalities.

For playing the payoff dominant action and selecting to reciprocate, we observe a slightly different picture. In the Stag Hunt, we do observe a difference in the distribution of individual types by proportion of payoff dominant action play by nationality in mixed sessions ($\chi^2(4) = 10.48$, $p = 0.033$) and in homogeneous sessions ($\chi^2(4) = 13.99$, $p = 0.007$). However, there is no difference in the distributions of play of either Peruvians or Venezuelans according to their counterpart ($\chi^2(2) = 1.92$, $p = 0.383$ for Peruvians, and $\chi^2(2) = 0.27$, $p = 0.873$ for Venezuelans). Overall, this suggests there could be differences in the baseline propensity

distributions by nationality, but those differences are not contingent on the nationality of the counterpart. interactions with a co-national or non-national.

The results for reciprocity follow the same pattern as those in the Stag-Hunt, but the test statistics are weaker. The difference in distributions by nationality is $\chi^2(4) = 9.513$, $p = 0.049$ in mixed sessions, [29] but no difference is found conditional on the nationality of the counterpart, neither for Peruvians ($\chi^2(2) = 4.4759$, $p = 0.107$) nor for Venezuelans ($\chi^2(2) = 0.2329$, $p = 0.890$).

Figure 5 – Heterogeneity of behavior across mixed sessions

Each panel presents the proportion of individuals from each nationality who select, conditional on the nationality of their counterpart, 0, 1 or two times (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 reciprocating action as second mover in the Binary Trust Game.

[29] Similarly, there is a difference between nationalities in homogeneous sessions: $\chi^2(4) = 10.468$, $p = 0.033$.