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What matters for the decision to study abroad? A lab-in-the-field experiment in Cape Verde[☆]

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ABSTRACT

Study abroad migration is the fastest growing international migration flow. However, the college completion rates of students from low-income countries are often modest in OECD countries, raising the hypothesis that these migrants are poorly informed about the costs and benefits of their decision. Our work tests this hypothesis by running a lab-in-the-field experiment where graduating high school students in Cape Verde are faced with incentivized decisions to apply for college studies abroad. Our results show that potential migrants react strongly to information about the availability of financial support and about college completion rates. Since subjects' prior beliefs on availability of financial support are overestimated, it is likely that study migrants need to shift their time from study to work after uninformed migration, which likely harms their scholar performance. Policies that inform potential migrants of actual study funding possibilities should decrease study migration flows but may improve successful graduation.

1. Introduction

International study migration has increased faster than overall international migration in the last decades. The stock of international study migrants went up from about 2 million in 2000 to 6.4 million in 2020, a growth of over 200%. Overall international migration, on the other hand, grew just 62% over the same period.¹

A large share of the increase in international study migration is driven by students from low- and middle-income countries. Significantly, over 400,000 students from Sub-Saharan Africa (SSA) migrate

internationally with the purpose of studying for a college degree.² These flows of educated migrants have been the object of intense academic and policy debate over the years, since Grubel and Scott (1966) and Bhagwati and Hamada (1974) first proposed that the loss of educated individuals by a country may have negative direct consequences on key activities like research or public services (especially healthcare and education), and governmental institutions - potentially exacerbated by the loss of human capital externalities. However, a body of more recent empirical evidence has highlighted the many positive impacts of educated emigration for the economic development of the countries of

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¹ United Nations Department of Economic and Social Affairs, Population Division (2020). International Migrant Stock 2020. https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/undesa_pd_2020_ims_stock_by_sex_destination_and_origin.xlsx Last accessed on Jan 14, 2024.

² UNESCO (2023), Outbound Internationally Mobile Students by Host Region. Available at: <http://data.uis.unesco.org/index.aspx?queryid=3807>. Last accessed on January 14, 2024.

origin – namely through both financial and immaterial remittances, i.e. the positive effects on educational and health investment, the quality of political institutions, entrepreneurship, financial sector and macroeconomic stability, innovation, FDI and trade linkages, among others.³

In addition to the positive development impact of emigration for the countries of origin, international study migration is likely one of the most effective pathways for individual opportunity for students from low-income regions or countries. Individuals who earn a college degree abroad guarantee their recognition, which facilitates access to the labor market and allows these migrants to substantially increase the labor income they would otherwise earn in their home country.⁴

A potential problem in this virtuous cycle of beneficial international study migration is that the performance and educational attainment of these students is often below average, potentially limiting their access to quality education and matching employment opportunities. For instance, in France, the overall average college completion rate of 75% drops to just 54% among students who migrated from countries in the Maghreb.⁵ In Portugal, less than four in ten Cape Verdean students successfully complete their college education, which compares to an average graduation rate of 68%.⁶

In this context, it is important to understand how well-informed potential migrants are about the costs and benefits of their study migration decisions, and what role information gaps play in these decisions – specifically, the role of information gaps on college completion rates abroad and on financial support availability.

Our paper addresses these research questions through an incentivized lab-in-the-field survey experiment with relatively large stakes combined with an individual level survey. This approach allows us to examine determinants of international study migration such as liquidity constraints and uncertainty using within-individual variation, while assessing the heterogeneous impacts of potentially important individual characteristics such as gender or academic ability. In this way, we measure individual migration preferences in the origin country before actual migration decisions take place.

We focus on a relevant international study migration corridor between Africa and Europe: migration flows from Cape Verde to Portugal. Cape Verde is a small island country in Sub-Saharan Africa, in which the equivalent to 38% of the resident population have emigrated, mostly to Portugal. Most migration flows are for the purpose of studying. However, the educational attainment of migrant students is significantly below average. Our setting is one of many corridors of international study migrants moving to pursue college education in European countries with former colonial ties – this applies to several African countries to France and the UK, or Latin American countries to Spain. In many of these European countries, there are immigration policies that favor students from former colonies, although of course each corridor has specificities and idiosyncrasies. The context of our study is thus informative to countries whose immigrant populations face similar challenges.

³ See, for example, Gould (1994); Edwards and Ureta (2003); Beine et al. (2008); Spilimbergo (2009); Batista and Vicente (2011); Javorcik et al. (2011); Batista et al. (2012); Docquier et al. (2016); Batista et al. (2017); Barsbai et al. (2017); Karadja and Prawitz (2019); Batista et al. (2019); Bahar and Rapoport, 2019; Bahar et al. (2022).

⁴ For orders of magnitude of the income gains of migration see, for example, McKenzie et al. (2010).

⁵ Marmolejo, F., S. Manley-Casimir and S. Vincent-Lancrin (2008). "Immigration and Access to Tertiary Education: Integration or Marginalisation?", in *Higher Education to 2030, Volume 1, Demography*, OECD Publishing, Paris. <https://doi.org/10.1787/9789264040663-10-en> Last accessed on Jan 14, 2024.

⁶ Only 36% of Cape Verdean students that started college in Portugal in the years of 2013 and 2014 completed their bachelor's degrees seven years later. Data on student college performance in Portugal are collected by the Portuguese Ministry of Education and made available in the RAIDES database. Last accessed on Jan 12, 2024.

The experimental subjects in our sample are 17- and 18-year-old high school seniors in Cape Verde, a population that has a high propensity to emigrate. Students were surveyed and played games in our experiment about six months prior to making their college application. At that time, 90% of the respondents reported their intention to apply to college in Portugal. Individuals in our sample present a mean expectation for average college completion rate of 48% – an overestimation, since the actual college completion rate by Cape Verdeans in Portugal is only 36%. Similarly, students expected that 43% of Cape Verdeans studying for college in Portugal held a scholarship, while only 13% actually benefited from this type of financial support.

The experiment elicited incentivized hypothetical migration choices for studying abroad under scenarios with different information sets, which varied the probability of successful college graduation and the likelihood of obtaining financial support to study. The results showed strong responses both in terms of magnitude and statistical significance. Cape Verdean students were 36 percentage points (pp) more willing to study for college in Portugal in response to having their college studies abroad paid for. The increase in the probability of study migration was 22 pp when the likelihood of graduating went from 0% to 40% (the approximate actual graduation probability observed in the data), and 30 pp when the average probability of college completion increased from 0% to 100%. These effects compare to a 30% base probability of migrating to Portugal with 0% probability of graduating, no financial assistance to study and an alternative of graduating from college in Cape Verde after four years.

Our findings contribute mainly to three strands of literature. First, they contribute to the literature on the determinants of international study migration. The early work of Rosenzweig (2008) was followed by other research using cross-country and migrant destination data. Notable examples are Kato and Sparber (2013) who find that more restrictive immigration policies (H-1B visa caps in the USA) reduce the quality of prospective international undergraduate students. Beine et al. (2014) estimate a gravity model for 13 OECD destination countries for international students and show that high quality education and migrant networks are the most predictive of international study migration flows. Beine et al. (2020) explore within-country data to estimate a gravity model and find a negative association between tuition fees and international students in Italian universities. More recently, Arenas (2021) uses university data in Catalonia to assess the role of human capital portability on international student migration. Specifically, she measures the impact of a policy change decreasing barriers to university access to international students from specific countries, which increases both their quantity and quality. By using a laboratory experiment in the field combined with individual level survey, our work allows us to examine determinants of international study migration such as liquidity constraints and uncertainty using within-individual variation, while assessing the heterogeneous impact of individual characteristics such as gender, income or risk aversion. Our work also takes a different angle in that we measure how migration intentions are determined by individuals still in the origin country. This allows us to measure individual migration preferences before actual migration decisions take place – which may eventually be hindered by (potentially endogenous) migration barriers such as visa unavailability or changes in family circumstances.

Our paper also fits within the recent migration literature using lab experiments to measure the determinants of international migration. However, contrary to the extant literature, our study is specifically focused on international study migration. Most economics literature has explored the determinants of work migration more broadly, starting with the classical models of Sjaastad (1962) or Harris and Todaro (1970). Some studies have examined selection issues related to differences in wage distribution and liquidity constraints to mobility, as Borjas (1990), McKenzie et al. (2010) or Grogger and Hanson (2011). Additional factors such as imperfect information and migrant networks have been recognized and modeled as crucial determinants of international

migration (for example, by McKenzie et al., 2013, or Beine et al., 2011). Recent lab experiments, such as Batista and McKenzie (2023), have simultaneously tested these different factors by eliciting incentivized hypothetical migration decisions – which would not be possible to perform using observational data given multiple endogeneity problems. Similarly, Barnett-Howell (2020) used a migration video game laboratory experiment to investigate how individuals decide on migration destination, revealing a significant role for imperfect information in explaining why individuals do not migrate more often. Bah and Batista (2018) conducted a lab-in-the-field experiment to measure how decisions regarding irregular migration to Europe were affected by the risk of travel death and the risk of not receiving asylum upon arrival to Europe. Our approach in this paper is very similar in that we conducted a laboratory experiment with potential migrants in order to identify the most relevant determinants of international study migration – and their covariates. This lab experiment approach to study migration follows earlier work using lab experiments to understand migrant remittance behavior – e.g. Batista et al. (2015) and De Arcangelis et al. (2015).

Finally, this paper is closely related to the broad “brain drain” vs “brain gain” debate on whether the emigration of the best educated of a country harms or supports development at the country of origin, as discussed by Docquier and Rapoport (2012). Batista et al. (2012) found that, precisely for the case of Cape Verde, emigration contributed to investment in adolescent education. Similar findings have been uncovered for other countries, such as Malawi (Dinkelman and Mariotti, 2016), the Fiji Islands (Chand and Clemens, 2023) or the Philippines (Khanna et al., 2022; Abarcar and Theoharides, 2024). While our findings do not speak to the same research question, the fact that prospective migrants strongly react to variations in college completion rates abroad – which will affect future migrant earnings – may possibly mediate and change the brain gain effects estimated in the existing literature.

2. Setting and experimental design

2.1. Setting: Cape Verde

Cape Verde is a Sub-Saharan African country of nine inhabited islands, located off the West Africa coast, and historically characterized by massive emigration. In 2020, it recorded a total resident population of 491,233 people, and a stock of 187,558 Cape Verdeans living abroad – equivalent to 38% of the resident population.⁷ According to the 2021 census, 17,868 people (or 3.6% of the resident population) had emigrated over the previous five years. The main destination countries over this period were Portugal (62%), the United States (18%) and France (7%). Migrant remittances to Cape Verde represented 14.1% of the GDP in 2022, one of the largest ratios in the world.⁸ Most relevant for our study, Cape Verde has one of the highest literacy rates in Sub-Saharan Africa at 91% in 2022, contrasting with an average of 68% in the continent.⁹

According to the 2021 Cape Verde census, those emigrating with the purpose of studying abroad represented the largest share of total emigration (39.6%). Portugal was the main receiving country (with over 80% of Cape-Verdean migrant students). Study migration is also the

main purpose of emigration from Cape Verde to Portugal representing 53% of the flow of migrants over the above mentioned five years period.

According to the official college statistics of Portugal, the number of Cape Verdean college students in Portugal increased substantially over the last decade. However, the academic success of these migrant college students is modest. Considering two cohorts of students from the academic years of 2013/14 and 2014/15, 17% dropped out after their first year of college (compared to only 6% of the Portuguese students), and only 36% of them were able to graduate in the seven years since their arrival (compared to 68% of the Portuguese students).¹⁰

2.2. Experimental design and sample

We designed a lab-in-the-field experiment to investigate the study migration decisions of Cape Verdeans, which was implemented in multiple high schools across Cape Verde in the academic year 2022/2023. Laboratory experiments allow for controlled variation in factors potentially affecting migration decisions, which are otherwise difficult to disentangle in observational data given the many dimensions of endogeneity related to migration decisions. Using our experimental variation, we were able to elicit migration choices under different hypothetical scenarios from each individual in our sample, which allows us to establish the impact of the main migration drivers of interest. These migration choices made by experimental subjects in the lab are closely related to migration intentions. They correlate well with real-world steps taken in preparation for migration and are likely good predictors of actual future migration. Lab migration choices will, however, naturally differ from actual migration decisions, which must reflect barriers such as financial costs and immigration policies, that mediate the relationship between migration intentions and actual migration.

Our sample includes 466 students with a high potential for study migration, namely those in their senior high school year (12th grade) about to make migration and study decisions. Fieldwork took place in 25 randomly selected classes among the seven largest public high schools in the country, as measured by school-level administrative data provided by the Cape Verdean Ministry of Education (MoE), in the two largest islands of the country, Santiago and Santo Antão. Data were collected over a period of 10 weeks, between the months of September and December 2022. The implementation was coordinated with the MoE, which authorized both the school visits and the data collection efforts, but no representatives of the MoE were directly involved in the school visits or in implementing the survey. All students’ parents were informed about the study, and participation was entirely voluntary. Surveys were conducted by enumerators in schools, using Qualtrics software in electronic tablets. Each session of the lab-in-the-field was conducted outside the students’ academic schedule.

The lab-in-the-field elicited students’ incentivized hypothetical study migration choices in a specific host country—Portugal—which is the main out-migration destination for high school graduates from Cape Verde. Experimental subjects played 13 rounds corresponding to different hypothetical scenarios, where in each round subjects were asked to make a migration choice between staying in Cape Verde or migrating to study in Portugal. In each round, we varied three param-

⁷ United Nations Department of Economic and Social Affairs, Population Division (2020). International Migrant Stock 2020. https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/undesa_pd_2020_ims_stock_by_sex_destination_and_origin.xlsx Last accessed on Jan 14, 2024.

⁸ World Bank World Development Indicators (2023). <https://datacatalog.worldbank.org/search/dataset/0037712/World-Development-Indicators> Last accessed on Jan 14, 2024.

⁹ *Ibidem*.

¹⁰ Data on student college performance in Portugal are collected by the Portuguese Ministry of Education and made available in the RAIDES database. Last accessed on Jan 12, 2024.

eters, made explicit to the subjects. First, we presented a different successful college graduation rate for Cape Verdeans students in Portugal (0%, 40%, 100%).¹¹ Second, we stated whether the subject would receive a full scholarship covering all costs during their study years in Portugal or not. Third, we described whether the option to stay in Cape Verde entailed working full-time with an upper secondary degree or studying for college in Cape Verde and working full-time only after successfully completing college in Cape Verde. The combination of these three parameters and respective alternatives (3 × 2 × 2) results in 12 rounds. Fig. 1 depicts the combinations of parameters in each of these rounds in a schematic way. Following Batista and McKenzie (2023), we introduced one additional round (henceforth, the “home bias” round). In this round, students were faced with precisely the same pecuniary conditions in both Cape Verde and Portugal to assess the relative preference of each destination based on other amenities, which were not presented in the game.

In each lab session, field enumerators described the general framing and practical instructions of the experiment to subjects (see Appendix A1). Subjects were also given the opportunity to read the instructions themselves. After all the details of the experiment were made clear, subjects played two practice rounds, before proceeding to the actual choices. For each round, students were presented with a hypothetical endowment of 110000 Cape Verdean *escudos* (ECV), about EUR 1000, which could be used to either cover the costs of migrating to Portugal to pursue a college degree or be kept if the choice was to stay in Cape Verde.

Experimental subjects were told about the costs and wage returns associated with each choice, in each round, and they were told to consider a time horizon of 10 years, no unemployment and no return migration before the end of the 10-year horizon. Under the scenarios of no scholarship in Portugal, students faced an annual cost of EUR 5220. When the scenario awarded students with a full scholarship, players would be exempt from living costs for the first three years in Portugal. In Cape Verde, annual costs were set to EUR 3768.¹² For wages in Portugal,

we set the mean annualized wage of the Cape Verdean employed population in Portugal, separately by levels of education: a base wage of EUR 7524 for the case where no-one graduates from college; and EUR 9724 for the case where all students graduate from college. For the case where only 40% graduate from college, we sum to the base wage the expected value of the education premium (7524 + 2200 × 0.4 = EUR 8404). For the Cape Verde option, the wage was assumed to be EUR 5772 for scenarios with no college education degree, and EUR 7140 in the case of college graduation.¹³ In the scenario of studying in Cape Verde, we considered zero income in the four initial years and the EUR 7140 wage for the following years. All costs and returns were presented year-by-year, with no time discounting. A summary of the parameters and payoff scheme for each game round is presented in Appendix Table A1.

All information was presented in the electronic tablet through showcards providing graphical depictions of each round’s parameters (see Appendix A2).

The order in which the subjects were presented with each round was block-randomized as follows. Students were first randomly presented with either the “Work with High School in Cape Verde” or the “Work with College in Cape Verde” set of scenarios, in which every other scenario in Portugal was randomized within each of these sets. For each subject, the final round was always the “home bias” round.

Choices were incentivized with a relatively high stake. The average payout to subjects was EUR 4.77, which was about the daily minimum wage. After the last round, each student’s payoff was determined by randomly selecting one of the twelve rounds played¹⁴ and applying an exchange rate from the hypothetical scenario to real units, namely EUR 1 in mobile phone credit for each hypothetical EUR 3400. Negative hypothetical returns represented no mobile phone credit.

Before the experiment, students answered a short survey including questions on their age, parental background, and household socioeconomic status. We collected further information on each subjects’ family migration history, individual propensity to migrate, as well as subjective priors on the college graduation probabilities of Cape Verdean students both in Cape Verde and Portugal. Finally, we elicited each students’ risk aversion through a hypothetical lottery. Subjects took an average (and median) of about 53 min to complete the survey, including the migration choice elicitation game rounds.

2.3. Descriptive statistics and subjective beliefs

Table 1 presents descriptive statistics for the sample of 12th grade Cape Verdean students used in our empirical analysis. On average, subjects are 18 years old and close to 65% of them are female. We measured the socio-economic status (SES) of participants using the number of items owned by the household from a list of 14.¹⁵ On average, subjects had fewer than 5 of those items at home, although there is considerable variation in the sample. As a proxy of mathematical ability, we measured each subject’s proficiency in answering a set of four simple arithmetic questions. We coded as high ability those that answered correctly to all four questions. According to this measure, slightly above

Round	Migrate to Portugal		Stay in Cape Verde
1	Without Scholarship	0% Graduate College	Work after Completing College
2			Work with High School Degree
3		40% Graduate College	Work after Completing College
4			Work with High School Degree
5		100% Graduate College	Work after Completing College
6			Work with High School Degree
7	With Scholarship	0% Graduate College	Work after Completing College
8			Work with High School Degree
9		40% Graduate College	Work after Completing College
10			Work with High School Degree
11		100% Graduate College	Work after Completing College
12			Work with High School Degree

Fig. 1. Hypothetical Scenarios in each Round.

¹¹ Students were informed about college graduation probabilities in Portugal according to the unconditional proportion of Cape Verdean students that hypothetically graduate from college in Portugal, not the subjective expectation of graduation. From the three scenarios, two have no uncertainty: one in which no one graduates, and thus the student necessarily fails to attain a bachelor’s degree while incurring the cost of studying; and another one in which the student attains a college-degree. The third central scenario, with graduation uncertainty, approximates the proportion of Cape Verdean individuals, who completed high school in Cape Verde and enrolled in Portuguese college institutions, that graduate from college in Portugal over a period of seven years (36%, according to college administrative data from Portugal).

¹² All expected costs were computed according to annual living costs of students in Portugal, including housing and tuition fees. Due to lack of data on students’ living costs in Cape Verde, the cost of living for the country was estimated according to a parity purchasing index.

¹³ The computations of these annual earnings resulted from an analysis of the Cape Verdean employed population available in the Portuguese Private Sector Employment Survey (*Quadros de Pessoal*), in the year 2017. For the case of labor returns in Cape Verde, we used administrative data on public sector employees to infer wages for both high school and college graduates. Because wages in both countries are, on average, higher in public sector jobs, the mean wage assumed for Portugal (Cape Verde) is a lower (upper) bound of the unconditional mean wage across private and public sectors.

¹⁴ Excluding the “home bias” round.

¹⁵ The items in our SES index are: a desk to study; individual bedroom; calm place to study; computer; internet; books; electricity; calculator; dictionary; car/motorbike/bicycle; tv; dishwasher; washing machine; smartphone.

Table 1
Descriptive statistics for baseline survey and choices in lab games.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Official Estimates (%)	Mean (%)	Std. Dev. (%)	10th Pctl.	Median	90th Pctl.	N
Female (%)		65.66	47.54	0	100	100	463
Age		18.12	1.157	17.05	17.73	19.86	460
SES Index (0–14)		4.532	4.371	0	4	12	466
High Ability (%)		27.90	44.90	0	0	100	466
Parents or Siblings Living in Portugal (%)		17.60	38.12	0	0	100	466
Risk Aversion measured using Hypothetical Lottery (0–10)		6.126	2.903	1	6	10	452
Wants to apply to college (%)		98.82	10.81	100	100	100	424
Wants to apply to college in Portugal (%)		89.86	30.22	0	100	100	424
Wants to migrate to Portugal (0–10)		7.44	2.75	4	8	10	290
Sum migration steps		0.82	1.16	0.00	0.00	3.00	466
Subjective expectation on college application rates by high-school graduates in CV (%)		20.81	17.48	0	20	50	459
Subjective expectation on college application rates to study in CV by high-school graduates in CV (%)		26.52	16.53	0	30.00	50	460
Subjective expectation on college application rates to study in PT by high-school graduates in CV (%)		51.77	23.96	20	50	80	457
Subjective expectation on probability of holding scholarship to study in PT (%)	13	42.53	19.82	20	40	70	446
Subjective expectation on college graduation rate in PT (%)	36	48.15	21.15	20	50	80	443
Subjective expectation on graduates from PT finding job in PT (%)	85	60.39	27.65	20	60.00	100	441
Subjective expectation on graduates from PT finding job in CV (%)	NA	54.32	24.49	20	50	90	437
Subjective expectation on college graduation rate in CV (%)	42	57.69	18.42	40	60.00	80	451
Subjective expectation on college graduates from CV finding job in CV (%)	90	38.81	17.22	20	40	60.00	447
Fraction of rounds where migration was chosen (%)		67.45	21.48	41.67	66.67	100	466
Experimental subjects always choosing to migrate (%)		15.45	36.18	0	0	100	466
Experimental subjects never choosing to migrate (%)		0.43	6.54	0	0	0	466

Notes: Official estimates in column (1) are shown for comparison with data from survey in column (2). The probability of holding a scholarship to study in PT was calculated using a 2021/2022 survey of Cape Verdean students in Portuguese universities by Batista et al. (2023). The college graduation rate in PT was calculated from the Portuguese Ministry of Education administrative data RAIDES (2023). The rate of graduates from PT finding a job in PT is based on a survey of Cape Verdean immigrants residing in Portugal by Batista et al. (2022). The college graduation rate in CV was obtained from the Cape Verde Ministry of Education DGES/ARES database. The rate of graduates from CV finding a job in CV is based on a survey of the Cape Verde National Statistics Institute - Inquérito Multi-objetivo Contínuo (2020).

one quarter of the participants are high ability. Reflecting the out-migration propensity of the Cape Verdean population, 18 percent of participants reported having close family—defined as at least one of the parents or siblings—living in Portugal. Students in our sample displayed an intermediate level of risk aversion measured using a hypothetical lottery – they reported an average willingness to gamble 39% of the marginal earnings on a windfall on a fair lottery, which is slightly higher than the same measure for a sample of graduating college students in Portugal and Kenya reported by Batista and McKenzie (2023).

We also surveyed students on their preferences and subjective expectations regarding college and study migration. Almost all subjects report a willingness to apply to college (99%), with 90% reporting a willingness to apply to college in Portugal. These values provide a good illustration of how prone our sample is to continue studying beyond upper secondary education. Interestingly, in line with the recent survey of evidence by Bursztn and Yang (2022), experimental subjects have beliefs about the proportion of high school graduates willing to apply to college in Portugal that are significantly different from their own average propensity (52% vs. 90%, respectively, as shown in Table 1).

When asked how likely they were (on a scale from 0 to 10) to live, for at least six months, in Portugal in the next two years, the mean reported value was relatively high (7.5) and more than half of students reported a value equal or higher to eight with almost 40% being certain of taking that migration decision. We observe this high propensity to migrate despite a low expectation to graduate from college in Portugal. Among the surveyed students only 48% believed Cape Verdean students would be able to graduate from college in Portugal and around 60% of those graduates would find a job in Portugal, whereas only 54% of those same graduates would find a job in Cape Verde after returning to the country. Of course, when contrasting own aspirations and prior beliefs, it is important to recall that these priors are elicited for the average population of migrant students and not for their own individual probability of

graduation abroad, which are likely to differ substantially, again in line with Bursztn and Yang (2022).

When contrasting the subjective expectations of the students in our sample with our best estimates for the population, we find that the former are often inaccurate. Students typically overestimate college graduation rates and scholarship availability, and underestimate rates of job finding. As shown in Table 1, sampled students report beliefs that 43% of Cape Verdean college students in Portugal hold a scholarship, while only 13% do. They believe 48% of these students are able to graduate from college degrees in Portugal, whereas only 36% do. The same happens with beliefs on college graduation rates in Cape Verde, which are 58% compared to an actual graduation rate of 42%. In contrast, sampled students hold underestimated beliefs regarding employment rates of Cape Verdeans who graduate from college in Portugal: they expect that 60% find a job, whereas 85% of them do. Similarly, students in our sample believe that only 39% of graduates from Cape Verdean colleges can find a job, whereas 90% of them do.

The high propensity to migrate displayed by the experimental subjects in our sample is in line with the historical patterns observed in Cape Verde and described in the previous section, and also with the choices made in our experiment. Indeed, on average, students chose to migrate in 67% of the rounds and 15% of the students chose to migrate in all game rounds, even in some of the rounds where costs of migration are higher than returns. Given this high propensity to migrate we also collect information on the actual steps students already took regarding preparation for migration. Following Bah et al. (2023) we use a set of five questions which capture different preparatory steps to migration: a) talked with someone living in Portugal; b) looked for information related with migration to Portugal; c) started saving money to migrate; d) started taking care of the visa to migrate to Portugal; e) already knows where to stay after migrating to Portugal. Each question is coded as 1 if student took the respective step, and 0 otherwise. We report a variable

which corresponds to the sum of the binary answers in the five step questions, and which by construction is lower bounded by zero and upper bounded by five.

3. Empirical analysis

3.1. Econometric specifications

We estimate the following Linear Probability Model (LPM):

$$M_{ir} = \alpha_0 + \alpha_1 P_{G_{ir}^{40\%}} + \alpha_2 P_{G_{ir}^{100\%}} + \alpha_3 S_{ir} + \alpha_4 W_{ir} + \theta_i + \mu_{ir} \tag{1}$$

The dependent variable M_{ir} is a binary variable taking value 1 if student i chose to migrate in game round r . We measure the effect that the probability of graduating from college abroad has in the experimental subjects' willingness to migrate through the indicator variables $P_{G_{ir}^{40\%}}$ and $P_{G_{ir}^{100\%}}$, which correspond to the rounds where the proportion of migrant students graduating from college abroad is 40% and 100%, respectively. The variable S_{ir} indicates whether student i received a scholarship for studying abroad in game round r . Finally, we also include a binary variable taking value 1 when the alternative to migrating is to work in the home country without a college degree (W_{ir}) - as opposed to studying for college in the home country (this is the omitted category). For precision and to absorb variation from unobserved individual characteristics, we include individual fixed effects (θ_i) in our econometric model. To account for correlation in choices within classrooms, we cluster the standard errors at the class level.

We are interested in estimates of $\{\alpha\}_{j=1}^4$, which measure the extent to which each of the different corresponding factors affects the willingness to migrate of the experimental subjects in our sample.

We extend model (1) to test for heterogeneous effects across a set of group characteristics. We estimate the following model:

$$M_{ir} = \alpha_0 + \alpha_1 P_{G_{ir}^{40\%}} + \beta_1 P_{G_{ir}^{40\%}} * X_i + \alpha_2 P_{G_{ir}^{100\%}} + \beta_2 P_{G_{ir}^{100\%}} * X_i + \alpha_3 S_{ir} + \beta_3 S_{ir} * X_i + \alpha_4 W_{ir} + \beta_4 W_{ir} * X_i + \theta_i + \vartheta_{ir} \tag{2}$$

Each main regressor of interest is now interacted with a specific individual characteristic (X_i), and we are interested in estimating the marginal effect of this interaction with our original main variables of interest. These new estimates are captured by the set of coefficients $\{\beta\}_{j=1}^4$.

3.2. Main estimation results

Table 2 presents our main results. We find that information about the

Table 2
Lab decisions to migrate.

	(1)
	Chose Migration
Prob. Graduation 40%	0.220*** (0.021)
Prob. Graduation 100%	0.361*** (0.032)
Holding Scholarship	0.296*** (0.022)
Working in Home Country as Alternative to Migration	0.016 (0.010)
Constant	0.323*** (0.023)
Observations	5512
Adjusted R-squared	0.353

Notes: The dependent variable is a binary variable taking value 1 if the student chooses to migrate. Omitted category has 0% graduation rate abroad, no scholarship available, and study in home country if not migrating. LPM estimates include individual fixed effects. Standard errors clustered at the class level in parentheses. Significance levels: ***p < 0.01 **p < 0.05 * p < 0.1.

academic success of migrant students in the destination country, as well as receiving a full scholarship covering all studying costs, strongly predicts willingness to migrate. Increasing the unconditional probability of college graduation abroad from 0% to 40% increases the probability of choosing to migrate by 22 percentage points (p.p.). We also find that removing uncertainty about college graduation in the destination country increases the probability of migration by 36.1 p.p. Furthermore, fully covering living and tuition costs would increase the probability of study migration by 29.6 p.p. Interestingly, we find that subjects are not responsive to changes in pecuniary conditions in the home country. Although subjects slightly prefer to migrate (by 1.6 p.p.) when the alternative option is to work without a college degree in the home country, we cannot reject that the effect is null even at a 10% significance level. In this context, pull factors seem more relevant for migration to study than push factors, as out-migration is relatively inelastic to home country conditions.¹⁶

Overall, the evidence suggests a strong preference for migration, even when there are no college returns. For hypothetical scenarios where no migrant students graduate from college abroad and have no scholarship support, more than 30% of participants reveal a preference for migration. Given the hypothetical payoffs in the game, this implies that about one third of the sample would be willing to forgo EUR 4500 over a period of 10 years to migrate without obtaining a college degree abroad, indicating that there are non-pecuniary benefits of migration to the individuals in our sample which are not explicitly captured by our experimental design.

It is relevant to measure if these empirical results are purely driven by income maximization choices, disregarding preferences for other migration relevant parameters, such as holding a scholarship or uncertainty regarding college degree completion.

Fig. 2 plots the net payoff from choosing migration in each round against the share of students who make the migration choice in that round. The positive slope of the correlation between lab payoffs and in the lab choices to migrate points to students understanding and responding to monetary incentives. But it is also clear that students are doing more than just choosing the highest payoffs in each lab round.

We show that different shares of students choose the migration option for similar payoffs. For example, for rounds around the zero-payoff threshold, we observe that the average share of students who choose to migrate ranges between 50% and 90%, depending on the different values of the parameters. The lowest percentage of migration choices (30%) happens when there is no scholarship, the probability of graduation is zero and the alternative to migration is studying at higher education in Cape Verde. Increasing the probability of graduation to 100% but changing the alternative to migration to Portugal to working as a high-school graduate in Cape Verde implies a small change in the net pay-off of migration (from EUR -5692 to EUR -5032), but a large increase in the percentage of students that choose the migration option in the lab, to almost 80%. When the probability to graduate is kept at 0% but the scholarship increases to cover 100% of costs in the first 3 years in Portugal, the net pay-off is again very similar (EUR -4912) but the percentage of students that choose to migrate is only around 60%. This range of migration choices shows that students react differently to the different parameters.

Fig. 2 also shows that for negative payoffs of migration—mostly scenarios without scholarship availability—the share of students choosing to migrate decreases substantially. This pattern also indicates that students understand the stakes of the game and the experimental payoffs.

These results illustrate how, across the different rounds, the subjects' choices in the lab were not being purely driven by a payoff maximization

¹⁶ For the 10-year horizon considered in the experiment, the option to work without a college degree in the home country entails a net gain of EUR 14,880 in the context of the experiment.

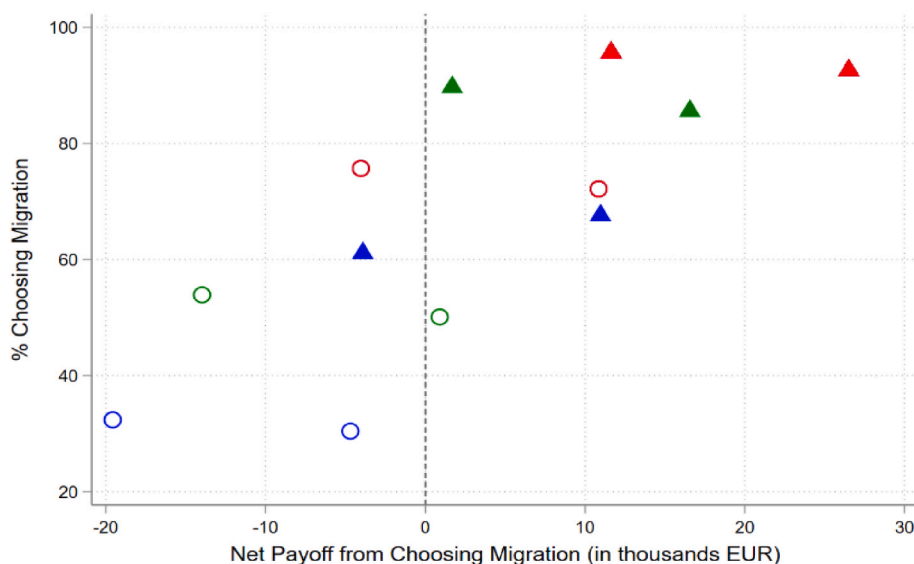


Fig. 2. Net payoff from choosing migration and % students choosing migration in each round. Notes: Dots – No scholarship in Portugal; Triangles – 100% scholarship in Portugal. Blue – 0% probability of graduations; Green – 40% probability of graduation; Red – 100% probability of graduation. Two identical shapes with the same colour represent two distinct alternative scenarios in Cape Verde: studying or working

behavior and that the migration parameters weighed in students' lab choices.

3.3. Heterogeneous responses by gender and academic ability

We estimated heterogeneous responses to potentially relevant individual student characteristics, like gender and academic ability.¹⁷

As displayed in Table 3, female students are less sensitive than male students to changes in the graduation rate, with a difference of 7.8 p.p. and 8.7 p.p. in the response to increases in college graduation rates in Portugal. Also, female students increase their likelihood to migrate by 6.8 p.p. in a migration alternative scenario of working (instead of studying) in the home country while male students do not change their choices. However, we find no differences in responsiveness to financial support across gender groups.

Table 4 shows that high ability students (i.e., students who showed higher proficiency levels in arithmetic problems) are more sensitive to both more certain college graduation rates and to holding a full scholarship than lower ability students, with coefficients being statistically different at the 5% level. As shown in Table 4, when faced with a 40% (100%) increased probability of college graduation abroad, highly skilled students depict a stronger increase on the probability to migrate of 8.1 p.p. (10 p.p.), reacting more to this change than low skilled students. Highly skilled students also show a 7.1 p.p. higher probability to choose to migrate when holding a full scholarship. We find no difference between high and low ability students on the impact on migration arising from working (instead of studying) in the home country being the alternative to migration.

¹⁷ We also examined differential lab migration choices with respect to socioeconomic status (SES), network at destination country and risk aversion. These estimation results are shown in Appendix Tables A2-A4. Students with higher levels of risk aversion appear to make similar lab migration choices than those with lower levels of risk aversion, except that more risk loving individuals seem slightly less sensitive to the alternative of working (as opposed to studying) in the home country. Interestingly, the students' choices in the lab are unaffected by their socioeconomic status or by their network at destination, i.e., the existence of close family living at destination. This result may be related to the very high baseline propensity to migrate among the surveyed students.

Table 3
Lab decisions to migrate interacted with gender.

	(1)
	Chose Migration
Prob. Graduation 40% (α_1)	0.271*** (0.037)
Prob. Graduation 40% * Female (β_1)	-0.078** (0.037)
Prob. Graduation 100% (α_2)	0.418*** (0.051)
Prob. Graduation 100% * Female (β_2)	-0.087* (0.048)
Holding Scholarship (α_3)	0.269*** (0.030)
Holding Scholarship * Female (β_3)	0.041 (0.034)
Working in Home Country as Alternative to Migration (α_4)	-0.030 (0.019)
Working in Home Country as Alternative to Migration * Female (β_4)	0.068** (0.030)
Constant	0.323*** (0.022)
p-value ($\alpha_1 + \beta_1 = 0$)	0.000
p-value ($\alpha_2 + \beta_2 = 0$)	0.000
p-value ($\alpha_3 + \beta_3 = 0$)	0.000
p-value ($\alpha_4 + \beta_4 = 0$)	0.026
Observations	5476
Adjusted R-squared	0.356

Notes: The dependent variable is a binary variable taking value 1 if the student chooses to migrate. Omitted category has 0% graduation rate abroad, no scholarship available, and study in home country if not migrating. LPM estimates include individual fixed effects. Standard errors clustered at the class level in parentheses. Significance levels: ***p < 0.01 **p < 0.05 * p < 0.1.

3.4. Foreign bias

Following Batista and McKenzie (2023), we introduced an experimental game round designed to capture "home bias", i.e. the preference for staying in the home country as opposed to migrating abroad when faced with the same outcomes at home and abroad. Contrary to Batista and McKenzie (2023), we do not find a home bias, but rather a "foreign bias". Experimental subjects are significantly more likely to choose to migrate than what indifference would imply: 59.9% [95% CI: 54.5;

Table 4

Lab decisions to migrate interacted with ability.

	(1)
	Chose Migration
Prob. Graduation 40% (α_1)	0.197*** (0.026)
Prob. Graduation 40% * High Ability (β_1)	0.081** (0.035)
Prob. Graduation 100% (α_2)	0.333*** (0.039)
Prob. Graduation 100% * High Ability (β_2)	0.100** (0.043)
Holding Scholarship (α_3)	0.276*** (0.024)
Holding Scholarship * High Ability (β_3)	0.071** (0.031)
Working in Home Country as Alternative to Migration (α_4)	0.024** (0.011)
Working in Home Country as Alternative to Migration * High Ability (β_4)	-0.031 (0.026)
Constant	0.323*** (0.021)
p-value ($\alpha_1 + \beta_1 = 0$)	0.000
p-value ($\alpha_2 + \beta_2 = 0$)	0.000
p-value ($\alpha_3 + \beta_3 = 0$)	0.000
p-value ($\alpha_4 + \beta_4 = 0$)	0.770
Observations	5512
Adjusted R-squared	0.356

Notes: The dependent variable is a binary variable taking value 1 if the student chooses to migrate. Omitted category has 0% graduation rate abroad, no scholarship available, and study in home country if not migrating. LPM estimates include individual fixed effects. Standard errors clustered at the class level in parentheses. Significance levels: *** $p < 0.01$ ** $p < 0.05$ * $p < 0.1$.

65.2] state a preference for migration in a round where equivalent financial conditions are provided at home and abroad.

To investigate the motives underlying the foreign bias measured in our lab experiment, we collected qualitative evidence from focus groups.¹⁸ 72% of the participants reported that the motive to study in Portugal was the better quality of college education (especially in the area of science and technology) and better work opportunities, compared to low-prestige college degrees in Cape Verde.

In terms of heterogeneity of migration choices in the lab, Table 5 shows that home biased students (defined as those who decide not to migrate when faced with equal outcomes at home and abroad) are significantly (at the 1% level) more responsive to scholarship provision, increasing their choices to migrate by 15.5 p.p. more than foreign biased students when they are provided with a full scholarship. They are, however, less responsive to changes in the college graduation probability than foreign biased students. This is in line with the idea that students that choose to stay in Cape Verde do so mainly due to financial costs of migrating, as mentioned in the focus groups.

3.5. Do lab choices translate into real-world behavior?

It is a possible concern that the migration choices made in the context of our lab experiment may not translate into real world migration decisions. To mitigate this concern, we make two points about our setting: (1) migration choices in the lab are strongly correlated to the migration intentions of experimental subjects; (2) migration intentions are a good predictor of real-world migration.

To support the proposition that migration choices in the lab reveal real world behavior, we correlate the migration choice in each one of the

¹⁸ We organized three focus groups in three of the schools where the original lab experiment took place in December 2023. There were 18 focus groups participants, who were 12th grade students in the academic year 2023/24.

Table 5

Lab decisions to migrate interacted with home biased.

	(1)
	Chose Migration
Prob. Graduation 40% (α_1)	0.242*** (0.025)
Prob. Graduation 40% * Home Biased (β_1)	-0.054** (0.022)
Prob. Graduation 100% (α_2)	0.386*** (0.039)
Prob. Graduation 100% * Home Biased (β_2)	-0.060* (0.034)
Holding Scholarship (α_3)	0.235*** (0.025)
Holding Scholarship * Home Biased (β_3)	0.155*** (0.024)
Working in Home Country as Alternative to Migration (α_4)	-0.005 (0.011)
Working in Home Country as Alternative to Migration * Home Biased (β_4)	0.053* (0.027)
Constant	0.321*** (0.022)
p-value ($\alpha_1 + \beta_1 = 0$)	0.000
p-value ($\alpha_2 + \beta_2 = 0$)	0.000
p-value ($\alpha_3 + \beta_3 = 0$)	0.000
p-value ($\alpha_4 + \beta_4 = 0$)	0.049
Observations	5407
Adjusted R-squared	0.363

Notes: The dependent variable is a binary variable taking value 1 if the student chooses to migrate. Omitted category has 0% graduation rate abroad, no scholarship available, and study in home country if not migrating. LPM estimates include individual fixed effects. Standard errors clustered at the class level in parentheses. Significance levels: *** $p < 0.01$ ** $p < 0.05$ * $p < 0.1$.

lab rounds with a migration preparation index adding up five binary variables corresponding to five different questions regarding steps taken to prepare for migration to Portugal, as described in Section 2.3.

Table 6 reports the simple LPM regressions of the choice of migrating to Portugal in the lab on the migration preparation index. We find a significant positive correlation between steps taken to prepare for migration to Portugal and the probability of choosing to migrate in the lab. As shown in Table 6, one additional step taken towards preparing migration by the experimental subjects is associated with a 2 percentage points higher likelihood of choosing to migrate to Portugal in the lab rounds.

Having established a strong correlation between migration choices in the lab and migration intentions at the individual level, as proxied by steps taken towards migration, we claim that migration intentions can be taken as good predictors of actual migration behaviors. However, we recognize that, using within-individual variation, revealed information affecting lab decisions might not necessarily translate to changes in real-

Table 6

Correlation between migration steps and choices in the lab.

	(1)
	Chose Migration
Sum migration steps	0.019** (0.008)
Constant	0.657*** (0.017)
Observations	5512

Notes: The dependent variable is a binary variable taking value 1 if the student chooses to migrate. "Sum migration steps" is a variable corresponding to the sum of five binary variables corresponding to different steps taken (or not) in preparation of migration. LPM estimates. Standard errors clustered at the class level in parentheses. Significance levels: *** $p < 0.01$ ** $p < 0.05$ * $p < 0.1$.

world decision-making. Nevertheless, extant evidence supports a strong association between migration intentions and eventual migration behavior at both the macro level (e.g. Tjaden et al., 2019; Docquier and Rapoport, 2012; Bertoli and Ruysen, 2018), and micro level (e.g. Chort, 2014; Creighton, 2013; Van Dalen et al., 2013). For example, Tjaden et al. (2019) find that a 1 per cent increase in migration intentions in the Gallup World Poll data is associated with a 0.8 per cent increase in actual bilateral migration, while Chort (2014) finds that migration intentions in the 2002 wave of the Mexican Family Life Survey predict subsequent moves collected in the second wave (2005–06).

An additional concern relates to the decision-making process at the household level. Even if elicited migration preferences in the lab can measure migration intentions for individual students, the relevant decision-making unit for college migration could be the household. Intra-household bargaining on the migration decision can determine the actual migration outcome. Such concern is particularly important in settings with children or teenagers, for which parents may play an important role in decisions. Unfortunately, we did not collect data for our sample that would allow us to directly test this particular hypothesis. However, we shed some light on this concern by using additional data from a separate, larger survey of 4049 12th grade Cape Verdean students collected in the same year as our survey experiment. More than half (58%) of the surveyed individuals did not live with their father, who is an immigrant in Portugal in only 4% of the cases. Additionally, among fathers who live in the same household as their children in the sample, only 11% have completed secondary education, the same being true for 19% of mothers. This evidence depicts a context in which 12th grade students in Cape Verde, who are on average 18 years old, most often live in homes without their fathers to actively inform or support their decision to apply to college abroad. In addition, parents are also overwhelmingly less educated than these students – and presumably less qualified to acquire information about international college migration and to contribute to informed decisions about the college education of their young adult children. Therefore, in this setting, it seems reasonable that the young adults in our sample are the primary decision-makers regarding their migration choices, as they are more educated and do not typically have close parental support for their choices.

In light of this evidence, we argue that the migration choices made by experimental subjects in the lab correlate well with real-world steps taken in preparation for migration, and that this is likely a good predictor of actual future migration. We must, however, acknowledge that the actual migration of individual students in our sample will also be the result of many other factors mediating the relation between migration intentions and actual migration. These barriers include information and support conveyed by individuals in their personal networks (such as parents, teachers or peer students), financial migration costs or lack of access to student visas. The exact contribution of these factors in the transformation of migration intentions into actual migration is an interesting topic for future research.

4. Concluding remarks

This paper examines the importance of information gaps for international study migration decisions. Namely, it measures the role of

Appendix

A1. General Prompt (Translated to English from original Portuguese version)

Suppose that you have received 1000 Euros (110,000 ECV) and that you now have to decide what to do with that amount. You have two alternatives.

- 1) You can keep the money for yourself and stay in Cape Verde; or
- 2) You can use that money to study in college in Portugal.

information about college completion rates abroad and about financial support availability on migration intentions. For this purpose, we implemented an incentivized lab-in-the-field experiment with relatively large stakes. By combining this experiment with individual level survey, our work allows us to examine determinants of international study migration such as liquidity constraints and uncertainty, while assessing the heterogeneous impact of individual characteristics.

Overall, our findings show a strong preference for migration, only partially explained by information gaps of potential migrants - who overestimate both average college completion rates abroad and also the availability of financial support for college studies abroad.

We find that information about the academic success of migrant students in the destination country, as well as receiving a full scholarship covering all studying costs, strongly predicts willingness to migrate. Female students are less responsive than males to increases in college graduation rates abroad, but there are no differences in responsiveness to financial support across gender groups. High-ability students are more sensitive to both certain college graduation rates and to holding a full scholarship than lower ability students. Beyond gender and academic ability, we only observe marginal differences across different levels of risk aversion, socioeconomic status or network at destination.

In terms of external validity, we believe our findings have some degree of portability to international study migration corridors to Europe from countries with former colonial ties – this applies, for example, to several African countries with students moving to France and the UK, or Latin American countries to Spain. The results of our study should therefore be informative to countries in these corridors whose immigrant populations face similar academic success challenges.

Given that the baseline potential migrants have prior beliefs on availability of financial support that are overoptimistic, it is likely that study migrants need to shift their time from study to work after uninformed migration, which likely harms their scholar performance. Policies that inform potential migrants of actual study funding possibilities and actual college graduation rates may decrease study migration flows but are likely to improve successful graduation.

CRediT authorship contribution statement

Catia Batista: Writing – review & editing, Writing – original draft, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **David M. Costa:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Pedro Freitas:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Gonçalo Lima:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Ana B. Reis:** Writing – review & editing, Writing – original draft, Supervision, Resources, Project administration, Methodology, Investigation, Funding acquisition, Conceptualization.

In this game we will present you with 13 different scenarios that you should consider carefully. For each scenario, we ask you to answer if you would choose to stay in Cape Verde or to study for college in Portugal.

One of the scenarios will be selected at random and, depending on your decision in that scenario, you will receive a real amount in mobile phone credit. Therefore, answer sincerely and carefully to each question.

A2. Game Showcards

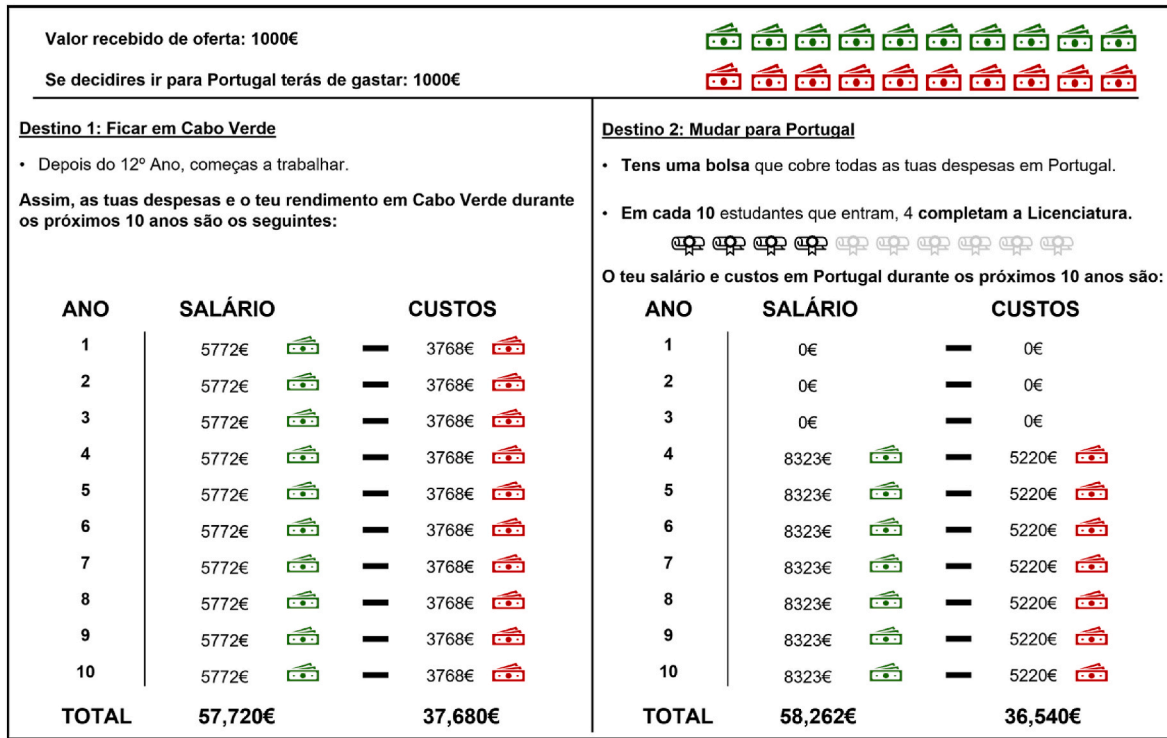


Fig. A1. Showcard with Cape Verde and Portugal detailed Scenario.

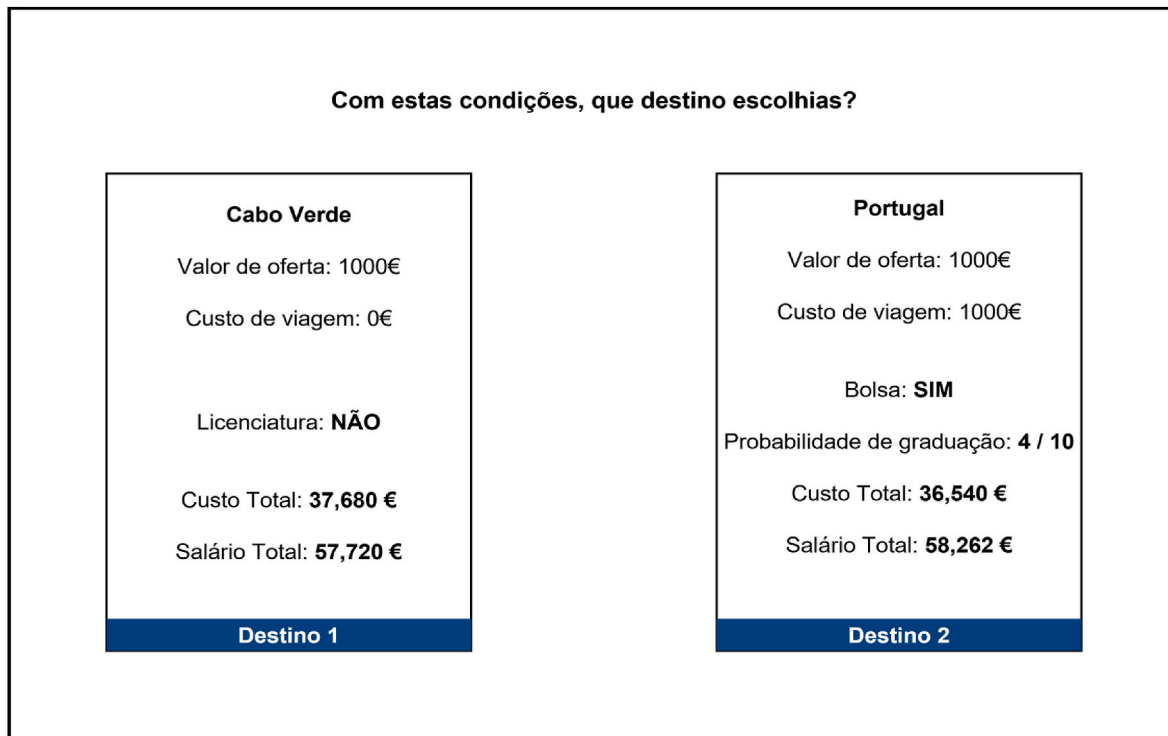


Fig. A2. Showcard with Cape Verde and Portugal choice options.

A3. Rounds payoff

Table A1

Lab rounds description (parameters and payoff scheme) and Income-Maximizing Migration Choice

Round	Probability of Full Scholarship	Probability of College Graduation	Alternative to No Migration	Net Payoff of Migration to Portugal (in EUR)	Income-Maximizing Migration Choice	% students choose migrate
1	0%	0%	College in CV	-5692	NO	30.43%
2	0%	0%	Work in CV	-20,572	NO	32.39%
3	0%	40%	College in CV	524	YES	51.11%
4	0%	40%	Work in CV	-14,356	NO	53.91%
5	0%	100%	College in CV	9848	YES	72.17%
6	0%	100%	Work in CV	-5032	NO	75.70%
7	100%	0%	College in CV	9968	YES	67.60%
8	100%	0%	Work in CV	-4912	NO	61.10%
9	100%	40%	College in CV	16,184	YES	85.59%
10	100%	40%	Work in CV	1304	YES	89.69%
11	100%	100%	College in CV	25,508	YES	92.61%
12	100%	100%	Work in CV	10,628	YES	95.65%

A4. Additional Estimation Results

Table A2

Lab decisions to migrate interacted with risk aversion

	(1)
	Chose Migration
Prob. Graduation 40% (α_1)	0.228*** (0.025)
Prob. Graduation 40% * High Risk Aversion (β_1)	-0.015 (0.024)
Prob. Graduation 100% (α_2)	0.382*** (0.032)
Prob. Graduation 100% * High Risk Aversion (β_2)	-0.038 (0.027)
Holding Scholarship (α_3)	0.302*** (0.025)
Holding Scholarship * High Risk Aversion (β_3)	-0.007 (0.023)
Working in Home Country as Alternative to Migration (α_4)	0.034* (0.017)
Working in Home Country as Alternative to Migration * High Risk Aversion (β_4)	-0.036* (0.020)
Constant	0.322*** (0.022)
p-value ($\alpha_1 + \beta_1 = 0$)	0.000
p-value ($\alpha_2 + \beta_2 = 0$)	0.000
p-value ($\alpha_3 + \beta_3 = 0$)	0.000
p-value ($\alpha_4 + \beta_4 = 0$)	0.861
Observations	5347
Adjusted R-squared	0.356

Notes: The dependent variable is a binary variable taking value 1 if the student chooses to migrate. Omitted category has 0% graduation rate abroad, no scholarship available, and study in home country if not migrating. LPM estimates include individual fixed effects. Standard errors clustered at the class level in parentheses. Significance levels: ***p < 0.01 **p < 0.05 * p < 0.1.

Table A3

Lab decisions to migrate interacted with close family abroad

	(1)
	Chose Migration
Prob. Graduation 40% (α_1)	0.219*** (0.020)
Prob. Graduation 40% * Close Family Abroad (β_1)	0.006 (0.034)
Prob. Graduation 100% (α_2)	0.353*** (0.032)
Prob. Graduation 100% * Close Family Abroad (β_2)	0.050

(continued on next page)

Table A3 (continued)

	(1)
	Chose Migration
Holding Scholarship (α_3)	0.298*** (0.046)
Holding Scholarship * Close Family Abroad (β_3)	-0.009 (0.023)
Working in Home Country as Alternative to Migration (α_4)	0.016 (0.031)
Working in Home Country as Alternative to Migration * Close Family Abroad (β_4)	-0.001 (0.011)
Constant	0.323*** (0.023)
p-value ($\alpha_1 + \beta_1 = 0$)	0.000
p-value ($\alpha_2 + \beta_2 = 0$)	0.000
p-value ($\alpha_3 + \beta_3 = 0$)	0.000
p-value ($\alpha_4 + \beta_4 = 0$)	0.549
Observations	5512
Adjusted R-squared	0.353

Notes: The dependent variable is a binary variable taking value 1 if the student chooses to migrate. Omitted category has 0% graduation rate abroad, no scholarship available, and study in home country if not migrating. LPM estimates include individual fixed effects. Standard errors clustered at the class level in parentheses. Significance levels: ***p < 0.01 **p < 0.05 * p < 0.1.

Table A4
Lab decisions to migrate interacted with SES

	(1)
	Chose Migration
Prob. Graduation 40% (α_1)	0.238*** (0.023)
Prob. Graduation 40% * Low SES (β_1)	-0.037 (0.026)
Prob. Graduation 100% (α_2)	0.395*** (0.037)
Prob. Graduation 100% * Low SES (β_2)	-0.070* (0.037)
Holding Scholarship (α_3)	0.299*** (0.024)
Holding Scholarship * Low SES (β_3)	-0.005 (0.024)
Working in Home Country as Alternative to Migration (α_4)	0.011 (0.015)
Working in Home Country as Alternative to Migration * Low SES (β_4)	0.010 (0.020)
Constant	0.323*** (0.022)
p-value ($\alpha_1 + \beta_1 = 0$)	0.000
p-value ($\alpha_2 + \beta_2 = 0$)	0.000
p-value ($\alpha_3 + \beta_3 = 0$)	0.000
p-value ($\alpha_4 + \beta_4 = 0$)	0.134
Observations	5512
Adjusted R-squared	0.354

Notes: The dependent variable is a binary variable taking value 1 if the student chooses to migrate. Omitted category has 0% graduation rate abroad, no scholarship available, and study in home country if not migrating. LPM estimates include individual fixed effects. Standard errors clustered at the class level in parentheses. Significance levels: ***p < 0.01 **p < 0.05 * p < 0.1.

Data availability

Data will be made available on request.

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