

# Integrating Immigrants as a Tool for Broad Development\*

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## Abstract

International migration can contribute importantly to economic development in countries of origin and destination. The effects of migration critically depend on immigrant integration. We experimentally evaluate the impact of information provision and migrants' aspirations on immigrant integration using a field experiment among Cape Verdean immigrants in Portugal. Providing immigrants with better information sources about integration processes promotes integration outcomes such as migration status regularization and quality of employment. It furthermore affects those left behind. Targeting migrant integration barriers reduces material remittances but improves political participation and attitudes over gender equity in the country of origin.

**Keywords:** International Migration, Integration, Remittances, Field Experiment.

**JEL Codes:** O12, O15, F22,

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# 1. Introduction

International migration has the potential to be a driver of economic development when emigrants impact those left behind.<sup>1</sup> The magnitude and direction of such impact, however, likely depends on migrants' integration in destination countries. But even a substantial time after arrival, immigrants are often not effectively integrated.<sup>2</sup> Governments of migrant destination countries react to this challenge with integration programs targeted towards immigrants. While there is some evidence on the effectiveness of social inclusion programs focusing on education outcomes and crime reduction, causal evidence on the impact of migrant integration programs on legalization, labor market outcomes, and uptake of inclusion initiatives remains scarce.<sup>3</sup> Empirical evidence on the relationship between migrant integration and origin country development, consequently, is even more limited.

In this paper, we present evidence from a randomized control trial on migrant integration constraints, and how alleviating these constraints affects those left behind. Our experimental design allows us to answer two questions. Are the cost of accessing formal information and psychological barriers relevant constraints to migrant integration? Can integrating immigrants serve as a tool for origin country development?

To identify the effects between migrant integration, remittances, and development outcomes we randomly allocated 800 Cape Verdean migrants in Portugal into an information treatment, a psychology-based intervention targeting migrant cognitive biases, a combination of both

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<sup>1</sup> Financial remittances can foster firm creation and growth, serve as an important poverty alleviation tool, and improve health and education outcomes. Migrants also create business networks across borders, serve as information providers, and have the potential to change existing norms around e.g., democratic processes.

<sup>2</sup> Early studies pointed towards language skills and education to explain most of the observed labor market gaps and immigrant assimilation (Chiswick 1978, 1991; Borjas 1985, 1994; Dustmann 1994). But in terms of education, significant "brain waste" (the skill underutilization of immigrants that results in persistent underemployment or unemployment) seems to remain over time in a variety of settings (Kiker et al. 1997; Mattoo et al. 2008; Chiswick and Miller 2009; Bah 2018).

<sup>3</sup> Integration programs typically focus on supporting migrants in obtaining citizenship, residency, or work permits (recent examples of such policies include amnesty programs in Europe due to the COVID-19 pandemic and for Venezuelan immigrants in Colombia), or facilitate integration through language and cultural education programs. Other initiatives include aid transfers or labor market participation programs. Those programs are typically designed as holistic initiatives that tackle multidimensional constraints simultaneously. Studies show that, as expected, amnesties and initiatives that facilitate obtaining citizenship have positive effects on immigrant integration and might be beneficial for health and education outcomes as well as labor market integration. Yet, take-up rates of programs are typically low and impacts of general labor market programs differ significantly between migrant and native-born beneficiaries.

interventions, and a control group.<sup>1</sup> The experimental sample in Cape Verde is composed of the family members of those migrants that stayed behind. Specifically, we ask the migrants to indicate the family member over 18 years that is closest to them (with whom they have the most contact), contact the family members together with the migrant to introduce the study, and interview them through phone after the baseline survey to ensure anonymity. We follow the sample over the course of one year.

The migrant integration interventions affect both the cost of access to information as well as beliefs about integration opportunities through positive role models. We assume that immigrants have low quality information about their rights concerning education, health care, regularization, and residency as they largely depend on their social network to acquire this type of information. This is because other sources of information are often too complex (e.g., online information from legal authorities) or costly to obtain (e.g., from legal support services). The information intervention is expected to have a positive effect on immigrant integration outcomes through the reduction of information barriers to successful integration. We expect that immigrants suffer from psychological constraints to successful integration because of an experience of immigrant segregation and discrimination. These barriers may lead them to invest less in their legalization and integration effort. The aspirational intervention should have a positive effect on immigrant integration outcomes through exposure to role models that increases immigrants' aspirations and expectations for the future.

Both interventions improve migrants' integration indicators. However, each intervention affects different types of integration outcomes while the joint program does not provide any additional benefits. Both treatments, but particularly the information treatment, improve the quality of employment, as well as labor market aspirations and expectations. Migrants who received the information treatment report employment with more stability, closer to home and with a better schedule. The information treatment also encourages migrants to take more actions to try to obtain documentation, and more migrants seem to obtain a residence permit.

The migrant integration treatments also affect households in Cape Verde. Households left behind receive lower values of financial remittances and goods from migrants. Most strikingly, we report significant increases in *immaterial remittances* for households with treated migrants. Under our

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<sup>1</sup> Our experimental sample in Portugal is composed of migrants that have arrived less than five years ago. Focusing on existing immigrants allows us to exclude endogeneity concerns related to self-selection into migration.

treatments, respondents in Cape Verde are up to 12% more likely to have voted if their migrant was randomized into a treatment. Treated contacts in the home country, especially those in contact with migrants who received the information app, are also significantly more likely (4 to 6%) to support gender equity in intrahousehold decision making.

Our results contribute to broaden the understanding of the effects of international migration and the role of migrant integration for the economic development of the countries of migrant origin, in addition to the effects of migration policies in destination countries. This experimental evidence shows novel evidence of a causal impact of low-cost scalable migrant integration interventions on development outcomes in the country of origin.

## **2. Background and Context**

Portugal is a country with a long history of migration with large immigration flows from its former colonies in sub-Saharan Africa and, more recently, also from Eastern Europe.<sup>2</sup> As in other countries, immigrants in Portugal tend to perform worse than natives in the labor market in terms of unemployment rates, access to high-skilled employment, and wage levels. This is especially true for immigrants from African countries.<sup>3</sup>

Cape Verdeans are the second-largest group of immigrants in Portugal. Even though the official language and language of instruction in Cape Verde is Portuguese, which should decrease linguistic disadvantages relative to other immigrant groups, this immigrant group has experienced poor labor market integration outcomes. Cape Verdeans have one of the highest unemployment rates among non-Portuguese nationals: 27.8% according to the Census 2011. This figure is particularly pronounced for female Cape-Verdean immigrants: 36.6% of females were recorded as unemployed, relative to only 20.2% of men. The pattern of deficient integration outcomes for Cape Verdean nationals relative to native Portuguese is similar in terms of concentration in low-skilled jobs, job rotations, wages, and education results compared to native-born individuals.

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<sup>2</sup> In 2017, 880,188 individuals (or 8.5% of the resident population) were immigrants in Portugal according to United Nations data.

<sup>3</sup> See, for example, Kiker et al. (1997), or Bah (2018).

### **3. Experimental Design**

#### **3.1 Sampling Strategy , Data Collection, and Balance**

We built our sample in several steps and exploiting different methodologies. In a first step, we recruited migrants and conducted a listing of recently arrived Cape Verdean immigrants in different neighborhoods of the Greater Lisbon area that were documented to have many recently arrived migrants. These neighborhoods were identified with the help of the Cape Verdean consulate and of Cape Verdean immigrant associations. We focused our recruitment efforts on neighborhoods with a higher proportion of Cape Verdean immigrants. Within those areas, enumerators of Cape Verdean descent approached individuals on the street and recorded those that met our eligibility criteria. Eligible individuals were required to have Cape Verdean nationality, not have Portuguese nationality, and have arrived in Portugal within the previous five years. They were asked if they would be willing to participate in a survey about migrants in Portugal and, in this event, asked to share their contact details. In a second step, these individuals are re-contacted again by phone, their sample inclusion characteristics get verified, and a date to conduct the baseline survey is scheduled.

The random listing described above included approximately 2.300 migrants in the greater Lisbon area. Given the onset of the pandemic and restrictions related to COVID-19, our success rate in collecting baseline data with individuals from this listing exercise is about 35% during the first months, leading to a final sample size of around 800 immigrants. The success rate is determined by individuals' willingness to participate in the face-to-face survey and opportunities to meet with an enumerator. The migrants were also invited to participate in five rounds of follow up interviews. Randomization into one of four treatment conditions was conducted at the individual level stratified by residence neighborhood and gender of the migrant to ensure balance along those dimensions. Randomization is done by computer assignment before the baseline survey and is not publicly disclosed.

Table A1 in appendix A shows that the characteristics of the sample in Portugal are well balanced across experimental arms. Overall, 56% of respondents are female, with an average age of 27 years. Only 16% of the sample have a permanent work contract, and the average monthly income was 524 EUR at baseline. 75% percent of the sample sent remittances at least once in the previous year, with an average amount of 780 EUR per year.

During the baseline interview, each migrant was asked to provide contact details of their closest family member in Cape Verde, i.e. the family member with whom they were in closest contact with. The relationships between the migrants in Portugal and the persons they identified as their closest contact in Cape Verde are shown in Appendix Table A3. Family members were contacted and informed about the study while the enumerators were still with the migrant (during the baseline survey but before treatment implementation). Both the migrant and the family member in Cape Verde were informed about the confidentiality of their responses and assured that none of the information they provide will be passed on. The same individuals in Cape Verde were then contacted and interviewed via phone after the survey with the migrant was completed on a different day as soon as their availability allowed, and again about 18 months later for an endline survey. Out of 819 contacts, 672 were successfully interviewed at baseline. Table A2 in appendix A shows balance checks for the different treatment arms for the sample in Cape Verde. 56% of respondents are female, with an average age of 37 years. The average years of education are 10 years, as opposed to 12 years for our migrant sample. 56% of the sample have daily contact with the migrant. The average intrahousehold violence index is low,<sup>4</sup> indicating that the large majority of respondents indicated never finding intimate partner violence acceptable at baseline.<sup>5</sup> On average, respondents favor sharing responsibilities in the household equally between husband and wife, as can be seen by an average equality index of 1.7 on a scale from 0 to 2, where 2 reflects total equality in decision making.

Figure A1 in appendix A displays a timeline of the data collection in Portugal and Cape Verde. The baseline data collection in Portugal and the interventions were delivered by trained enumerators in-person. Follow-up surveys in Portugal and data for the experimental sample in Cape Verde were collected through phone surveys by a team of enumerators in Portugal. All interviews were conducted either in Cape Verdean Creole or in Portuguese, depending on the interviewees' preference.

### **3.2 Treatments**

Immigrants in our sample are randomly assigned to four different groups:

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<sup>4</sup> The intrahousehold violence index is an index composed of various questions about whether a respondent considers it acceptable for the husband to beat the wife. Responses of each component of the index are coded as 1 if the respondent considers violence acceptable in a certain situation, and 0 otherwise. The components are then added to form the index.

<sup>5</sup> We also find this pattern at endline, where all respondents indicate they never find intimate partner violence acceptable.

- *Control/Placebo Intervention:* individuals are provided with information about things to do and see in Lisbon through a printed guide and mobile phone app.
- *Information Intervention:* individuals receive a mix of detailed information about migrant legal rights (including how to access public services, such as healthcare and education), strategies to access jobs that are adequate to immigrants' qualifications and aspirations, where to obtain further information regarding different integration matters and where to seek out personalized assistance. This information is conveyed through a printed guide and mobile phone app.
- *Aspirational Intervention:* individuals are individually shown a short video documentary that tells the story of three Cape Verdean immigrants that successfully built their life in Portugal. These success stories of immigrants are expected to potentially reduce immigrants' psychological barriers to successful integration - namely barriers created by an experience of immigrant segregation and discrimination. Individuals in this treatment group are also provided with the placebo printed guide and mobile phone app.
- *Joint Intervention:* individuals are given both the information guide and app and the inspirational video. The order of the two interventions within this group is randomized.

Appendix B provides a detailed description of the interventions. Both integration interventions are aligned with the International Organization for Migration's approach for immigrant integration and tailored to the Portuguese context.<sup>6</sup> The precise design of the treatments was decided in collaboration with governmental officials, international organizations and local NGOs with experience working with our target population. They were pre-tested and subject to focus groups and qualitative analysis before implementation. The intervention components were available in both Portuguese and Cape Verdean Creole.

The information treatment was delivered to migrants at the end of the baseline survey through a printed booklet and mobile phone app by trained enumerators.<sup>7</sup> Although the information provided is publicly available to migrants online and at the respective government institutions, there is currently no Portuguese platform that centralizes this information. Additionally, the available

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<sup>6</sup> See <https://www.iom.int/migrant-integration> for further details.

<sup>7</sup> Although the smartphone penetration among Cape Verdean immigrants is relatively high there is a small number of immigrants that received the booklet only.

information is often written in legal terminology that might not be appropriate for our study population that has limited education. The booklet and the app provide information about e.g. legalization processes to obtain residency and work permits, and housing and health services. The intervention is hypothesized to improve integration outcomes as it significantly reduces the cost of accessing information.

The second intervention is hypothesized to improve psychometric outcomes of migrants by exposing them to migrant success stories through a short video documentary. Higher aspirations and resilience as well as forward-looking behavior is expected to improve integration outcomes as migrants might suffer from aspirations failure that leads them to under-invest in legalization and integration processes.

### **3.3 Empirical Strategy**

Our identification strategy allows us to estimate ITT effects of our integration interventions on our outcomes of interest. Our data is composed of survey data collected by a team of Cape Verdean enumerators in the greater Lisbon area in Portugal and in Cape Verde.

The empirical analysis uses an ANCOVA specification, following McKenzie (2012), including strata fixed effects and robust standard errors:

$$Y_{it} = \beta_0 + \beta_1 \cdot MigrantTreatment_i + \beta_2 \cdot Y_{i0} + \beta_3 \cdot \gamma_i + \varepsilon_{it}$$

where  $Y_{it}$  denotes outcome of interest  $Y$  for individual  $i$  at post-baseline time  $t$ ;  $MigrantTreatment_i$  is the integration treatment that was randomly assigned to migrant  $i$ ;  $Y_{i0}$  is the baseline value of outcome variable  $Y$  for individual  $i$ ;  $\gamma_i$  corresponds to randomization strata fixed effects for individual  $i$ ; and  $\beta_j$  denotes the vector of estimated coefficients corresponding to each included regressor. Regressions for the migrant sample in Portugal, for which several rounds of follow-up surveys were conducted, include round fixed effects.

## **4. Empirical results**

### **4.1 Effects in Portugal**

*Perceptions and aspirations.* We first examine whether the aspirational video produced the desired effects on immigrants' perceptions about what is possible to achieve for Cape Verdean immigrants in Portugal. To measure the immediate effects of the video on these perceptions, we



included measures of these perceptions at the end of the baseline survey, immediately after treatment delivery. Respondents were asked about their views regarding two statements capturing whether Cape Verdean immigrants can be successful in Portugal using a Likert scale from 1 to 5 (1: totally disagree; 5: totally agree). A large majority of migrants report that they agree or totally agree with these statements, even in the control group, suggesting that the margin for improvement was limited. Yet, migrants exposed to the aspirational video report views that are substantially more in line with the two statements (Table 1). They agree 0.25 SD more that Cape Verdean immigrants can be successful in Portugal (p-value < 0.01) and 0.28 SD more that the Cape Verdean community has examples of people who were successful in Portugal (p-value < 0.01). Effects are small and non-significant for migrants in T1 (Information), but similar for migrants assigned to T3 (Information & Video). The former result is not surprising given that migrants in T1 were not exposed to the aspirational video. Using data from the follow-up surveys, we find that the interventions also increased labor market aspirations by 0.15 SD (p-value < 0.05) and labor market expectations by 0.26 SD (p-value < 0.01). Effects are positive and similar in magnitudes in the three treatment arms, suggesting that the information treatment was equally effective to raise migrant's aspirations and expectations in the longer-term.

Table 1: Treatment effects on aspirations and expectations

Do you agree with the following statements...				
	(1) Cape Verdean immigrants can be successful in Portugal	(2) The Cape Verdean community has examples of people who were successful in Portugal	(3) Labor market aspirations (N)	(4) Labor market expectations (N)
Any Treatment	0.138** ( 0.059)	0.133** ( 0.054)	0.225** ( 0.098)	0.342*** ( 0.111)
T1:Information	0.071 ( 0.071)	0.035 ( 0.067)	0.255** ( 0.121)	0.409*** ( 0.137)
T2:Video	0.184*** ( 0.067)	0.191*** ( 0.061)	0.238* ( 0.125)	0.314** ( 0.138)
T3:Information & Video	0.161** ( 0.071)	0.173*** ( 0.064)	0.183 ( 0.120)	0.311** ( 0.139)
p-values:				
T1=T2	0.082	0.012	0.896	0.498
T1=T3	0.188	0.031	0.558	0.497
T2=T3	0.713	0.760	0.659	0.986
T1+T2=T3	0.323	0.550	0.078	0.042
T1=T2=T3=0	0.028	0.003	0.133	0.017
Control mean	4.099	4.108	2.087	1.392
Control SD	0.745	0.681	1.540	1.295
Observations	819	819	2780	2075
Number of individuals	.	.	763	691

Notes: Outcome variables in columns 1 and 2 use Likert scales (1: totally disagree; 5: totally agree); data collected after the delivery of the interventions in the baseline survey. Outcome variables in columns 3 and 4 are count variables indicating the number of achievements the respondent aspire/expect to achieve in the labor market; data are from the follow-up surveys. The question on labor market expectations was added around the end of round 1 (hence the smaller number of observations). Columns (1) and (2) display coefficients from an OLS regression with strata dummies and robust standard errors. Columns (3) and (4) display coefficients from an ANCOVA regressions with strata dummies, round fixed effects, and robust standard errors. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01

*Labor market outcomes.* Migrants in the treatment groups report significantly more achievements in the labor market (+0.30 SD) – Table 2. They are more likely to have found a job they like (+41%), with a better work schedule (+84%), closer to home (+60%), and that is more stable (+43%) – Appendix Table C1. These effects are particularly salient for migrants assigned to T1 (Information). The combination of both treatments produces smaller effects than the sum of the effects of each individual treatment (p-value = 0.021), suggesting that information and aspirational interventions operate as substitutes. Migrants in the information treatment group also report having found a better paid job (+32%). This is in line with the fact that migrants in that group report working fewer hours while maintaining their income (Table 2). We find no effects on the likelihood of being employed.

Table 2: Treatment effects on occupation and labor market outcomes

	Occupation					(6)
	(1)	(2)	(3)	(4)	(5)	
	Labor market achievements (N)	Employed	Unemployed	Inactive	Income (in Euros per month)	Hours worked (weekly)
Any Treatment	0.208*** (0.059)	-0.015 (0.023)	0.033** (0.015)	-0.026 (0.017)	0.008 (0.020)	-0.057** (0.027)
T1: Information	0.273*** (0.077)	-0.011 (0.028)	0.045** (0.020)	-0.037* (0.021)	0.021 (0.026)	-0.068** (0.033)
T2: Video	0.167** (0.075)	-0.019 (0.026)	0.029 (0.018)	-0.019 (0.019)	0.013 (0.025)	-0.058* (0.032)
T3: Information & Video	0.184** (0.073)	-0.015 (0.027)	0.026 (0.018)	-0.023 (0.023)	-0.009 (0.025)	-0.044 (0.033)
p-values:						
T1=T2	0.194	0.732	0.443	0.308	0.750	0.766
T1=T3	0.275	0.877	0.368	0.524	0.244	0.472
T2=T3	0.829	0.852	0.883	0.852	0.386	0.649
T1+T2=T3	0.021	0.685	0.082	0.261	0.234	0.073
T1=T2=T3=0	0.003	0.900	0.126	0.349	0.655	0.164
Control mean	0.695	0.761	0.083	0.156	602.291	30.094
Control SD	1.103	0.427	0.277	0.363	318.679	19.053
Observations	2836	2887	2887	2887	2781	2690
Number of individuals	775	776	776	776	759	742

Notes: Labor market achievements is a count variable indicating the number of items the respondent achieved in the labor market since the last interview. Employed: includes both self-employment and wage-employment. Hours worked, monthly income and hourly pay have been winsorized at the 99th percentile. Hours worked include zeroes. Columns (1) displays coefficients from an OLS regression with strata dummies, round fixed effects and robust standard errors. Columns (2)-(4) display coefficients from an ANCOVA regressions with strata dummies, round fixed effects, and robust standard errors. Columns (5)-(6) display coefficients from Poisson regressions with stata dummies, round fixed effects, and robust standard errors. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01

Income and employment improved for all migrants over the course of the project and treatments did not contribute to accelerate or intensify these trends. The share of control migrants being employed increased by 15 percentage points between the first round and the fifth round of follow-up surveys, from 71% to 85% (this proportion was 67% at baseline). Monthly income of control migrants increased by 32% over the same period, from 537 euros to 710 euros (baseline income was 524 euros at baseline). Interestingly, migrants in the treatment groups – particularly those in T1 (Information) – are more likely to be unemployed (p-value < 0.05), and less likely to be inactive (the latter effect is only significant for the information group). Taken together, these results suggest that information and aspirational treatments increase immigrants' job search efforts and help them to find jobs they like more (i.e., with better work schedule, closer to home, more stable, and with less hours).

*Legal migration status.* Turning to residency status, Table 3, Column 1 shows that the information treatment substantially increased the share of migrants who looked for information on how to get a residence permit. In the control group, we estimate that 30% of respondents searched for such information since baseline. This proportion is 20 percentage points (67%) higher for

migrants assigned to T1 (Information) and 16 percentage points (53%) higher for migrants assigned to T3 (Information & Video). Effects on migrants assigned to T2 (Video) are much smaller and insignificant at conventional levels.

Table 3: Treatment effects on residency status

	(1) Looked for information on how to get residence permit since baseline	(2) Received residence permit since baseline
Any Treatment	0.133*** ( 0.026)	0.025 ( 0.019)
T1:Information	0.198*** ( 0.037)	0.044* ( 0.025)
T2:Video	0.039 ( 0.030)	0.033 ( 0.025)
T3:Information & Video	0.161*** ( 0.035)	-0.002 ( 0.023)
p-values:		
T1=T2	0.000	0.665
T1=T3	0.376	0.062
T2=T3	0.001	0.157
T1+T2=T3	0.138	0.024
T1=T2=T3=0	0.000	0.152
Control mean	0.299	0.288
Control SD	0.458	0.453
Observations	2900	2900
Number of individuals	777	777

Notes: In the baseline, respondents were asked whether they had looked for information on how to get a residence permit or whether they had received a permit since they arrived in Portugal. In the follow-up interviews, the reference time frame for these questions was the time between the baseline and the current interview. The table displays coefficients from an ANCOVA regressions with strata dummies, round fixed effects, and robust standard errors. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01

Table 3, Column 2 shows that migrants assigned to T1 (Information) are also more likely to have received a residence permit. This effect is only marginally significant, possibly because the control group catches up. The share of control migrants receiving a residence permit since baseline increased from 19% in round 3, to 36% in round 4, and to 71% in round 5. Our results suggest that the aspirational video has non-significant effects, and that combining both treatments backfired. In particular, we estimate that adding the aspirational video to the information treatment reduced the effect of information by 0.046 percentage points on average (p-value = 0.062).

## 4.2 Effects in Cape Verde

In this section, we examine how providing immigrants with integration support at the destination country impacts those left behind through both material and immaterial remittances, such as political participation and attitudes towards gender equality.

Table 4: Treatment effects on material remittances

	(1)	(2)	(3)	(4)
	Received remit.	Value of remit.	Received goods	Value of good
Any Treatment	-0.018 ( 0.045)	-40.590 (37.695)	-0.066 ( 0.046)	-31.008* (18.799)
T1:Information	-0.065 ( 0.054)	-75.403* (42.481)	-0.071 ( 0.054)	-41.727** (19.499)
T2:Video	0.055 ( 0.057)	3.905 (45.819)	-0.063 ( 0.055)	-22.016 (24.641)
T3:Information & Video	-0.039 ( 0.054)	-46.775 (44.231)	-0.064 ( 0.056)	-28.113 (21.343)
p-values:				
T1=T2	0.031	0.044	0.886	0.329
T1=T3	0.627	0.455	0.891	0.391
T2=T3	0.089	0.221	0.996	0.775
T1+T2=T3	0.700	0.680	0.359	0.217
T1=T2=T3=0	0.156	0.139	0.549	0.185
Control mean	0.476	222.622	0.415	94.808
Control SD	0.501	411.716	0.494	197.019
Observations	603	573	603	510

Notes: Received remittances (1) is a binary variable which is equal to 1 if the respondent received remittances from the migrant in Portugal over the previous year. Value of remittances (2) corresponds to the value of remittances received from the migrant over the previous year in euros. Received goods (3) is a binary variable which is equal to 1 if the respondent received goods from the migrant in Portugal over the previous year. Value of goods (4) corresponds to the value of goods received from the migrant over the previous year in euros. Outcomes in columns (2) and (4) have been winsorized at the 99th percentile. The table displays coefficients from an ANCOVA regression with strata dummies and robust standard errors. The baseline outcomes of respondents who were interviewed at endline but not at baseline were set to zero. A dummy for whether the baseline value of the outcome was set to zero was then added to the RHS of the regression.

\* p<0.1, \*\* p<0.05, \*\*\* p<0.01

Table 4 shows the effects of the randomized interventions on financial remittances received by immigrants. Column (1) shows that no treatment has a significant impact on the likelihood to receive any financial remittances. Column (2) shows a significant negative effect on the value of remittances received, winsorized at the 99<sup>th</sup> percentile, for migrants who received the information treatment. The point estimates show that migrants receiving the information treatment sent 75 EUR fewer remittances back home in the year prior to the survey. Further, the combination of treatments does not affect the likelihood of receiving remittances in the form of goods, but it marginally decreases the value of these goods sent in the year prior to the endline survey by 31 EUR. This effect seems to be driven by the information treatment, which significantly decreases the value of these remittances by 42 EUR – a 43% decrease relative to the control mean. Note that migrants in

the information treatment were those more likely to report having found a better job, and were more likely to have looked for and received a residence permit in Portugal. Improved integration outcomes in Portugal might have influenced remittance behaviors, potentially reducing the intention to return to Cape Verde and thereby altering their incentives to remit.

Table 5: Treatment effects on preferences on intrahousehold equality

	In a family who do you think should....										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Equality Index		Have the most important job/occupation	Take the initiative in resolving conflicts or arguments	Provide emotional support to family members	Have the responsibility of earning money to support the family	Make decisions about major purchases for the house or family	Make decisions about daily purchases for the house or family	Make decisions about visits to family and friends	Make decisions about the healthcare of the wife	Make decisions about what food is cooked every day	Make decisions about the family savings
Any Treatment	0.070** ( 0.031)	0.064 ( 0.040)	0.093** ( 0.041)	0.081** ( 0.041)	0.064 ( 0.042)	0.096* ( 0.053)	0.048 ( 0.060)	0.079** ( 0.036)	0.069 ( 0.077)	0.105 ( 0.064)	-0.013 ( 0.031)
T1:Information	0.076** ( 0.037)	0.095** ( 0.045)	0.093* ( 0.049)	0.083* ( 0.047)	0.077 ( 0.047)	0.123** ( 0.062)	0.040 ( 0.072)	0.108*** ( 0.037)	0.029 ( 0.093)	0.145* ( 0.078)	0.021 ( 0.038)
T2:Video	0.030 ( 0.039)	0.023 ( 0.051)	0.073 ( 0.050)	0.067 ( 0.049)	0.039 ( 0.054)	0.040 ( 0.068)	0.019 ( 0.076)	0.052 ( 0.045)	0.003 ( 0.096)	0.029 ( 0.081)	-0.052 ( 0.044)
T3:Information & Video	0.104*** ( 0.035)	0.071 ( 0.046)	0.114** ( 0.046)	0.093** ( 0.045)	0.076 ( 0.049)	0.122** ( 0.062)	0.084 ( 0.071)	0.074* ( 0.040)	0.175* ( 0.091)	0.136* ( 0.077)	-0.011 ( 0.040)
p-values:											
T1=T2	0.205	0.112	0.660	0.712	0.427	0.203	0.779	0.121	0.778	0.151	0.120
T1=T3	0.386	0.538	0.610	0.793	0.990	0.988	0.526	0.227	0.098	0.913	0.455
T2=T3	0.034	0.292	0.328	0.525	0.439	0.198	0.373	0.575	0.059	0.178	0.383
T1+T2=T3	0.949	0.461	0.427	0.356	0.562	0.643	0.803	0.100	0.276	0.734	0.735
T1=T2=T3=0	0.016	0.133	0.094	0.210	0.346	0.130	0.671	0.028	0.151	0.154	0.478
Control mean	1.703	1.810	1.795	1.808	1.796	1.660	1.592	1.863	1.329	1.449	1.905
Control SD	0.341	0.443	0.454	0.444	0.467	0.567	0.638	0.401	0.789	0.694	0.317
Observations	579	599	595	597	601	602	602	599	599	599	599

Notes: Equality Index (1) corresponds to an index ranging from 0 to 2, where 2 corresponds to respondents who think that husband and wife share equal responsibility for all the scenarios proposed and 0 corresponds to individuals who believe that only either one of the two is fully responsible in each scenario. If the individual component is missing (= NS/NR), it is assumed to be missing information and the observation has no overall index associated. The outcomes from (2) to (11) are the individual components of the index. The table displays coefficients from an ANCOVA regression with strata dummies and robust standard errors. The baseline outcomes of respondents who were interviewed at endline but not at baseline were set to zero. A dummy for whether the baseline value of the outcome was set to zero was then added to the RHS of the regression. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01

Tables 5 and 6 show that the migrant integration treatments affect those left behind in the origin country beyond material remittances. Households with migrants in either treatment report more support for intrahousehold gender equity. Our results in Column (1) of Table 5 show that respondents with migrants in the information treatment are 7.6pp (4.4% of the control mean) more likely to support equality in household decision making, whereas contacts with migrants in the combined treatment improve the same outcome by 10.4pp (6.1% of the control mean). This evidence shows that policies that promote the integration of emigrants are likely to also contribute to the transfer of gender equality norms.

Furthermore, our results in Column (1) of Table 6 show that households with migrants in any treatment group are 8.6pp more likely to have voted in the last election after the baseline— a 12% increase relative to the control group mean. Other measures of political participation, such as the demand for quality in public services, related to previous evidence by Batista and Vicente (2011), and broader political participation indices do not display significant increases: estimated coefficients are positive, but not statistically significant.

Table 6: Treatment effects on politics

	(1)	(2)	(3)
	Voted	Demand for public service quality	Political Participation Index
Any Treatment	0.086** ( 0.041)	0.096 ( 0.098)	0.019 ( 0.089)
T1:Information	0.106** ( 0.048)	0.084 ( 0.114)	0.034 ( 0.115)
T2:Video	0.073 ( 0.050)	0.052 ( 0.124)	-0.015 ( 0.110)
T3:Information & Video	0.077 ( 0.049)	0.151 ( 0.119)	0.037 ( 0.111)
p-values:			
T1=T2	0.471	0.784	0.678
T1=T3	0.526	0.552	0.982
T2=T3	0.922	0.416	0.650
T1+T2=T3	0.135	0.927	0.911
T1=T2=T3=0	0.169	0.639	0.962
Control mean	0.707	6.021	0.612
Control SD	0.456	1.048	0.996
Observations	589	594	601

Notes: Voted (1) is a binary variable equal to 1 if respondent has voted in last election. Outcome (2) is equal to a question ranging from 1 to 7, where 1 corresponds to support of a completely passive role of the citizen with respect to government action and 7 corresponds to the citizen being as active as possible. If the individual component is missing (= NS/NR), it is assumed to be missing information. Political participation (3) is equal to an index ranging from 0 to 5, where 0 corresponds to no political involvement in the form of actions that citizens take when they are unhappy with the government and 5 corresponds to great involvement. If the individual component is missing (= NS/NR), it is assumed to be zero. The table displays coefficients from an ANCOVA regression with pdslasso optimized controls, strata dummies and robust standard errors. The baseline outcomes of respondents who were interviewed at endline but not at baseline were set to zero. A dummy for whether the baseline value of the outcome was set to zero was then added to the RHS of the regression. To maintain the sample size when adding controls, missing controls were set to the median value of the control group. Dummies for whether the control was imputed were then added to the RHS of the regression. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01



Table 7 presents the treatment effects on frequency of contact between the migrant and the closest contact in the home country. The results show that there was no significant impact on this outcome variable. This implies that the mechanism through which the integration treatment affects the network in the origin country is not the frequency of contact. Thus, the effects are likely to work through the quality of the contact – i.e. the contents of the communication, rather than its frequency. Presumably, treated migrants’ perspective is changed by the integration intervention and shared with their closest contacts in Cape Verde.

Table 7: Treatment effects on contact with migrant

	(1)	(2)
	Contact per year	Infrequent Contact
Any Treatment	2.700 (13.725)	-0.003 ( 0.010)
T1:Information	-10.350 (16.133)	-0.006 ( 0.011)
T2:Video	10.078 (16.976)	-0.004 ( 0.012)
T3:Information & Video	9.189 (16.998)	0.002 ( 0.013)
p-values:		
T1=T2	0.205	0.879
T1=T3	0.227	0.464
T2=T3	0.958	0.566
T1+T2=T3	0.687	0.434
T1=T2=T3=0	0.540	0.872
Control mean	181.095	0.014
Control SD	160.329	0.116
Observations	603	603

Notes: Number of contacts in last year (1) is equal to the number of times the migrant had contact with the respondent in Cape Verde in the last year. Frequent contact (2) is a binary variable which is equal to 1 if respondent and migrant contact each other weekly or more frequently. The table displays coefficients from an ANCOVA regression with strata dummies and robust standard errors. The baseline outcomes of respondents who were interviewed at endline but not at baseline were set to zero. A dummy for whether the baseline value of the outcome was set to zero was then added to the RHS of the regression. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01

## **5. Concluding Remarks**

Our results provide experimental evidence on the impact of migrant integration programs in destination countries for economic development in countries of origin. Traditionally, international emigration has been regarded as detrimental to origin countries (the “brain drain” view of Gruber and Scott (1966) and Bhagwati and Hamada (1974)). More recent studies, however, have emphasized that emigration seems to have a positive impact on the educational attainment of both migrants and non-migrants (Beine et al., 2008; Batista et al., 2012), as well as on entrepreneurship and new business creation (Mesnard and Ravallion, 2006; Batista, et al. 2017), the demand for improved political institutions and on community engagement in the home country (Batista and Vicente, 2011; Barsbai et al., 2016; Batista, Seither and Vicente, 2019), as well as on international trade and FDI between the origin and destination countries of migrants (Gould, 1994; Rauch and Trindade, 2002; Javorcik et al., 2011). One limitation of this literature examining the development impact of international migration is the difficulty in establishing causal relationships. Indeed, the decision to emigrate and economic development are strongly related and underline the need for exogenous variation to make valid causal inference. There are very few studies that go beyond the use of instrumental variables as an answer to this methodological problem. Exceptions are given by Yang (2008), Clemens and Tiongson (2017), Mobarak et al. (2023) and Batista and Vicente (2024) who use quasi-experimental and experimental studies.

Our study measures the effect of an immigrant integration program on immigrant outcomes in the destination country. In addition, it evaluates the impact that these policies have on various dimensions shaping the economic development of the origin country of migrants. Our results document broader effects of migrant integration programs in the countries of migrant origin, beyond the destination country impacts.

# Appendix A

## Balance Checks

Table A1: Balance Checks - Portugal

	(1) Full sample	(2) Control	(3) Information only	(4) Video only	(5) Information & Video	(6) Joint Orthogonality F-test (p-value)
<b>Individual characteristics</b>						
Female	0.569 (0.496)	0.557 (0.498)	0.583 (0.494)	0.567 (0.497)	0.569 (0.496)	0.654
Age	27.569 (7.297)	28.044 (7.078)	27.250 (7.068)	27.652 (7.099)	27.341 (7.908)	0.608
Married	0.126 (0.332)	0.103 (0.305)	0.147 (0.355)	0.134 (0.342)	0.118 (0.324)	0.624
Years of schooling	12.098 (3.091)	11.825 (3.310)	12.005 (3.135)	12.231 (2.869)	12.325 (3.034)	0.425
Year of arrival in Portugal	2018.205 (1.402)	2018.079 (1.507)	2018.152 (1.340)	2018.353 (1.360)	2018.237 (1.391)	0.210
Speaks Creole at home	0.913 (0.282)	0.897 (0.305)	0.907 (0.291)	0.925 (0.263)	0.924 (0.265)	0.595
Has a permanent work contract	0.159 (0.366)	0.182 (0.387)	0.132 (0.340)	0.184 (0.389)	0.137 (0.345)	0.254
Is a student	0.156 (0.363)	0.163 (0.370)	0.137 (0.345)	0.164 (0.371)	0.161 (0.369)	0.788
Works for pay	0.663 (0.473)	0.640 (0.481)	0.657 (0.476)	0.697 (0.461)	0.659 (0.475)	0.647
Number of hours worked (last week)	25.451 (21.100)	24.182 (21.573)	24.348 (20.897)	28.259 (20.374)	25.062 (21.414)	0.172
Monthly income (in Euros)	510.913 (334.675)	524.660 (345.110)	476.936 (311.412)	541.955 (355.702)	500.967 (324.287)	0.318
Expected monthly income in 10 years (in Euros)	1978.642 (1465.922)	2009.081 (1440.806)	1903.877 (1431.419)	2014.686 (1566.504)	1989.223 (1437.103)	0.989
Aspired monthly income in 10 years (in Euros)	4496.959 (4837.907)	4603.590 (4558.422)	4651.777 (5194.263)	4574.270 (5221.421)	4167.337 (4365.682)	0.660
Sent remittances at least once in the previous year	0.750 (0.433)	0.749 (0.435)	0.755 (0.431)	0.761 (0.427)	0.735 (0.443)	0.985
Amount remitted in the previous year (in Euros)	780.639 (1174.132)	810.320 (969.188)	691.235 (851.824)	940.463 (1179.078)	686.270 (1548.846)	0.069*
<b>Household characteristics</b>						
Household size	3.031 (1.595)	3.099 (1.677)	3.176 (1.627)	2.980 (1.559)	2.872 (1.508)	0.265
Number of adults (18-60)	2.386 (1.197)	2.468 (1.248)	2.441 (1.179)	2.378 (1.198)	2.378 (1.160)	0.329
Number of children (<18)	0.535 (0.811)	0.547 (0.797)	0.608 (0.867)	0.468 (0.762)	0.517 (0.813)	0.497
Number of elders (>60)	0.110 (0.386)	0.084 (0.295)	0.127 (0.413)	0.134 (0.466)	0.095 (0.353)	0.426
Household income (in Euros)	1223.962 (898.605)	1212.879 (793.911)	1201.077 (737.349)	1293.541 (1109.731)	1190.759 (914.101)	0.742
Omnibus F-test p-value	.	.	0.052	0.356	0.555	.
Observations	819	203	204	201	211	819

Notes: Works for pay is set to 1 if the respondent reports being employed or self-employed, or a working student with positive income. Remittances sent refer to remittances sent to anyone in Cape Verde in the previous year. Standard deviations in parentheses. Monthly income and number of hours worked are winsorized at the 99th percentile. Regressions to estimate the Joint Orthogonality and Omnibus F-test include strata fixed effects. \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent critical level.

Table A2: Balance Checks - Cape Verde

	(1) Full sample	(2) Control	(3) Information only	(4) Video only	(5) Information & Video	(6) Joint Orthogonality F-test (p-value)
<b>Variable</b>						
Female	0.562 (0.496)	0.571 (0.497)	0.557 (0.498)	0.545 (0.499)	0.577 (0.495)	0.658
Age	36.699 (12.801)	37.217 (12.571)	37.160 (13.813)	36.555 (12.241)	35.863 (12.523)	0.715
Primary education	0.250 (0.433)	0.248 (0.433)	0.231 (0.423)	0.282 (0.451)	0.238 (0.427)	0.624
Secondary and Professional education	0.439 (0.497)	0.478 (0.501)	0.422 (0.495)	0.423 (0.496)	0.433 (0.497)	0.635
Bachelor's	0.263 (0.441)	0.221 (0.416)	0.301 (0.460)	0.255 (0.437)	0.274 (0.447)	0.329
Master's or more	0.022 (0.148)	0.025 (0.155)	0.017 (0.130)	0.006 (0.078)	0.042 (0.200)	0.126
Years of education	10.274 (4.525)	10.081 (4.529)	10.618 (4.379)	9.718 (4.609)	10.652 (4.561)	0.111
Married	0.204 (0.403)	0.190 (0.394)	0.206 (0.405)	0.224 (0.418)	0.196 (0.398)	0.934
Works for pay	0.614 (0.487)	0.578 (0.495)	0.602 (0.491)	0.634 (0.483)	0.643 (0.481)	0.713
Self-employed	0.212 (0.409)	0.205 (0.405)	0.205 (0.405)	0.256 (0.438)	0.185 (0.389)	0.545
Employed	0.398 (0.490)	0.398 (0.491)	0.369 (0.484)	0.372 (0.485)	0.452 (0.499)	0.417
Student	0.112 (0.316)	0.112 (0.316)	0.136 (0.344)	0.091 (0.289)	0.107 (0.310)	0.727
Unemployed	0.151 (0.358)	0.161 (0.369)	0.125 (0.332)	0.165 (0.372)	0.155 (0.363)	0.782
Has permanent contract	0.162 (0.369)	0.129 (0.336)	0.153 (0.361)	0.152 (0.360)	0.214 (0.412)	0.188
After-tax income (per month, in Cape Verdean Contos, 1 Conto ≈ 9 EUR)	25.047 (33.835)	23.488 (33.135)	23.989 (32.855)	22.159 (28.739)	30.684 (39.544)	0.226
Hours worked (last week)	27.257 (23.300)	26.722 (23.336)	26.000 (23.271)	27.184 (23.425)	29.144 (23.281)	0.756
Health self-assessment	3.673 (0.920)	3.601 (0.940)	3.614 (0.967)	3.691 (0.948)	3.786 (0.813)	0.281
Good health	0.554 (0.497)	0.509 (0.501)	0.551 (0.499)	0.558 (0.498)	0.595 (0.492)	0.593
Health needs not met	0.135 (0.342)	0.154 (0.362)	0.114 (0.319)	0.152 (0.360)	0.120 (0.327)	0.457
Does not consume alcohol	0.579 (0.494)	0.577 (0.496)	0.619 (0.487)	0.630 (0.484)	0.488 (0.501)	0.029
Does not smoke	0.985 (0.121)	0.982 (0.135)	0.983 (0.130)	0.994 (0.078)	0.982 (0.133)	0.599
Has children	0.738 (0.440)	0.718 (0.451)	0.699 (0.460)	0.806 (0.397)	0.732 (0.444)	0.079
Future total children	2.991 (1.881)	3.058 (1.972)	2.982 (1.808)	3.106 (1.989)	2.821 (1.758)	0.535
Time to next child	2.026 (3.164)	2.144 (3.449)	1.615 (2.376)	2.126 (3.111)	2.252 (3.611)	0.221
Total children	2.085 (2.135)	2.117 (2.292)	2.176 (2.327)	2.152 (2.026)	1.893 (1.861)	0.467
Mental health index	1.766 (0.805)	1.653 (0.746)	1.855 (0.814)	1.776 (0.847)	1.774 (0.802)	0.125
Daily contact with migrant	0.567 (0.496)	0.571 (0.497)	0.506 (0.501)	0.539 (0.500)	0.655 (0.477)	0.088*
Weekly contact with migrant	0.371 (0.483)	0.344 (0.476)	0.420 (0.495)	0.412 (0.494)	0.304 (0.461)	0.140
Less frequent contact with migrant	0.062 (0.242)	0.086 (0.281)	0.074 (0.262)	0.048 (0.215)	0.042 (0.200)	0.420
Wants to emigrate	0.732 (0.443)	0.742 (0.439)	0.705 (0.457)	0.752 (0.433)	0.731 (0.445)	0.847
Omnibus F-test p-value	.	.	0.000	0.208	0.001	.
Observations	672	163	176	165	168	672

Notes: Hours worked, and after-tax income are winsorized at the 99th percentile. Regressions to estimate the Joint Orthogonality and Omnibus F-test include strata fixed effects. Standard deviations in parentheses. Regressions to estimate the Joint Orthogonality and Omnibus F-test include strata fixed effects. \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent critical level.

Table A2: Balance Checks - Cape Verde (cont.)

Variable	(1) Full sample	(2) Control	(3) Information only	(4) Video only	(5) Information & Video	(6) Joint Orthogonality F-test (p-value)
Wants to move to PT	0.555 (0.497)	0.535 (0.500)	0.549 (0.499)	0.615 (0.488)	0.524 (0.501)	0.384
Plans to move to PT	0.419 (0.494)	0.412 (0.494)	0.419 (0.495)	0.419 (0.495)	0.428 (0.496)	0.982
Income expect. In PT	247.314 (474.437)	274.699 (749.118)	239.731 (327.435)	245.092 (404.293)	232.384 (324.073)	0.876
Received remittances from migrant	0.461 (0.499)	0.472 (0.501)	0.438 (0.497)	0.509 (0.501)	0.429 (0.496)	0.492
Value of remittances received from migrant	164.902 (457.332)	139.205 (330.500)	199.450 (645.118)	159.611 (343.903)	158.411 (422.897)	0.733
Received goods from migrants	0.324 (0.469)	0.325 (0.470)	0.261 (0.441)	0.352 (0.479)	0.363 (0.482)	0.098*
Value of goods received from migrant	85.276 (604.774)	141.861 (1108.081)	50.174 (127.719)	85.955 (383.119)	68.263 (369.149)	0.515
Voted in 2016	0.722 (0.448)	0.750 (0.434)	0.732 (0.444)	0.690 (0.464)	0.717 (0.452)	0.572
Has bank account	0.392 (0.489)	0.420 (0.495)	0.391 (0.489)	0.319 (0.468)	0.437 (0.498)	0.117
Participates in informal savings mech.	0.230 (0.421)	0.216 (0.413)	0.227 (0.420)	0.209 (0.408)	0.268 (0.444)	0.661
Has requested a bank loan	0.262 (0.440)	0.259 (0.440)	0.257 (0.438)	0.268 (0.444)	0.263 (0.442)	0.988
Has requested a loan from family/friends	0.297 (0.457)	0.273 (0.447)	0.269 (0.444)	0.301 (0.460)	0.345 (0.477)	0.279
Owens or invests in a business activity	0.357 (0.480)	0.350 (0.478)	0.352 (0.479)	0.358 (0.481)	0.369 (0.484)	0.975
Intrahousehold violence index	0.004 (0.045)	0.004 (0.047)	0.007 (0.064)	0.004 (0.035)	0.002 (0.022)	0.785
Intrahousehold equality index	1.691 (0.362)	1.716 (0.328)	1.695 (0.358)	1.651 (0.398)	1.702 (0.358)	0.461
Omnibus F-test p-value	.	.	0.000	0.208	0.001	.
Observations	()	()	()	()	()	672

Notes: Value of remittances and goods refer to remittances and goods received from the migrant in Portugal. Both variables are winsorized at the 99th percentile. Regressions to estimate the Joint Orthogonality and Omnibus F-test include strata fixed effects. Standard deviations in parentheses. Regressions to estimate the Joint Orthogonality and Omnibus F-test include strata fixed effects. \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent critical level.

## Relationship between migrant and contact person

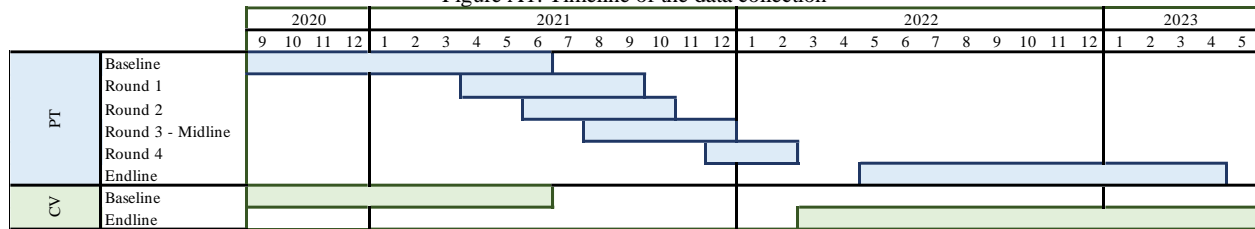
Table A3: Relationship with contact person in Cape Verde

	All		Successfully interviewed	
	N	Percent	N	Percent
Husband/Wife or Boyfriend/Girlfriend	59	7,24	49	7,29
Parent or Parent in Law	263	32,27	208	30,95
Sibling or Sibling in Law	266	32,64	222	33,04
Children	28	3,44	25	3,72
Friend	82	10,06	67	9,97
Cousin	57	6,99	49	7,29
Niece/ Nephew	11	1,35	10	1,49
Uncle/Aunt	17	2,09	15	2,23
Other	32	3,92	27	4,02
Total	819	100	672	100

Notes: Successfully interviewed were those for whom we successfully completed the baseline in Cape Verde. The relationships are described from the point of view of the migrant, e.g. a relationship of parent means that the contact in Cape Verde is the migrant's parents.

# Timeline of the data collection

Figure A1: Timeline of the data collection



# Appendix B

## Information Intervention

### App Description

The name of the app is Morabeza. Morabeza was the main platform for the information intervention. Besides providing information for the immigrant’s integration, conditional on each respondent’s consent, it also allowed to collect geo-referenced data through the city of Lisbon, as well as the content they had accessed.

There were two levels of access in the app: the control group and the treatment group.

The information was divided into 7 categories. All users had access to the first two: A - Day-to-Day and B- Family in Cape Verde.

The remaining categories formed the information treatment and were only visible for participants in the information treatment group. These categories were: C - Health in Portugal, D – Obtaining regular immigration status in Portugal, E- Finding a Job and F - Finding a House and G - Migration Support Centers.

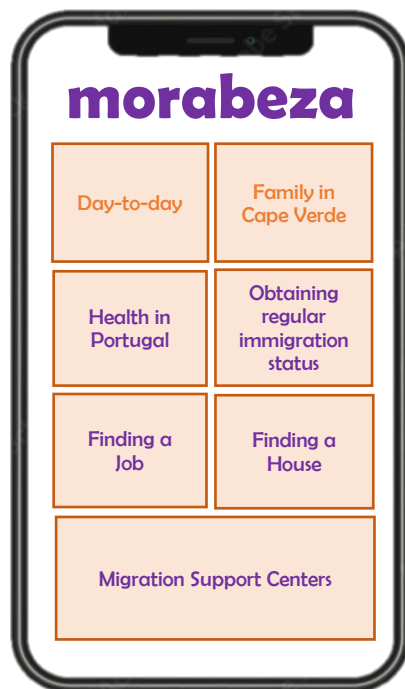


Figure 1 – APP’s welcome page.

The categories contain the following information:

## **A – Day-to-day**

### **a.1. Important Contacts**

This section includes important contacts such as emergency numbers, health support, police, support and advisory, and immigrant support lines.

### **a.2. Public Transports**

The Public Transports section explains how to use both transports within and outside of Lisbon. Within Lisbon, it explains how to use the bus, metro, train, tram, and boat services, as well as the best ways to buy tickets for different uses and how to obtain discounts.

### **a.3. Money**

The Money section has information about the euro, where to exchange and withdraw money (also mentioning some functionalities of ATMs), how to open a bank account (starting by referring to existing banks, informing about their schedule and the existence of a bank app and lastly, describing the needed documentation).

### **a.4. Education**

The Education section explains the education system in Portugal, how to enrol in schools (including timing and necessary documentation), and some support the government provides to students.

## **B – Family in Cape Verde**

### **b.1. Family Reunification**

In Portugal, foreign residents have the right to have their family with them. The Family Reunification section explains who is eligible for family reunification and describes the process.

### **b.2. Contact with Family**

The Contact with Family section describes the easiest ways to keep in touch with family in Cape Verde. It advises on how to contact them with and without internet, and how to send remittances and goods.

## **C – Health in Portugal**



The health section advises about the healthcare rights of foreigners in Portugal and describes the healthcare system, how to access it (including how to get vaccinated) and its cost in different situations.

## **D – Regular immigration status in Portugal**

### **d.1. Obtaining the Documents**

This section explains the two most important aspects of regularization in Portugal: the laws regarding immigration and how immigration services work.

### **d.2. Residence Permit**

This section informs users about the different types of residence permits, how to obtain them, what is the needed documentation, and how to renew them.

### **d.3. NIF**

This section is about the taxpayer's number, how to obtain it, and about how taxes work in Portugal.

### **d.4. Social Security**

This section explains social security services, their importance, the benefits and costs of the system and how to register.

### **d.5. Document Authentications**

This section explains where and how to obtain document authentications.

## **E – Finding a Job**

This section teaches how to create a CV, provides a list of websites that post jobs and recruitment agencies. It explains how to get foreign degrees recognized in Portugal, and how to obtain support for starting a business.

## **F – Finding a House**

This section explains how to find a house in Portugal, starting with where to look and then explaining legal issues and how to acquire services like gas, water, and electricity.

## G – Migration Support Centre

This section provides a description of different types of support centres for migrants in and around Lisbon, the kind of help they can provide, and how to contact them. The section could be personalized according to the residence of the immigrant, it was possible to restrict the search to local support centres.

## Booklets Description

The booklets were a complementary part of the information treatment. All participants in the information treatment received the booklets, but they were particularly useful for those unable to use the app<sup>1</sup>.

The booklets contained summarized information about the app sections: C – Health in Portugal, D – Being Legal in Portugal, E – Finding a Job in Portugal and F – Finding a House in Portugal. Additionally, section G – Migration Support Centers was tailored to the individual’s place of residence.

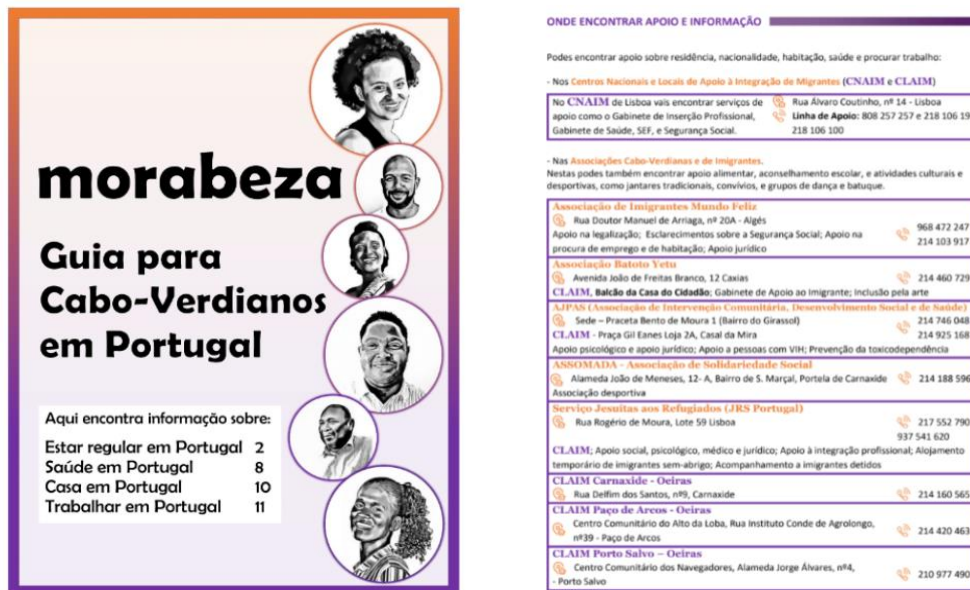


Figure 2 - Booklet

<sup>1</sup> The with an iPhone were unable to install the app. There were also situations in which the migrant’s phone was out of battery, and the participant did not install the app after the interview.

## Aspirational Intervention

### Description of the Video "Three Stories of Hope and Inspiration from Cape Verde to Portugal"



Figure 3 – Three Stories of Hope and Inspiration from Cape Verde to Portugal



Figure 4 - Adilson

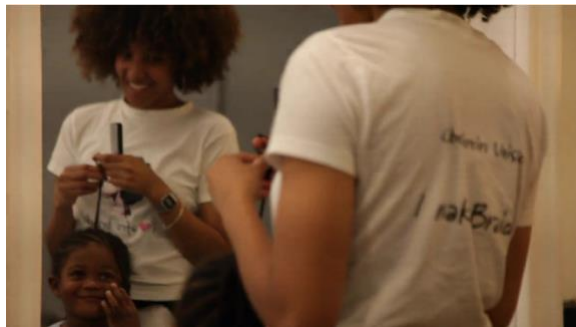


Figure 5 - Nádia



Figure 6 - Fernandinho

The video takes the listeners through the experiences of Adilson, Fernandinho, and Nádia, three immigrants from Cape Verde who arrived in Portugal with few resources but a steady determination to build a better future.

First, the narrator introduces Adilson, a team coordinator at a shopping center which has been living in Portugal for 14 years. Adilson arrived in Portugal in 2005, when he was 19 years old. He had few resources and little support from his family. He immigrated with the goal of studying and ended up building a life that he is proud of. Adilson is now a Portuguese citizen, married with two children, and happy at his job. He faced challenges such as not finding a job in his area of study, discrimination and language barriers. With time, perseverance, hard work, and a positive perspective about the challenges at hand, he surpassed these obstacles. Currently, he helps immigrants from Cape Verde in Portugal to pursue their dreams and he is considered an example to follow by his friends, family and colleagues.

The second story is about Nádia, an entrepreneur who owns afro hair salons in the Portuguese cities of Lisbon and Porto. When Nádia arrived in Portugal in 2008, 11 years ago, she was 18 years old, alone and facing health problems. Regardless, she came with the intention of studying and pursuing a better future. Initially, she worked as a domestic helper in the mornings, studied in the afternoons, and worked at a hair salon on weekends. Alongside managing the high workload and financial constraints, Nádia also struggled with being far from her family. During her weekend job, she found her passion for hairstyling and recognized the lack of salons specialized in Afro hair. In 2017, she successfully opened her first salon, Afrobraids, in Lisbon. She had to independently seek for information about how to start a business in Portugal. Her employees attest to her aptitude and patience for entrepreneurship. Nádia is another example which highlights the importance of determination, patience and hard work. Nowadays, she contributes to the community through initiatives that empower children to embrace their natural Afro hair. As a Portuguese citizen, she considers Portugal her home.

Lastly, Fernandinho is introduced. He arrived in Portugal in 1998, 21 years ago, at the age of 39, accompanied by his wife and three children. They came from Guinea-Bissau which was at war at the time. Fernandinho faced complications in regularizing his legal status, but he did not give up on finding a solution with the migration services. After 7 years he gained a residence permit and is now on track to obtain Portuguese citizenship. Using his previous experience in commerce and baking, Fernandinho balanced his daytime construction job with nighttime baking experiences in a small home oven. His homemade Cape Verdean biscuits quickly gained popularity. Fernandinho became the owner of a factory producing traditional Cape Verdean biscuits. This allowed him to ensure both a stable future for his family and to contribute to his community. Employees underline his strong work ethic and leadership. Ultimately, Fernandinho and his family have found happiness and success in Portugal, grateful for the opportunities the country has provided them.

In sum, the video highlights the importance of persistence, initiative, and community support in the success of Cape Verdean immigrants, with personal stories and words from acquaintances. It illustrates that despite facing discrimination, loneliness, and legal challenges, they had the power to transform their lives.

Music: “Vapor di Imigrason” - Mayra Andrade  
Duration: around 11 minutes  
Language: Portuguese and Cape Verdean Creole  
Production: NOVAFRICA, 2019

# Appendix C

## Further outcomes for Portuguese sample

Table C1: Disaggregated effects - Treatment effects on achievements

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Labor market achievements (N)	Found a work she likes	Found a better paid job	Found a more stable job	Found a job closer to home	Was promoted	Opened a business	Expanded a business	Found a work with better schedule	Studied more	Other achievements
Any Treatment	0.208*** ( 0.059)	0.040*** ( 0.015)	0.029 ( 0.018)	0.044*** ( 0.016)	0.030*** ( 0.011)	0.000 ( 0.011)	-0.001 ( 0.005)	0.004 ( 0.003)	0.042*** ( 0.012)	0.009 ( 0.016)	0.014 ( 0.008)
T1:Information	0.273*** ( 0.077)	0.053*** ( 0.020)	0.051** ( 0.023)	0.054*** ( 0.020)	0.051*** ( 0.016)	-0.001 ( 0.014)	-0.003 ( 0.006)	0.001 ( 0.002)	0.072*** ( 0.017)	-0.013 ( 0.020)	0.018 ( 0.011)
T2:Video	0.167** ( 0.075)	0.035* ( 0.019)	0.033 ( 0.022)	0.034* ( 0.020)	0.012 ( 0.012)	0.001 ( 0.014)	0.001 ( 0.007)	0.004 ( 0.004)	0.023 ( 0.014)	0.019 ( 0.021)	0.011 ( 0.010)
T3:Information&Video	0.184** ( 0.073)	0.032* ( 0.018)	0.003 ( 0.021)	0.044** ( 0.020)	0.028** ( 0.014)	0.001 ( 0.013)	-0.002 ( 0.006)	0.007 ( 0.005)	0.033** ( 0.015)	0.021 ( 0.021)	0.013 ( 0.010)
p-values:											
T1=T2	0.194	0.406	0.438	0.360	0.015	0.914	0.630	0.253	0.004	0.123	0.525
T1=T3	0.275	0.326	0.035	0.675	0.194	0.875	0.955	0.152	0.030	0.102	0.672
T2=T3	0.829	0.887	0.158	0.610	0.242	0.964	0.655	0.656	0.516	0.906	0.808
T1+T2=T3	0.021	0.050	0.011	0.147	0.103	0.940	0.942	0.739	0.007	0.593	0.310
T1=T2=T3=0	0.003	0.044	0.078	0.035	0.009	0.999	0.950	0.301	0.000	0.295	0.388
Control mean	0.695	0.097	0.155	0.103	0.050	0.053	0.015	0.001	0.050	0.117	0.030
Control SD	1.103	0.296	0.362	0.305	0.219	0.224	0.121	0.037	0.219	0.322	0.171
Observations	2836	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900

Notes: Labor market achievements is a count variable indicating the number of items the respondent achieved in the labor market since the last interview. Columns (2)-(11) include the components of these achievements. The table displays coefficients from an OLS regression with strata dummies, round fixed effects, and robust standard errors. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01

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