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ABSTRACT

Return Plans and Migrants' Behavior

This paper studies how return migration intentions affect immigrants' behavior. Using a unique French data set, we analyze the relationship between return plans and several immigrants' behavior in the host and origin countries addressing the potential endogeneity between return plans and different investment decisions. We also investigate the potential trade-off and complementarities between various immigrants' investment behaviors. We find that temporary migrants are more likely to remit and invest in the country of origin, but less likely to invest in the host country. Moreover, our results show that there is no trade-off between immigrants' investment in the home and in the host country. In turn, we find substantial heterogeneity in behavior across migrants of different origins.

JEL Classification: F22, F24, D14

Keywords: temporary migration, return intention, remittances

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1 Introduction

Return migration is an important, yet often overseen, facet of migratory movements.[1] Faced with growing opposition to immigration, destination countries in Western Europe and the US have recently relied on more selective and temporally constrained migration schemes. These schemes were designed in the belief that the hosting society could benefit from the immigrant labor force (younger, working-age individuals contributing to the welfare state) while reducing the potential costs associated with it (in particular by reducing the need of cultural assimilation and limiting access to some welfare transfers). Yet, not enough is known about how temporary migration and in particular return plans affect immigrants' behavior.

Return intentions might impact whether immigrants invest in the host country both in terms of specific human capital and physical capital. On the one hand, migrants who plan to return might have little incentive to assimilate or to invest in host-country-specific human capital such as the language (Dustmann, 1999). They might also be less likely to invest in physical capital, such as housing, because of the limited asset-return period. On the other hand, temporary migrants might invest in language skills if the returns to human capital accumulated abroad are high (Dustmann, 1997). Moreover, investment in the host country might be the ideal channel to accumulate savings before a potential return. Thus, the implications of planned return might not be straightforward and are an empirical question. Although return intentions do not always materialize in actual return, this is not a concern for

[1] See Dustmann and Görlach (2016) for a recent survey of the literature.

us since our interest is in how current return plans impact current behavior.[2] As Dustmann and Görlach (2016) point out, observing completed migration spells would not be useful, since shocks are likely to affect migrants' remigration plans during the migration spell.

We study the relationship between return migration intentions and several immigrants' behavioral decisions. We focus on the case of France where immigration assimilation has been under scrutiny recently. We use a unique individual level household survey data, called "Trajectoires et origines", collected in France in 2008-09. This rich data includes information on immigrants' financial, human and social capital investment decisions both in the host (France) and home country. We account for the potential endogeneity of return plans and observed outcomes using the intention to be buried outside France and the perception of discrimination in France as exclusion restrictions. In addition, we investigate the potential trade-off or complementarity between various immigrants' investment decisions. Indeed, whether immigrants' investment decisions at home and at host move in the same direction or compete with one another is unknown. For example, previous studies generally find that temporary migrants are more likely to remit compared to permanent ones.[3] At the same time, they are also more likely than permanent migrants to save for their own future consumption or investment, which could be done at the expense of investment in their origin country.

This paper aims at contributing to a small literature on the effect of temporary migration plans on behavior in the host and home country. Our approach allows an improvement on three fronts. First, unlike previous studies, we study a number of immigrants' decisions, rather than one outcome in isolation, in order to build a more complete picture of immigrants' behavior. A second source of improvement comes from our treatment of the

[2]Return migration from Western European countries has been documented to be substantial. See for example, Bijwaard (2010) on return migration from the Netherlands.

[3]These monetary transfers might increase the recipients' consumption or serve to prepare the migrant's return (see e.g. Amuedo-Dorantes and Pozo, 2006). Some experiments on directed giving have shown that immigrants like to have some control over their monetary transfers (Batista et al. 2015, Torero and Viceisza, 2015). Labeling remittances as intended for a specific purpose, such as children' education, might also increase the propensity to remit of migrants (De Arcangelis et al., 2015). Finally, remittances can also be perceived as a way of self-insurance for migrants (Batista and Umblijs, 2016). The information provided in our survey data focuses on financial transactions only and does not stipulate the motives of the transfer or whether a specific expense is intended by the migrant.

potential endogeneity of return intentions. Finally, we explicitly take into account the potential trade-offs and/or complementarity when estimating the investment decisions on a large set of choices. Most previous studies either focused on a sole outcome or when examining two outcomes, such as remittances and savings for example, ignored the correlation between those decisions. We examine the potential trade-offs and complementarity between not only physical investment decisions, but also human capital investment decisions and non-monetary decisions. We also distinguish between immigrants by origin, since investment behavior may differ because of the varying transferability of skills and different financial returns.

We find that migrants who intend to return are indeed more likely to invest in their home country and less likely to invest in host-specific assets. In turn, we find no evidence in favor of return plans leading to a substitution between investment at home and at host. These results are actually driven by the heterogeneity in behavior of migrants of different origins: migrants from Europe who intend to return tend to invest less in host-specific factors (while not being significantly different in terms of investment at home), and conversely for migrants from Africa.

This paper has important policy implications. First, if migration duration impacts immigrants investment behavior in the host country, this should be better accounted for in the design of migration policies. For instance, if host countries want to foster the integration of immigrants, it is important to provide the right incentives by securing certainty on the duration of stay. Repeated temporary visas might reduce the expected gains of this type of investment for the migrant. Second, return migrants are a potential channel through which human and financial resources flow back to home countries. These links could help to improve financial and economic (among others) relations between host and home countries. Finally, our results suggest that migrants do not substitute investment at host with investment at home. Interestingly, this result is driven by a strong heterogeneity between migrants from different origins. While African migrants tend to significantly increase their investment at home with intention to return, European migrants tend to reduce their investment in France (in particular in housing). Migration policies might therefore impact distinct migrant groups in different ways and could possibly stimulate investment at host without crowding out investment at home.

The structure of the paper is as follows: in section 2 we discuss the related literature. In section 3 we provide some background information and discuss

the data and our sample. In section 4 we introduce our estimation strategies and present our estimation results. Section 5 concludes.

2 Previous Literature

There exists a small theoretical literature which provides several explanations for the determinants of temporary migration and optimal migration abroad. Migration is a strategy for individuals (or households) to maximize total utility over the whole life-cycle.[4] The main reason for emigration is the relative higher wage differential between the host and home country (Dustmann, 1997). However, individuals may value more consumption in their own country relative to that in the host country (see for example Galor and Stark, 1991).

Temporary migration might therefore be planned and part of an optimal decision-making process.[5] Return migration may be motivated by lifetime utility that includes consumption and locational fixed factors that are complementary to consumption or differences in relative prices in host- and home country as shown by Djajic and Milbourne (1988). In this set up, preference for the home country leads to return even though it is not necessarily economically advantageous to do so. Temporary migration is also related to the savings behavior of migrants. Individuals migrate temporarily for a period of time where wages are higher so that they can accumulate savings abroad. Another motive for return is the relatively high return in the origin country to human capital acquired in the host country (Dustmann, 1997).

On the other hand, return migration can be unplanned and the result of failure either due to imperfect information about the host country in terms of labor market prospects or the cost of living or the inability to fulfill the migration plans in terms of target savings etc. see e.g. Borjas and Bratsberg (1996). This kind of return migration is expected to take place relatively soon after immigration, when information is at hand.

Another strand of the literature, albeit rather sparse, is preoccupied, like this paper, with the effects of temporary migration on immigrants' behavior. One main focus has been on remittances and the impact of temporary migration on remittances and transfers to the country of origin. For example,

[4] See for example, Djajic (1989).

[5] Dustmann and Görlach (2016) provide a comprehensive review of the theoretical and empirical literature on temporary migration.

Dustmann and Mestres (2010) examine the remittance behavior of immigrants and how it relates to temporary versus permanent migration plans. They use German Socio Economic Panel data and analyze the association between individual and household characteristics and the geographic location of the family as well as return plans, and remittances. They find that changes in return plans are related to large changes in remittance flows. Merkle and Zimmermann (1992) also find that guest-workers' remigration plans are an important determinant of remittances but their results are however less clear cut for savings held in Germany. In turn, Bauer and Sinning (2011) examine the relative savings position of migrant households in West Germany paying particular attention to differences between temporary and permanent migrants. If remittances are treated as savings, migrants who intend to return to their home country save significantly more than comparable natives.

Another focus, yet not as common as remittances, has been that related to investment in human capital measured as language proficiency. For example, Dustmann (1999) explores the effects of return migration on investments in host country specific human capital, in particular language, and found that permanent migrants have a 10 percent higher probability to be fluent in German than migrants who intend to return. Whether those results hold in a country like France, whose national language is used in some of the countries of origin, is interesting to test.

Those studies do not consider the potential trade off between remittances sent back home and saving/investment by the immigrant back home. In a recent study, Wolff (2015) analyzes the impact of return decisions of foreign-born retired individuals in France on remittances, but return intentions are treated as exogenous. He finds that return intentions strongly increase the probability of remitting by more than 10 percentage points. The amount remitted is almost twice as high for temporary migrants. Finally, he finds a positive correlation between personal savings and remittances to origin country and between personal savings and transfers to relatives living in France. Conversely, remittances to origin country and family transfers in France tend to substitute each other. De Arcangelis and Joxhe (2015) analyze saving and remitting behavior (where a remittance is defined as "giving money outside the household") on a sample from the British Household Panel Survey. They find that the amount saved (including remittances) is 26 % higher for temporary migrants then for permanent ones when controlling for an "Index of Financial Incapability". They also show that a temporary migrant saves slightly less but remits a higher amount than a permanent one.

In the next sections, we discuss our data and empirical strategy to study the relationship between return plans and immigrants' behavior in France.

3 Data

This section describes the data and provides some descriptive statistics on the sample used. The analysis is based on the French dataset "Trajectoires et origines" released by Ined-Insee in 2009. This large survey was conducted among a representative sample of French metropolitan households of working age between September 2008 and February 2009. Respondents (or household heads) can be classified in several subgroups: foreign-born or born in French Overseas Territories ("Département et région d'outre-mer", hereafter DOM) and the descendants of the respective categories born in France. The reference group aggregates the remaining cases. The survey sample consists of 21,761 observations and is representative of individuals born after 1958. It explores the household's migratory background, social, educational and economic environment. It also includes questions on religious and linguistic transmission and perception of discrimination. Moreover, it allows exploring information on behavior relative to the origin country: does the migrant send remittances, finance a project at origin or participate in the political elections. Although we do not have a panel, our rich data set enable us to observe heterogeneous behavior of immigrants at different stages of their migration spells.

In this study, we focus on the behavioral differences among first-generation migrants who state a desire to leave France versus those who do not. Our interest lies with both host and origin country outcomes. This leaves a sample of 9,168 observations (Table 1). Among these, 7.8% were born in a DOM and 92.2% are foreign born. 15.7% of migrants (or 1,438 respondents) in the sample stated a desire to leave France, while 24.9% answered the survey question with "maybe". A majority of migrants (over 53.7%) stated a desire to remain in France while 5.7% replied "don't know". In our benchmark specification, we contrast those that explicitly state a desire to leave, the temporary migrants, with the remainder, or permanent migrants ("Yes" versus the rest). We check later the robustness of this definition.

3.1 Differences between temporary and permanent migrants

INSERT Table 1 + 2 : Descriptive Stats

Tables 1 and 2 summarize the descriptive statistics for the full sample, permanent and temporary migrants. As shown in Table 1, temporary migrants differ in their characteristics from those who do not state a desire to leave in several dimensions. Those who state a desire to leave are on average younger than permanent migrants at the time of the survey (39.4 versus 41.9 years). However, there is no gender difference in the desire to return, with almost half of both groups being females. About 65.1% of temporary migrants have a parent (father and/or mother) at origin while only 52.6% of permanent migrants do. Permanent migrants are also less likely to have a child living outside France.

As shown in Table 2, temporary migrants live proportionally less often with a partner and have slightly more often a partner abroad. Among those who want to return, 30.1% are single against 23.9% among permanent movers. Temporary migrants tend to be more educated than permanent migrants (46.1% have completed some tertiary education compared to 40.3% among permanent migrants). They concentrate more frequently in bigger agglomerations: 72.6% live in cities with more than 200,000 inhabitants while this figure drops to 63.4% for permanent migrants. The fraction of employed is slightly higher among temporary migrants while unemployment is lower. The fraction of students is also higher (7.2% versus 2.8% among permanent). Temporary migrants are more likely to be waged (62.3% versus 60.4% among permanent migrants) and slightly less likely to be self-employed. The fraction of inactive respondents is also lower among temporary migrants.

Examining the type of visa at arrival, unsurprisingly, the fraction of student visas is higher among temporary migrants and the fraction of respondents who benefited from family reunion programs is lower. Asylum seekers make up 5.5% of the temporary migrants and 11.5% of permanent. 26.7% of temporary migrants have a legal visa waiver (i.e. individuals from the Schengen area exempted from applying for a visa).

Focusing on the immigrants' investment behavior, about 19.9% of temporary migrants regularly remit (send money to relatives in their origin country) compared to 14.1% among permanent migrants. Temporary migrants are more likely to finance projects in their country of origin (2.6% versus 1%) and own a house at origin (30.3% versus 17.2%). They are however less likely to own a house in France (28.4% versus 41.7%). Temporary migrants are also much more active in the politics of their country of origin: 22.5% state an interest in politics in the country of origin (against 13.6% among permanent migrants) and 19.1% voted for an election at origin (against 15.3% among

permanent migrants). Temporary migrants state a weaker improvement in French language between their date of arrival and the moment of the survey (46.5% against 60.6% among permanent migrants). This is partly due to the apparently stronger French knowledge at arrival among temporary migrants. 31.7% declare that they had no French knowledge at all upon arrival against 41.6% among permanent migrants. On the other hand, 40.3% were proficient against 24.4% of permanent migrants. At the time of the survey, temporary migrants still seem to be more proficient in the French language than permanent migrants. As shown in Tables 1 and 2, permanent and temporary migrants are statistically different along most observable characteristics (except for gender and age at arrival) and behavioral choices. Below, we examine whether the difference in behavior between temporary and permanent migrants persists once we control for individual characteristics and the potential endogeneity between return plans and behavior.

4 Methodology

4.1 Return Intentions and Home Outcomes

Our first interest is in determining how return migration intentions affect immigrant's investment behavior, both in France and in their country of origin. We first consider the following five binary investment outcomes related to the country of origin: Physical investment: (i) whether they remit money to the origin, (ii) whether they finance a project at origin, (iii) whether they own a house at origin; Non-monetary investment: (iv) whether they have an interest in the politics of their country of origin and (v) whether they participate in elections at origin.

The main challenge is that return plans are potentially endogenous to our outcomes of interest (immigrants' behavior). An endogeneity issue may arise due to reverse causality. More specifically, intrinsic attachment to the country of origin is potentially positively correlated to both willingness to return and outcomes such as remittances, investment in the country of origin, participation in elections at origin etc. This issue would bias our coefficient of interest upward. Furthermore, we could have a reverse causality problem if outcomes such as owning a house at origin or interest in the politics of the origin country were actually causing the intention to return, rather than the other way around.

To circumvent this issue, we use a plausibly exogenous shifter for return

plans: opinion of the migrant about discrimination in France. The idea is that if migrants think that discrimination in France is widespread, they are certainly more likely to be willing to return to their home country. de Coulon et al. (2015) confirmed this in a recent quasi-experimental setting (i.e. the media coverage of a particularly tragic murder committed by a Romanian immigrant in Italy). They find that exposure to anti-immigrant attitudes impacts the intended duration of stay in the host country. In particular, immigrants who experience an increase in negative media feedback are those that predominantly increase their intention to return. Moreover, the opinion about discrimination in France is not likely to influence the outcomes through a channel other than return plans. It is important to note that this variable captures perceived discrimination and does not capture discriminatory acts against the individual which could affect immigrant's behavior beyond return intentions. One might be concerned by the potential correlation between our instrument and wages. Indeed, it is plausible that migrants in low-pay jobs tend to think that discrimination is more widespread in France, by just generalizing their own case. In any case, we control for socio-professional categories, which proxies for income in the main model and check the robustness using income later.[6]

We estimate a recursive bivariate probit model with return plans and the outcome of interest as left-hand side variables, but return intention also affects directly immigrant's outcome, as follows:

$$R_i = \alpha_0 + \alpha_1 X_i + \alpha_2 Z_i + u_i \quad (1.1)$$

$$BO_i = \beta_0 + \beta_1 R_i + \beta_2 Z_i + v_i \quad (1.2)$$

As argued by Wilde (2000) and similarly by Greene (2003), identification is achieved through functional form in recursive bivariate models.[7] However, we still include exclusion restriction, X_i to provide plausibly exogenous variation in return intentions, R_i. Z_i a vector of individual characteristics (gender, marital status, age, age at arrival, education, region of residence, urban status, activity and employment status, socio-professional category, region of

[6]Income is not used as a control in our benchmark estimations due to concerns about sample selection (see section 5.2).

[7]"In contrast to linear simultaneous equations with only continuous endogenous variables in recursive multiple equation probit models with endogenous dummy regressors no exclusion restrictions for the exogenous variables are needed if there is sufficient variation in the data. The last condition is ensured by the assumption that each equation contains at least one varying exogenous regressor" (Wilde, 2000)

origin), and u_i and v_i are error terms distributed as bivariate normal, each with a mean of zero, and variance-covariance matrix V, where V has values of 1 on the leading diagonal. We also control for the immigrant's household characteristics. Our coefficient of interest is β_1 capturing the impact of return intentions on the outcome. Since income could also be correlated to both willingness to return and outcomes such as remittances or owning a house at origin, and if low income correlates to a high willingness to return, then the coefficient of interest would be biased downwards. In order to mitigate this problem we control for both employment status as well as socio-professional categories to proxy for income.

4.2 Return Intentions and Host Outcomes

Secondly, we use the same methodology to estimate the effect of return intentions on outcomes that concern the host country, mainland France.

$$\begin{aligned} R_i &= \alpha_0 + \alpha_1 X_i + \alpha_2 Z_i + u_i \\ BF_i &= \beta_0 + \beta_1 R_i + \beta_2 Z_i + v_i \end{aligned}$$

where BF_{id} is migrants' behavior in France. The outcomes of interest here are the binary variables that indicate monetary investment: (i) owning a house in France; skill investment: (ii) improvement in French since arrival; and non-monetary investment : (iii) interest in French politics. Similarly, there is a potential endogeneity problem: it could be that an individual actually wants to return because she has not managed to buy a house in France. Therefore, for identification and rather than relying solely on functional form we use an instrument that captures the attachment to the home country but does not affect the investment decision in France through any additional channel. We use whether individuals want to be buried in France or abroad, as those who would like to be buried back home are more likely to return and to have attachment to their home country. Burial place should not be correlated with interest in French politics, French language improvement nor owning a house in France by any other channel than that of return intentions.

It is important to discuss here a limitation of our data, namely that we only observe individuals at one point in time. Therefore, we are not able to

control for previous behavior that might be correlated with current decisions. In other words, it is possible that individuals do not remit today because they remitted in the past or plan to remit in the future though they still plan to return. Thus, our estimates could be downward biased for remittances. However, since we study an array of outcomes, it is unlikely that a bias is encountered across all outcomes. Moreover, our interest is in how current return intention affects current behavior.

4.3 Trade-off between Outcomes

Finally, we study the existence of potential trade-off/complementarity between home and host outcomes caused by return intentions. More precisely, we want to uncover whether temporary migrants tend to substitute investment in the host country by investment in the origin country. We want to know how return plans affect immigrants behavior at home versus host countries e.g. are temporary migrants less likely to remit if they are investing in a house in France, or are temporary migrants less likely to invest in a house at origin if they are investing in a house in France? We first focus on trade-offs between one home investment outcome versus one host investment outcome since it is challenging to identify two outcomes associated with home or host country. Because it is not clear how financial and non financial outcomes are intertwined, we start by analyzing the purely monetary outcomes trade-offs followed by the non-monetary outcome trade-offs. To this end we estimate the following 3-equation recursive multivariate probit model:

$$
\begin{aligned}
R_i &= \alpha_0 + \alpha_1 X_i + \alpha_2 Z_i + u_i && (2.1)\\
BO_i &= \beta_0 + \beta_1 R_i + \beta_2 P_i + \beta_3 Z_i + v_i && (2.2)\\
BF_i &= \gamma_0 + \gamma_1 R_i + \gamma_2 Z_i + w_i && (2.3)
\end{aligned}
$$

R_i, BO_i and BF_i are, as previously, return intention, investment in the country of origin and investment in France respectively. u_i, v_i and w_i are error terms distributed as multivariate normal, each with a mean of zero, and variance-covariance matrix V, where V has values of 1 on the leading diagonal and correlations $\rho_{jk} = \rho_{kj}$, with $(i, j, k) \in 1, 2, 3$, as off-diagonal elements. The model has a structure similar to that of a seemingly unrelated regression (SUR) model, except that the dependent variables are binary indicators. As

for the SUR case, the equations need not include exactly the same set of explanatory variables.

Now we face the same endogeneity issues as previously but we also have one additional equation to estimate. Consequently, we need a second exclusion restriction in order to assess the potentially causal pathway between return intentions and the outcomes. To this end, we instrument return intention by X_i opinion about discrimination in France as previously done. Additionally, we use P_i presence of a parent (mother and/or father) abroad as an exclusion restriction for the country of origin outcome. The idea is that, controlling for observable characteristics, the presence of a parent abroad should induce individuals to increase their investment in the country of origin, be it either financially (remittances, project, ownership) or non financially (political interest and participation). In turn, it should not affect directly the return intention channel nor the host country outcome (such as own a house in France, interest in French politics or language improvement in French).

5 Empirical Analysis

5.1 Return Intentions and Immigrants' Investment Behavior

First, we focus on the relationship between return intentions and immigrant's behavior. We run a naive linear probability model, ignoring the endogeneity issue, where immigrant's outcomes appear on the left hand side and return intention is a dummy on the right hand side (see Table A1). The coefficients of the return intention are positive and significant for all investments in the country of origin and negative and significant for all investments in the host country (except for interest in politics in France). We then run a simple 2SLS where return intention is instrumented to establish whether our instruments work in Table A2. We find that our instrument is significant and the F-statistics of the first stage is consistently above 10 in the full sample. For the regional sub-samples, the instrument looks less strong due to smaller sample sizes.

INSERT Table 3: Bi-Probit: Full sample, Africans only and Europeans only
INSERT Table 4: Bi-Probit: Predicted probabilities

Table 3 presents our first main sets of results using the recursive bivariate probit where we take into account the reverse causality, as well as the

correlation between return intentions and outcomes. Return intentions seem to increase the probability to invest in the origin country as shown by the positive coefficients in the first five columns, albeit not always significant. In turn, intention to return tends to decrease the probability to invest in the host country, as shown by the negative coefficients in columns (6) to (8). For host country outcomes, the negative effect of return intention is very significant for improvement in French and owns a house in France, but not significant (although signed consistently) for interest in politics in France. Distinguishing between immigrants by origin highlights behavioral differences which are hidden in the full sample. Immigrants from Africa who desire to return behave as expected in the sense that they increase their investment towards their origin country and decrease that in France. Owning a house in France though is not significant suggesting that there is no significant difference between Africans who plan to return and those who do not in terms of house ownership in France. This result holds even if we control for income. For European migrants, the picture remains similar to the full sample in terms of host-country related behavior, while the results look contrasted for the investments at origin, albeit not always significant despite having the right sign.

Interestingly, in terms of language skills, we find that those who plan to return are less likely to have experienced improvements compared to those who intend to stay. This underscores that those planning to leave are less likely to assimilate and learn French. It is important to note that we control for whether the country of origin and France share French as an official language (as in Mayer and Zingano, 2011). Furthermore, improvement in French between time of arrival and the time of survey is not only based on self reporting but also on a French test which was administrated as part of the survey.[8] Another interesting finding is that there is a positive correlation between return plans and interest in politics and participation in elections at origin, particularly for Africans suggesting another channel though which temporary migration impact on economic development and political institutions at home.

Table 4 shows by how much intending to return affects outcomes. In order to get the magnitude of the effect, we predict the following probabilities: $P[BO_i = 1|R_i = 1]$ and $P[BO_i = 1|R_i = 0]$. Thus, we can observe how

[8]As a robustness, we checked whether immigrants enrolled in French classes since arrival, but the sample is too small for any robust analysis.

the probability e.g. to remit is affected by the intention to return. In the full sample, return intention does not significantly impact the likelihood of monetary investment at origin but does increase political interest and political participation at origin. At the same time, intention to return decreases the probability to own a house in France by about 22 percentage points (p.p.). For African immigrants, return intentions have a substantial impact on the probability of remitting and investing at home, whilst also reducing the incentives to invest in France. Conditional on return, 54% of African immigrants are likely to remit compared to 20% if they are not planning to return. The probability of non-monetary outcomes also increases by a large amount with (59 and 48 percentage points respectively for the probability to participate in elections and to be interested in politics at origin). For Europeans, intention to return does not seem to impact financial investment at origin, with the exception of house ownership which increases by almost 31 percentage points with intention to return. Overall, the results so far suggest that return intentions matter for immigrants' behavior across different dimensions.

5.1.1 Return Intentions and Joint Home-Host Investment Decisions

Now we turn to the issue of whether there is a tension between various return intentions and joint investment decisions. In particular we examine the possible trade-off between behavior at origin (BO_i) and behavior at host (BF_i). To this end, we first run a linear specification (3SLS) to check the significance of our instruments. We find that our two instrumental variables (opinion about discrimination and parent abroad) are significant in the full sample and for Africans (see Tables A3 and A4) but less so for Europeans (see Table A5). We then run our multiple equation Probit estimations as described in Section 4.2. Table A6 shows the results. Specifications (1) (2) and (3) study simultaneously investing at origin (remitting, investing in a project or owning a house at origin) and investing in France (owning a house) across return intentions. (4) to (8) look at the potential trade-off between improvement in French language and all other outcomes, while (9) and (10) deal with the political outcomes (interest in politics in France versus interest in politics and participation in elections at origin).

Our findings in Table A6 show that the correlation between home outcomes and host outcomes, ρ_{23}, is never significant suggesting that there is

no strong correlation between home and host outcomes.[9] This result is quite robust across different specifications, and samples as well as by origin. One plausible explanation is that immigrants diversify the location of their investments, so investment at home is not at the expense of investment at host. Also, we look at extensive and not intensive margins.

Marginal probabilities are shown in Table 5. We calculate the probabilities of BO_i and BF_i conditional on desiring to return. We compute the probability of $BO_i = 1$ and that of $BF_i = 1$ fixing R_i to 0 and 1 successively. The results show that examining only a single outcome (Table 4) provide a biased estimate compared to the consideration of two outcomes jointly. In other words, conditional on return the probability of remitting is likely to be overestimated as compared to a simultaneous estimation of remitting and owning a house in France for example. This is important since the previous literature has tended to focus on one outcome in isolation.

INSERT Table 5: Tri-Probit: Predicted probabilities

5.2 Robustness

In order to test the robustness of our results, we first change the way we define the intention to leave France by including respondents who answered the question on the intention to leave France with "Maybe" among temporary migrants (instead of permanent as in our benchmark specification). Results are qualitatively unaffected for all the outcomes and estimation strategies. Secondly, we focused on our temporary migrants and compared the behavior of those who have taken steps towards return from those who have not, and found no statistical difference between them in behavior.[10]

As a further robustness, we ran several checks on the sample composition. We restricted the sample to individuals who accepted to declare their income (which biases the sample as a large proportion of self-employed is dropped) in order to see whether controlling for income would change the picture. Our previous results are robust. We also run our estimations excluding individuals aged 16 or less at the moment of arrival (often referred to as generation 1.5). It can be argued that these immigrants did not take the decision to migrate

[9] The only exception is political interest at origin and destination, which seem to be complementary.

[10] Detailed results can be obtained on request.

themselves but were rather following their family. Given that they have spent part of their youth and a substantial part of their life in France, their attachment and behavior towards their country of origin might differ from migrants who moved to France in order to work there (i.e. first generation migrants). These individuals constitute roughly 1/3 of our sample. Results remain largely consistent when we exclude them from our sample. Similarly, we ran our estimations on a sub-sample excluding individuals born in DOM, i.e. French Oversea Territories. Given that these 712 individuals generally have the French nationality and free mobility between their territory of origin and mainland France, they could be expected to behave differently from immigrants originating for example from Europe or Africa. Previous results remain broadly consistent both in terms of sign and size of the coefficient of interest.[11]

5.3 Discussion

Having checked the robustness of our results, we explore them further to understand the lack of correlation between home and host outcomes. First, we ignored the return intention altogether and ran several additional specifications of home versus host outcomes (focusing on the monetary ones in particular) since those might be competing if credit constraints bind. We have estimated simple probits where the right hand side is the home outcome and the host outcome is on the left hand side. Then we ran a bivariate probit of the two outcomes and finally a bivariate recursive probit. In all cases, the host outcome and the correlations between the two outcomes are generally not significant. This confirmed our prior results about the lack of trade-off between home and host outcomes.[12]

We then examined the possibility of trade-offs between two home monetary outcomes, namely: remitting and owning a house at origin; remitting and investing in a project at origin and finally owning a house at origin and investing in a project at origin. Finding a valid exclusion restriction in this case is problematic since we are dealing with two home outcomes simultaneously. Given that this constitutes an additional robustness check, we rely on the functional form for identification. Table A7 provides results for three different specifications of the three possible pairwise combinations of monetary home outcomes. The specifications include a bi-variate probit regression, a

[11]Detailed results can be obtained on request.

[12]More details can be obtained upon request.

bi-variate probit regression where one outcome appears as a control in the right hand side of the other outcome and a tri-variate probit function with a return intention equation (and return intention as a control in the two equations of the home variables). We find that the correlations between the two home outcomes are always positive and significant (except for the recursive bivariate probit estimates). Thus, overall this findings suggest that there is a complementarity between the home outcomes we are examining.

6 Conclusion

This paper studies how return migration intentions affect immigrants' behavior. Using a unique French data set, we analyze the relationship between return plans and several immigrants' outcomes in the host and origin country. The findings show that temporary migrants behave differently from permanent ones. Temporary migrants are more likely to display higher attachment to the home country in the form of remittances and investment in the country of origin. Also, return plans are associated with lower monetary and non-monetary (human capital and political) investment in the host country. However, the differences in immigrants' behavior due to country of origin are large. Not surprising, there is a stark disparity between African and European immigrants. Indeed, the former who wish to return tend to increase their home-related investments while leaving ownership in France unchanged, while for the latter, the home-related investment varies little (except ownership of a house at origin) but housing investment in France decreases sharply.

Examining the potential trade-off between home and host countries' outcomes, we find no significant correlation between immigrants' investments at the home and at the host country. This suggests that immigrants might tend to diversify the location of their investment. Also, there is no trade-off between non-monetary and monetary outcomes. Finally, home outcomes seem to exhibit some complementarity: an immigrant who uses one investment channel towards her origin country (i.e. remit) is also more likely to use a second one (i.e. invest in a project).

Overall, our results suggest that temporary migrants behave differently from permanent ones in the host country and particularly tend not to invest in non-monetary investment such as language and politics in the host which might result in them becoming less assimilated in the host country. This is particularly problematic as return intentions do not always materi-

alize. Hence, those behavioral differences should be taken into account in the migration policy debate, in particular at times were temporary migration policies are increasingly preferred over other migration schemes by many governments.

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Appendices

A Descriptive statistics of the full sample

The mean age in the sample is 41.5 years and mean age at arrival is 19.9 years. 53.1% of the sample is female. 73.4% of respondents share the household with a partner, 24.9% are single while the remaining 1.7% have a partner living outside the household. 22.3% live in agglomerations with less than 50,000 inhabitants and 64.8% in agglomerations with more than 200,000 inhabitants. We also control for the domestic region in France. 16.6% completed primary, 27.4% secondary school and 14.9% a vocational training. 22.6% finished up to 2 years of college and 18.6% have a master degree.

68% of respondents are active and employed (60.7% of respondents are waged and 7.3% self-employed) while 9.3%are unemployed. 3.5% of respondents are students and 19.2% are inactive (including the retired). Almost one third (30.2%) of the respondents benefited from a family reunion program or married a French citizen. 15.4% own a worker visa and 11.1% a student visa. Asylum seekers make up 10.6% of the sample while 15% of respondents benefited from a legal visa waiver. 54.6% of respondents have a parent at origin country and 7.5% a child. 39.7% own a house.

The survey allows to proxy the links kept with origin country. 36.3% of the respondents visit origin at least once a year. 21.8% of respondents state that they send remittances to people outside their household and 12.1% finance a project at origin. 16.3% participate in political elections at origin.

The language skills that migrants had upon arrival are variable. 40% state that they did not speak French at all while 1.3% stated a very good level at speaking and understanding and 26.9% a proficient level in everything. 58.4% however declare that language skills improved since arrival and 52.1% declare to be proficient in all the aspects of French language at the date of survey.

Table 1: Characteristics of immigrants by return intention

	Full sample	Intend to return	Intend to stay	Difference
Sample Size	9168	1438	7730	
(% of total)		15.7 %	84.3 %	
Age in 2008 (average)	41.5	39.4	41.9	2.556***
Age at Arrival	19.9	20.4	19.8	-0.504
Female (% of the sample)	53.1 %	51.3 %	53.5 %	0.022
Parent at origin (% Yes)	54.5 %	65.1 %	52.6 %	-0.125***
Child at origin (% Yes)	7.5 %	8.8 %	7.2 %	-0.015**
Burial intention outside France	31.4 %	55.0 %	27.0 %	-0.280***
Opinion on discrimination (often versus rest)	42.7 %	54.8 %	40.4 %	-0.144***
Investment Behaviour				
Remit	15.0 %	19.9 %	14.1 %	-0.058***
Own house outside France	19.3 %	30.3 %	17.2 %	-0.130***
Project at origin	1.3 %	2.6 %	1.0 %	-0.070***
Own house in France	39.7 %	28.4 %	41.7 %	0.133***
Participation in elections outside France	15.9 %	19.1 %	15.3 %	-0.038***
Interest for politics in country of origin	15.0 %	22.5 %	13.6 %	-0.133***
Language Improvement	58.4 %	46.5 %	60.6 %	0.142***

Note: T-test for difference between the two groups. ***, **, and * represent 1 %, 5 % and 10 % significance levels, respectively.

Table 2: Characteristics of Immigrants by Return Intention, continued

	Full sample	Intend to return	Intend to stay	Pearson's χ^2 (p-value)
Origin				477.905 (0.000)
DOM	7.8 %	19.7 %	5.5 %	
Europe	25.7 %	22.2 %	26.4 %	
North Africa	24.3 %	14.3 %	26.1 %	
Subsaharan Africa	15.3 %	22.7 %	13.9 %	
Asia	21.3 %	15.6 %	22.3 %	
Other	5.7 %	5.5 %	5.7 %	
Completed education				24.698 (0.000)
Up to primary	16.6 %	15.6 %	16.8 %	
Secondary schooling	27.4 %	25.0 %	27.8 %	
Vocational training	14.9 %	13.4 %	15.2 %	
Up to bachelor degree	22.6 %	23.2 %	22.5 %	
Master degree	18.6 %	22.9 %	17.8 %	
Marital Status				52.375 (0.000)
Single	24.9 %	30.1 %	23.9 %	
Cohabiting partner	73.4 %	66.7 %	74.7 %	
Non-Cohabiting partner	1.7 %	3.2 %	1.4 %	
Size of residence place				70.753 (0.000)
$<$ 50.000 inhab.	22.3 %	16.7 %	23.4 %	
$<$ 200.000 inhab.	12.9 %	10.7 %	13.3 %	
$<$ 1.000.000 inhab.	26.2 %	24.6 %	26.5 %	
$>$ 1.000.000 inhab.	38.6 %	48.0 %	36.9 %	
Employment status				83.028 (0.000)
Active				
Waged	60.7 %	62.3 %	60.4 %	
Self-Employed	7.3 %	6.4 %	7.5 %	
Unemployed	9.3 %	8.4 %	9.5 %	
Inactive (including retired)	19.2 %	15.6 %	19.8 %	
Students	3.5 %	7.2 %	2.8 %	
Employment category				24.426 (0.000)
Business owners and managing positions	16.4 %	15.8 %	16.6 %	
Intermediate positions	12.7 %	14.3 %	12.4 %	
Clerks and employes	24.9 %	26.2 %	24.7 %	
Workers	28.5 %	23.8 %	29.4 %	
Never worked and other inactive	17.4 %	20.0 %	16.9 %	
Visa type at arrival				255.743 (0.000)
Family Reunion or				
Married French citizen	30.2 %	24.0 %	31.3 %	
Worker visa	15.4 %	16.1 %	15.3 %	
Student visa	11.1 %	14.5 %	10.4 %	
Asylum	10.6 %	5.5 %	11.5 %	
Visa waiver	15.0 %	26.7 %	12.8 %	
Other visa	17.8 %	13.3 %	18.6 %	
French skills at arrival				156.206 (0.000)
Not at all	40.0 %	31.7 %	41.6 %	
Knows some French	31.7 %	26.5 %	32.7 %	
Understands and speaks	1.3 %	1.4 %	1.3 %	
Proficient	26.9 %	40.3 %	24.4 %	

Note: Pearson's χ^2 gives the p-value associated to the hypothesis that the rows and columns in a two-way table are independent.

Table 3: Bi-Probit: Full sample, Africans only and Europeans only

		Origin country outcomes					Host country outcomes		
	Outcome of interest (equation 2)	(1) Remit	(2) Project at origin	(3) Owning a house at origin	(4) Participation in elections at origin	(5) Interest in politics outside France	(6) Interest in politics in France	(7) Improve French	(8) Own house in France
	Full Sample								
Eq. 2.2	**Outcome of interest**								
	Intention to return	0.160	0.502*	0.206	1.679***	0.984***	-0.199	-0.913***	-0.785***
		(0.184)	(0.227)	(0.458)	(0.172)	(0.119)	(0.234)	(0.198)	(0.120)
Eq. 2.1	**Intention to return**								
	Exclusion restriction								
	Opininon about	0.250***	0.253***	0.253***	0.237***	0.263***			
	Discrimination	(0.057)	(0.057)	(0.054)	(0.040)	(0.054)			
	Burial intention						0.732***	0.755***	0.740***
	Outside France						(0.083)	(0.094)	(0.079)
	Observations	9168	9168	9168	9168	9168	9168	7792	9168
	ρ	0.014	-0.087	0.169	-0.729***	-0.313***	0.129	0.412***	0.357***
	Log-likelihood	-6832.513	-6771.006	7623.743	-7283.522	-7392.821	-7761.264	-4785.569	-8193.312
	Model Wald test	0.024	0.394	0.435	42.560***	17.052***	0.812	9.799***	16.639***
	Africans only								
Eq. 2.2	**Outcome of interest**								
	Intention to return	1.076***	1.643***	1.003**	1.786***	1.452***	0.016	-0.911***	-0.495
		(0.265)	(0.267)	(0.410)	(0.253)	(0.248)	(0.432)	(0.304)	(0.322)
Eq. 2.1	**Intention to return**								
	Exclusion restriction								
	Opininon about	0.438***	0.436***	0.415***	0.348***	0.426***			
	Discrimination	(0.054)	(0.053)	(0.055)	(0.059)	(0.054)			
	Burial intention						0.497***	0.520***	0.504***
	Outside France						(0.056)	(0.057)	(0.055)
	Observations	3627	3627	3627	3627	3627	3627	3402	3627
	Europeans only								
Eq. 2.2	**Outcome of interest**								
	Intention to return	0.815	-0.039	1.034**		1.556***	-0.197	-1.422***	-0.473*
		(0.628)	(0.666)	(0.520)		(0.341)	(0.333)	(0.217)	(0.257)
Eq. 2.1	**Intention to return**								
	Exclusion restriction								
	Opininon about	0.137*	0.124*	0.107		0.155**			
	Discrimination	(0.072)	(0.074)	(0.076)		(0.071)			
	Burial intention						0.980***	1.047***	0.983***
	Outside France						(0.084)	(0.089)	(0.084)
	Observations	2359	2359	2359		2359	2359	2081	2359

Note: In all specifications, we control for gender, marital status, age, age at arrival, educational attainment (5 categories), urban status, employment status, region of origin (6 regions), region of residence in France (28 regions), socio-professional category (5 categories), presence of a child abroad and presence of a parent (mother and/or father) abroad. Additionally, we control for proficiency in French upon arrival in column (9). We loose 108 observations in this specification as we drop migrants from the French Overseas Territories as they were all perfectly proficient in French upon arrival. Standard errors are clustered at the country of origin level.

Table 4: Bi-Probit: Predicted probabilities

		Full Sample			Africans only			Europeans only		
		Conditional on		Diff.	Conditional on		Diff.	Conditional on		Diff.
		Intend to return	Not		Intend to return	Not		Intend to return	Not	
(1)	Remit	17.7	14.4	3.3	53.6	19.8	33.8***	19.7	5.9	13.8
(2)	Project at origin	21.9	10.6	11.3*	62.4	10.7	51.7***	6.8	7.3	-0.5
(3)	House at origin	23.7	18.4	5.3	48.3	17.3	31.0**	49.1	18.3	30.8**
(4)	Election at origin	65.0	13.0	52.0***	73.0	13.6	59.4***			
(5)	Interest in politics at origin	42.2	12.9	29.3***	61.6	13.5	48.1***	52.8	9.4	43.4***
(6)	Interest in politics in France	17.1	22.1	-5.0	26.5	26.0	0.5	13.6	17.9	-4.3
(7)	Improved French	46.8	58.5	-11.7***	32.6	47.4	-14.8***	64.8	82.5	-17.7***
(8)	House in France	21.7	43.4	-21.7***	15.4	26.9	-11.5	47.5	62.4	-14.9*

Note: The predicted probabilities were computed using Stata post-estimation commands after each of the 8 specifications described in Table 3. The significance of the difference is based on the significance of the coefficient on intention to return in Table 3.

Table 5: Tri-Probit: Predicted probabilities

		Full Sample			Africans only			Europeans only		
		Conditional on		Diff.	Conditional on		Diff.	Conditional on		Diff.
		Intend to return	Not		Intend to return	Not		Intend to return	Not	
(1)	Remit	17.0	14.6	2.4***	44.1	20.5	23.6***	8.2	7.0	1.2
	House in France	36.0	40.4	- 4.4	22.4	25.4	-3.0	50.1	62.1	-12.0*
(2)	Project at origin	17.6	11.1	6.5***	25.1	12.3	12.6***	8.1	6.9	1.2
	House in France	36.0	40.4	-4.4	22.5	25.4	-2.9	50.7	62.0	-11.3*
(3)	House at origin	29.1	17.5	11.6***	39.4	18.0	21.4***	38.0	19.4	18.6***
	House in France	35.9	40.4	-4.5	22.5	25.4	-2.9	50.1	62.1	-12.0*
(4)	Remit	20.2	13.6	6.6*	32.9	21.9	11.0***	10.8	5.4	5.4**
	French language improvement	55.8	56.8	-1.0	42.7	45.2	-2.5	76.8	80.4	-3.6
(5)	Project at origin	21.1	10.5	10.6***	30.9	12.1	18.8***	10.1	6.0	4.1*
	French language improvement	55.8	56.8	-1.0	42.6	45.2	-2.6	76.8	80.4	-3.6
(6)	House at origin	33.7	15.9	17.8***	36.8	18.1	18.7***	39.3	18.0	21.3***
	French language improvement	55.8	56.8	-1.0	42.7	45.2	-2.5	76.8	80.4	-3.6
(7)	Interest in politics at origin	27.0	13.0	14.0***	36.0	14.0	22.0***	23.6	9.8	13.8***
	French language improvement	55.9	56.8	-0.9	42.9	45.1	-2.2	76.6	80.4	-3.8
(8)	Election at origin	23.8	14.8	9.0**	18.2	16.1	2.1	40.7	21.3	19.4**
	French language improvement	55.8	56.8	-1.0	42.7	45.2	-2.5	77.0	80.4	-3.4
(9)	Election at origin	23.5	14.8	8.7***	29.9	14.8	15.1***	29.6	22.4	7.2
	Interest in politics in France	22.8	20.9	1.9	39.7	24.2	15.5***	20.7	16.7	4.0
(10)	Interest in politics at origin	27.6	14.3	13.3***	39.7	14.5	25.2***	22.9	10.8	12.1**
	Interest in politics in France	21.8	21.0	0.8	37.1	24.4	12.7**	20.3	16.7	3.6

Note: The predicted probabilities were computed using Stata post-estimation commands after each of the 10 specifications described in Table A6. The significance of the difference is based on the significance of the coefficient on intention to return in Tables A6

Table A1: LPM: Full sample, Africans only and Europeans only

	Origin country outcomes					Host country outcomes		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Outcome of interest (equation 2)	Remit	Project at origin	Owning a house at origin	Participation in elections at origin	Interest in politics outside France	Interest in politics in France	Improve French	Own house in France
Full Sample								
Outcome of interest								
Intention to return	0.040**	0.074***	0.144***	0.065***	0.116***	0.005	-0.019	-0.060**
	(0.011)	(0.009)	(0.013)	(0.015)	(0.015)	(0.005)	(0.013)	(0.021)
Observations	9168	9168	9168	9168	9168	9168	9060	9168
R^2	0.130	0.048	0.101	0.061	0.064	0.087	0.593	0.264
Africa								
Outcome of interest								
Intention to return	0.103***	0.107***	0.142***	0.039**	0.119***	0.018	-0.035**	-0.026
	(0.019)	(0.016)	(0.018)	(0.018)	(0.018)	(0.020)	(0.016)	(0.019)
Observations	3627	3627	3627	3627	3627	3627	3545	3627
R^2	0.112	0.055	0.107	0.032	0.054	0.105	0.542	0.189
Europe								
Outcome of interest								
Intention to return	0.030*	0.041***	0.158***	0.089***	0.109***	0.009	-0.054***	-0.108***
	(0.016)	(0.016)	(0.024)	(0.025)	(0.020)	(0.023)	(0.020)	(0.027)
Observations	2359	2359	2359	2359	2359	2359	2350	2359
R^2	0.069	0.050	0.183	0.101	0.110	0.079	0.412	0.245

Note: In all specifications, we control for gender, marital status, age, age at arrival, educational attainment (5 categories), urban status, employment status, region of origin (6 regions), region of residence in France (28 regions), socio-professional category (5 categories), presence of a child abroad and presence of a parent (mother and/or father) abroad. Additionally, we control for proficiency in French upon arrival in column (9). We loose 108 observations in this specification as we drop migrants from the French Overseas Territories as they were all perfectly proficient in French upon arrival. Standard errors are clustered at the country of origin level.

Table A2: 2SLS: Full sample, Africans only and Europeans only

		Origin country outcomes					Host country outcomes		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Outcome of interest (equation 2)	Remit	Project at origin	Owning a house at origin	Participation in elections at origin	Interest in politics outside France	Interest in politics in France	Improve French	Own house in France
	Full Sample								
Eq. 2.2	**Outcome of interest**								
	Intention to return	0.346***	0.421**	0.024	0.455	0.742***	-0.140***	-0.028	-0.323***
		(0.127)	(0.191)	(0.183)	(0.331)	(0.132)	(0.037)	(0.042)	(0.073)
Eq. 2.1	**Intention to return**								
	Exclusion restriction								
	Opininon about	0 .055***	0 .055***	0 .055***	0 .055***	0 .055***	0.068***	0.068***	0.068***
	Discrimination	0.013	0.013	0.013	0.013	0.013	0.008	0.008	0.008
	Observations	9168	9168	9168	9168	9168	9168	9060	9168
	R^2	0.040	.	0.090	.	.	0.072	0.593	0.229
	F-stat	64.78	64.78	64.78	64.78	64.78	86.01	78.34	86.01
	Africa								
Eq. 2.2	**Outcome of interest**								
	Intention to return	0.715***	0.620***	0.297**	0.058	0.616***	-0.162	-0.225*	-0.344**
		(0.175)	(0.147)	(0.149)	(0.141)	(0.157)	(0.142)	(0.116)	(0.137)
Eq. 2.1	**Intention to return**								
	Exclusion restriction								
	Opininon about	0.089***	0.089***	0.089***	0.089***	0.089***	0.049***	0.049***	0.049***
	Discrimination	0.012	0.012	0.012	0.012	0.012	0.006	0.006	0.006
	Observations	3627	3627	3627	3627	3627	3627	3545	3627
	R^2	.	.	0.090	0.031	.	0.085	0.524	0.124
	F-stat	4.36	4.36	4.36	4.36	4.36	4.74	4.59	4.74
	Europe								
Eq. 2.2	**Outcome of interest**								
	Intention to return	0.992	0.788	-0.928	1.903	1.218	-0.181*	0.012	-0.247**
		(0.776)	(0.677)	(0.997)	(1.385)	(0.923)	(0.095)	(0.080)	(0.110)
Eq. 2.1	**Intention to return**								
	Exclusion restriction								
	Opininon about	0.022	0.022	0.022	0.022	0.022	0.079***	0.079***	0.079***
	Discrimination	0.014	0.014	0.014	0.014	0.014	0.007	0.007	0.007
	Observations	2359	2359	2359	2359	2359	2359	2350	2359
	R^2	.	.	.	.	.	0.051	0.409	0.236
	F-stat	4.24	4.24	4.24	4.24	4.24	7.55	7.11	7.55

Note: In all specifications, we control for gender, marital status, age, age at arrival, educational attainment (5 categories), urban status, employment status, region of origin (6 regions), region of residence in France (28 regions), socio-professional category (5 categories), presence of a child abroad and presence of a parent (mother and/or father) abroad. Additionally, we control for proficiency in French upon arrival in column (9). We loose 108 observations in this specification as we drop migrants from the French Overseas Territories as they were all perfectly proficient in French upon arrival. Standard errors are clustered at the country of origin level.

Table A3: 3sls: Full sample

	(1) Own France b/se	(2) Own France b/se	(3) Own France b/se	(4) French improv. b/se	(5) French improv. b/se	(6) French improv. b/se	(7) French improv. b/se	(8) French improv. b/se	(9) Interest polit. France b/se	(10) Interest polit. France b/se
Int. to return										
Opinion discrim.	0.055***	0.055***	0.055***	0.055***	0.055***	0.055***	0.055***	0.055***	0.055***	0.055***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Host outcome										
Int. to return	-0.061***	-0.061***	-0.061***	-0.017*	-0.017*	-0.017*	-0.017*	-0.017*	0.012	0.012
	(0.013)	(0.013)	(0.013)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.012)	(0.012)
Remit										
Int. to return	0.037***			0.034***						
	(0.010)			(0.010)						
Parent abroad	0.070***			0.069***						
	(0.008)			(0.008)						
Project origin										
Int. to return		0.075***			0.076***					
		(0.010)			(0.010)					
Parent abroad		0.016**			0.015**					
		(0.008)			(0.008)					
Own origin										
Int. to return			0.143***			0.143***				
			(0.011)			(0.011)				
Parent abroad			0.002			0.003				
			(0.009)			(0.009)				
Election at orig.										
Int. to return							0.063***		0.065***	
							(0.011)		(0.011)	
Parent abroad							0.038***		0.037***	
							(0.008)		(0.008)	
Politics at orig.										
Int. to return								0.117***		0.118***
								(0.011)		(0.011)
Parent abroad								0.024***		0.021***
								(0.008)		(0.008)
Observations	9168	9168	9168	9060	9060	9060	9060	9060	9168	9168
R^2	0.264	0.264	0.264	0.593	0.593	0.593	0.593	0.593	0.087	0.087

Table A4: 3sls: Africa

	(1) Own France b/se	(2) Own France b/se	(3) Own France b/se	(4) French improv. b/se	(5) French improv. b/se	(6) French improv. b/se	(7) French improv. b/se	(8) French improv. b/se	(9) Interest polit. France b/se	(10) Interest polit. France b/se
Int. to return										
Opinion discrim.	0.089***	0.089***	0.089***	0.086***	0.086***	0.086***	0.086***	0.086***	0.090***	0.090***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Host outcome										
Int. to return	-0.031	-0.031	-0.031	-0.030*	-0.030*	-0.030*	-0.030*	-0.030*	0.034*	0.034*
	(0.019)	(0.019)	(0.019)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.020)	(0.020)
Remit										
Int. to return	0.111***			0.101***						
	(0.019)			(0.019)						
Parent abroad	0.092***			0.089***						
	(0.015)			(0.015)						
Project origin										
Int. to return		0.115***			0.114***					
		(0.016)			(0.016)					
Parent abroad		0.012			0.009					
		(0.013)			(0.013)					
Own origin										
Int. to return			0.145***			0.144***				
			(0.018)			(0.019)				
Parent abroad			0.000			-0.001				
			(0.014)			(0.014)				
Election at orig.										
Int. to return							0.033*		0.039**	
							(0.018)		(0.017)	
Parent abroad							0.034**		0.031**	
							(0.014)		(0.014)	
Politics at orig.										
Int. to return								0.123***		0.127***
								(0.018)		(0.018)
Parent abroad								0.020		0.019
								(0.014)		(0.013)
Observations	3627	3627	3627	3545	3545	3545	3545	3545	3627	3627
R^2	0.189	0.189	0.189	0.542	0.542	0.542	0.542	0.542	0.105	0.105

Table A5: 3sls: Europe

	(1) Own France b/se	(2) Own France b/se	(3) Own France b/se	(4) French improv. b/se	(5) French improv. b/se	(6) French improv. b/se	(7) French improv. b/se	(8) French improv. b/se	(9) Interest polit. France b/se	(10) Interest polit. France b/se
Int. to return										
Opinion discrim.	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.023	0.023
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Host outcome										
Int. to return	-0.108***	-0.108***	-0.108***	-0.053***	-0.053***	-0.053***	-0.053***	-0.053***	0.014	0.014
	(0.027)	(0.027)	(0.027)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.023)	(0.023)
Remit										
Int. to return	0.028*			0.029*						
	(0.016)			(0.016)						
Parent abroad	0.037***			0.039***						
	(0.012)			(0.012)						
Project origin										
Int. to return		0.041**			0.041**					
		(0.016)			(0.016)					
Parent abroad		0.020*			0.019					
		(0.012)			(0.012)					
Own origin										
Int. to return			0.159***			0.161***				
			(0.023)			(0.023)				
Parent abroad			-0.022			-0.017				
			(0.018)			(0.018)				
Election at orig.										
Int. to return							0.083***		0.086***	
							(0.025)		(0.025)	
Parent abroad							0.069***		0.075***	
							(0.019)		(0.019)	
Politics at orig.										
Int. to return								0.109***		0.109***
								(0.020)		(0.020)
Parent abroad								0.022		0.018
								(0.015)		(0.014)
Observations	2359	2359	2359	2350	2350	2350	2350	2350	2359	2359
R^2	0.245	0.245	0.245	0.412	0.412	0.412	0.412	0.412	0.079	0.079

Table A6: Tri-Probit: Full sample, Africans only, Europeans only

		(1)		(2)		(3)		(4)		(5)		(6)		(7)		(8)		(9)		(10)	
	Host Variable	Own France		Own France		Own France		Improv. French		Improv. French		Improv. French		Improv. French		Improv. French		Interest Pol. Fr.		Interest Pol. Fr.	
	Home Variable	Remit		Inv. Project		Own origin		Remit		Inv. Project		Own origin		Interest Pol. orig.		Elec. Orig		Interest Pol. orig.		Elec. Orig	
		b	se	b	se	b	se	b	se	b	se	b	se	b	se	b	se	b	se	b	se
Full Sample																					
Eq. 2.3	Host variable																				
	Return int.	-0.150	(0.177)	-0.149	(0.179)	-0.152	(0.175)	-0.070	(0.103)	-0.073	(0.099)	-0.072	(0.103)	-0.067	(0.098)	-0.073	(0.099)	0.071	(0.103)	0.029	(0.122)
Eq. 2.2	Home variable																				
	Return int.	0.119***	(0.030)	0.308***	(0.052)	0.426***	(0.096)	0.320*	(0.186)	0.479***	(0.101)	0.642***	(0.144)	0.545***	(0.149)	0.365**	(0.167)	0.347***	(0.055)	0.498***	(0.093)
	Parent abroad	0.379***	(0.034)	0.091***	(0.024)	0.059	(0.037)	0.424***	(0.046)	0.122***	(0.036)	0.071*	(0.042)	0.137***	(0.025)	0.173***	(0.064)	0.180***	(0.062)	0.099***	(0.019)
Eq. 2.1	Return int.																				
	Op. discrmin.	0.248***	(0.056)	0.248***	(0.057)	0.250***	(0.056)	0.221***	(0.065)	0.222***	(0.066)	0.219***	(0.069)	0.223***	(0.066)	0.220***	(0.066)	0.253***	(0.051)	0.252***	(0.050)
	Observations	9168		9168		9168		7792		7792		7792		7792		7792		9168		9168	
	$\rho 23$	0.014	(0.014)	0.029	(0.026)	0.009	(0.034)	-0.018	(0.037)	-0.018	(0.016)	0.024**	(0.011)	-0.006	(0.045)	-0.007	(0.027)	0.070***	(0.023)	0.566***	(0.020)
	$\rho 13$	-0.023	(0.075)	-0.023	(0.076)	-0.021	(0.075)	-0.080	(0.060)	-0.079	(0.059)	-0.080	(0.061)	-0.082	(0.060)	-0.079	(0.061)	-0.029	(0.055)	-0.010	(0.067)
	$\rho 12$	0.042**	(0.021)	0.022	(0.027)	0.049	(0.047)	-0.057	(0.088)	-0.066	(0.044)	-0.046	(0.072)	-0.060	(0.074)	-0.079	(0.097)	-0.037	(0.025)	-0.047	(0.035)
Africans only																					
Eq. 2.3	Host variable																				
	Return int.	-0.120	(0.144)	-0.113	(0.146)	-0.111	(0.147)	-0.143	(0.155)	-0.146	(0.154)	-0.141	(0.155)	-0.126	(0.155)	-0.142	(0.155)	0.485***	(0.156)	0.402**	(0.165)
Eq. 2.2	Home variable																				
	Return int.	0.764***	(0.154)	0.515***	(0.166)	0.719***	(0.159)	0.382***	(0.136)	0.713***	(0.146)	0.643***	(0.148)	0.756***	(0.150)	0.090	(0.153)	0.540***	(0.189)	0.831***	(0.174)
Eq. 2.1	Return int.																				
	Op. discrmin.	0.438***	(0.055)	0.421***	(0.056)	0.419***	(0.054)	0.407***	(0.058)	0.416***	(0.057)	0.406***	(0.057)	0.414***	(0.057)	0.404***	(0.057)	0.436***	(0.054)	0.446***	(0.055)
	Observations	3627		3627		3627		3402		3402		3402		3402		3402		3627		3627	
	$\rho 23$	0.017	(0.033)	-0.014	(0.036)	0.054	(0.034)	-0.012	(0.037)	0.023	(0.044)	-0.004	(0.039)	0.018	(0.042)	-0.007	(0.039)	0.053	(0.033)	0.581***	(0.024)
	$\rho 13$	0.016	(0.069)	0.013	(0.071)	0.012	(0.071)	-0.046	(0.066)	-0.045	(0.066)	-0.047	(0.066)	-0.056	(0.067)	-0.047	(0.067)	-0.236***	(0.076)	-0.196**	(0.082)
	$\rho 12$	-0.231***	(0.076)	-0.040	(0.083)	-0.125	(0.080)	-0.038	(0.069)	-0.164**	(0.071)	-0.080	(0.076)	-0.178**	(0.075)	0.010	(0.078)	-0.212**	(0.090)	-0.233	(0.088)
Europeans only																					
Eq. 2.3	Host variable																				
	Return int.	-0.382*	(0.212)	-0.360*	(0.216)	-0.381*	(0.207)	-0.301	(0.226)	-0.298	(0.227)	-0.296	(0.222)	-0.312	(0.225)	-0.276	(0.217)	0.161	(0.225)	0.144	(0.206)
Eq. 2.2	Home variable																				
	Return int.	0.102	(0.191)	0.091	(0.179)	0.661***	(0.211)	0.432**	(0.205)	0.320*	(0.185)	0.789***	(0.203)	0.665***	(0.213)	0.628**	(0.258)	0.245	(0.245)	0.569**	(0.225)
Eq. 2.1	Return int.																				
	Op. discrmin.	0.126*	(0.071)	0.125*	(0.071)	0.121*	(0.072)	0.064	(0.077)	0.060	(0.077)	0.055	(0.077)	0.065	(0.077)	0.070	(0.076)	0.136*	(0.078)	0.136*	(0.075)
	Observations	2359		2359		2359		2081		2081		2081		2081		2081		2359		2359	
	$\rho 23$	0.021	(0.053)	0.138***	(0.052)	-0.010	(0.040)	-0.009	(0.072)	-0.090	(0.067)	-0.003	(0.057)	-0.120*	(0.062)	-0.012	(0.049)	0.069*	(0.042)	0.649	(0.033)
	$\rho 13$	0.024	(0.105)	0.010	(0.107)	0.024	(0.102)	-0.021	(0.099)	-0.022	(0.100)	-0.024	(0.097)	-0.014	(0.099)	-0.035	(0.094)	-0.067	(0.109)	-0.063	(0.101)
	$\rho 12$	0.037	(0.086)	0.103	(0.081)	-0.071	(0.103)	-0.105	(0.089)	-0.027	(0.080)	-0.071	(0.102)	-0.096	(0.103)	-0.250*	(0.130)	0.014	(0.123)	-0.050	(0.112)

Note: Equation numbers refer to the order established in Equation (2) and the variable mentioned on the right of the the Equation number refers to the dependent variable.

Table A7: Home-Home outcomes

	(1) Bi-Probit b/se	(2) Bi-Probit (recursive) b/se	(3) Tri-Probit b/se
Remit			
Project origin		-0.243	
		(0.568)	
Return int.			0.181
			(0.142)
Project origin			
Return int.			0.283***
			(0.025)
Observations	9168	9168	9168
Rho_{12}	0.293***	0.425	0.223***
Remit			
Return int.			0.197
			(0.149)
Own at origin		-0.599	
		(1.877)	
Own at origin			
Return int.			0.449***
			(0.134)
Observations	9168	9168	9168
Rho	0.229***	0.575	0.180***
Project origin			
Return int.			0.380***
			(0.066)
Own at origin		1.136***	
		(0.338)	
Own at origin			
Return int.			0.468***
			(0.135)
Observations	9168	9168	9168
Rho	0.298***	-0.344*	0.228***

Note: Column (1) provides results for a bivariate specification where the dependent variables are the two home outcomes. Column (2) provides results for a recursive bivariate specification where the second outcome is added as a control to the first outcome's equation. Column (3) provides results for a trivariate probit model where the two equations with home outcomes as dependent variable have return intention as a control and the third equation has return intention as a dependent variable.