Is Migration a Key Determinant of Investment in Origin Countries?

An International Event-History Analysis on Senegalese Migration

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DRAFT VERSION

Short Abstract

In line with policy concerns, this paper investigates the impact of international migration on investments in origin countries in the African context. More specifically, the objective is to study the personal investments of Senegalese in their home country in three sectors that are commonly described as migrants' investment targets: land, housing and businesses. The discrete-time event history analyses will allow us to assess (1) to what extent current migrants and return migrants show a specific behaviour regarding their investment choices and practices as compared to non-migrants; and (2) to what extent non-migrants' investments are influenced by the fact that members of their social network are abroad (e.g. through material support, knowledge transfer or cultural influence). The quantitative data for this study comes from the MAFE survey (Migration between AFrica and Europe) implemented in 2008, which collected life-histories both at origin (Senegal) and in European destination countries (France, Spain, and Italy).

1 Introduction and Objectives

Nowadays, all public institutions, whatever their level, tend to consider migration as a possible driver of development. International organisations such as the United Nations, the World Bank, and the International Monetary Fund disseminate this idea throughout their recent reports. Regional organisations are also in line with this view. On the one hand, receiving regions, such as the European Union, see the (supposed) positive impact of international migration on development at the origin as a means to reduce immigration. And, on the other hand, sending regions, such as ECOWA, explicitly call on their migrants to be actors in development. Finally, national governments have the same expectations and some of them have developed schemes aimed at facilitating migrants' investments in their origin country. There is thus an extraordinary policy consensus on the expected effect of migration on development. Yet, actually, there is little empirical evidence to corroborate these policy expectations. Macro data on remittances tend to confirm the important contribution of the international migrants' money to national economies. Studies multiply on the role of remittances to reduce poverty at the household level. But, so far, the role of migrants for investments in origin countries remains poorly tackled.

Objective

The goal of our paper is to provide a quantitative assessment of the impact of international migration on investments in origin countries. More specifically and in line with policy expectations, we want to test the hypothesis that international migration is a factor of personal investment in Senegal, a country where the interaction between migration and development is of crucial importance.

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Senegal is a Sahelian country located in West Africa. As most of its neighbours, it is one of the poorest countries in the world according to international indicators. It is also highly affected by international emigration. The Senegalese Ministry in charge of migration estimates that about 2,000,000 of its nationals live abroad, i.e. there would be one expatriate for five people living within the country. Another source, based on census data in destination countries, indicates that there are 11 Senegalese people in OECD countries for 1,000 individuals in Senegal, against a ratio of 4.5 for the whole sub-Saharan Africa (Lucas, 2006). In the late 1990s, the remittances transferred through official channels amounted to almost 3% of the Senegalese GDP, and informal remittances are believed to be the equivalent. Various qualitative studies have shown the impact of collective remittances systems in Senegal, especially in the rural region of the Senegal River Valley (Lavigne-Delville 2000). Recent works have also shown the surge of investments in urban areas, and especially in the housing sector in Dakar, capital city of the country (Tall 1994). According to our knowledge, no complementary study indicates whether migrants are directly involved in the development of economic activities.

In this context, our objective is to study the investments of Senegalese in their origin country in three sectors that are commonly described as migrants' investment targets: land, housing and businesses. More specifically, our analyses will allow assessing to what extent current migrants and return migrants show specific behaviours, compared to non-migrants, regarding their investment choices. Do they invest more or less? Do they invest more in economic activities and less in housing, as it is expected by public authorities both in sending and receiving countries?

More specifically, we will test two hypotheses. The first is that international migration has a direct effect on investment: living abroad or being back in the origin country may increase the odds of investing for various reasons (financial resources acquired abroad, strong social ties kept at origin, public incentives, etc.). In other terms, the personal experience of migration would be a determinant of investment. Moreover, migration experience is expected to mediate the effect of other relevant individual characteristics, by compensating partly for disadvantages in access to assets, e.g. due to low education levels or being a woman. The second hypothesis is that international migration has an indirect effect: it is possible that people who are not migrants themselves but have migrants in their social network are more likely to invest because, for instance, they may receive material support.

2 Migration and investment: A brief review of the literature

2.1 Theoretical framework

The early neoclassical migration literature does not provide a theoretical framework for studying the effect of migration on investments at origin (Harris and Todaro, 1979; Taylor, 1999; Rapoport and Docquier, 2005). Since migration is considered to be motivated by individual life-time income maximisation objectives, and to take place in a context of perfect credit and insurance markets, there is no reason why individuals should return to the origin country to invest, or send remittances and other types of transfers home. Investment in the neoclassical context would only be envisaged if returns to investments in the home country exceed those in other countries, contributing thus to an increase in life-time earnings.

The discussion of the migration-investment link effectively emerged within the framework of the New Economics of Labour Migration (NELM) literature (e.g. Stark and Bloom, 1985; Stark, 1991), which shifts the focus from the individual to households/groups as units of analysis, and introduces market imperfections and failures in the analysis of departure, remittance transfers and return. Migration can impact investment through its influence on financial, human and social capital constraints, both for the

individual with migration experience and for the household at origin if material or immaterial resources are transferred back home, for instance in the form of remittances, know-how or repatriated savings.

Financial and risk constraints (credit and insurance markets)

If credit markets are absent or imperfect, migration may represent a strategy for the individual or household to obtain informal credit in form of remittances or savings to finance a minimum investment or, if the banking sector is to some extent developed, serve as collateral (Katz and Stark, 1986). This investment can be productive in case of a business activity, but can also serve to acquire expensive assets, such as housing and land.

Several authors have proposed formalised models investigating the role of credit constraints for investment decisions of migrants or migrant households. Mesnard (2004), for instance, introduces credit constraints and investment thresholds in a life-cycle maximisation model of temporary migration, in which individuals decide simultaneously on migration duration and occupation after return. For individuals who aim to start a business after return, lengths of stay overseas are determined by the time needed to reach a target-savings level and may be reduced if foreign wages rise, for example. In De Brauw and Rozelle (2008), households maximize utility by choosing the extent of their participation in migration and the share of remittances they will invest in capital goods. The model predicts that migration will be positively linked to productive household investment in poorer areas, where households tend to be credit-constrained. Moreover, Osili (2004) suggests that migrants' investment into housing in the origin community, though not directly productive, may serve as a signalling device regarding the migrant's wealth and may thus improve the family's social standing and access to formal credit markets.

Remaining in the context of missing or imperfect markets, the NELM literature proposes that migration can serve as a co-insurance mechanism if insurance markets at the origin are imperfect. Migration may allow for riskier and more profitable investments at the origin, such as the opening of a new business (Stark, 1991). A potential negative corollary of the insurance function of migration is that in case of information asymmetries between the migrant and his/her household, remittances may lead to moral hazard by family members at home with negative effects on productive investment (see, e.g. Azam and Gubert, 2006; Chami et al., 2003).

Given that international migration is a costly and risky undertaking, these potential positive effects may, however, be reduced or cancelled out, if the economic situation at destination does not allow for accumulation and transfer or repatriation of savings.

Human capital constraints

The "brain gain" literature stipulates that migration may help overcoming human capital constraints, if new knowledge and know-how is acquired abroad through education, training, or work experiences, which are not available or not accessible in the origin country. Transferred back home, knowledge and know-how can improve the conditions for investment (Dos-Santos and Postel-Vinay, 2003). Moreover, the human capital model of migration (Sjaastad, 1962; Becker, 1964) predicts that individuals move to where their skills and knowledge can be most productively employed. Human capital accumulated abroad, which achieves higher relative returns in self-employment at home than in other occupations or abroad, will provide migrants with an incentive to invest at home. Similarly to financial resources, migration may also have limited or negative effects on human capital. This is the case of a "brain-waste" situation, in which the skill-level of migrants' occupation at destination remains below their education and capacity (e.g. Mattoo et al., 2008).

Social capital constraints

Moreover, lack of social capital may partly offset the gains in financial or human capital through foreign work experience. This disruptive effect of migration is suggested by a theoretical model developed by Wahba and Zenou (2008), which predicts that returnees may be less likely to become entrepreneurs if they have less weak ties (friends, acquaintances) at home than non-migrants and do not access a high-quality social network through their strong ties (family). On the other hand, returnees may be able to take advantage of ties maintained with the destination country (Cassarino, 2004).

The role of the context at origin and other individual characteristics

Even if productive investment was utility-maximising for the individual migrant or the migrant household, the economic conditions and institutional structures at origin may discourage business investment as they require functioning and stable credit, labour, input and output markets to obtain additional capital, hire trained employees, purchase inputs locally, and sell the output (Massey and Parrado, 1998). In such a context, investment into housing may seem more attractive as it may provide returns in form of rental payments at lower risk, facing lower administrative hurdles as well as financial, human and social capital requirements, and providing additional utility from social prestige and housing benefits to the family (Osili, 2004).

Invest for yourself or transfer for the investment by others

The question if the gains from migration are invested by the (return) migrant himself, or are rather transferred to kinship and friends, is taken up by the remittance literature (also anchored in the New Economics of Migration literature, See: Stark, 1995, and Hoddinott, 1994) and also by the literature on "la solidarité africaine" (e.g. Marie, 1997; Vidal, 1994; Calvès and Marcoux, 2007). The first one explores motives for remittances, among which figure altruism, family loan arrangements, implicit contracts whereby remittances are exchanged against future inheritances or payment for services performed by the network at origin while the migrant is abroad, e.g. taking care of children (Rapoport and Docquier, 2005). The latter is based on sociological and anthropological studies of the role of solidarity within the community and larger family as social norm and insurance mechanism, in contrast with the Western value system centred upon the individual. Different works have discussed the evolution of this society based on solidarity in the context of economic, political, demographic and social changes, pointing out a possible trend towards individualisation, or towards the emergence of new forms of solidarity, e.g. directed more towards friends, external network than relatives, sustained support of the young by the old due to precarious living conditions among the younger generation (Ndongo Dimé, 2007).

2.2 Insights from the empirical literature

Review of quantitative empirical studies

The relevant empirical literature uses predominantly cross-section data to study remittance-use, differentials in household demand, odds of business ownership (indirect effect on non-migrants and households at origin) and determinants of migrants' spending patterns and occupation after return (from the perspective of the migrant or returnee).

Migrant network effect on investments by individuals and households at origin

Household survey evidence on remittance-use generally suggests that only a small share is spent on productive investment (see review by Taylor et al., 1996), which corresponds to findings on the regions of Dakar and Touba, where three per cent of remittances are reported to be invested

productively (Ndione and Lalou, 2005). However, the remittance-use approach has weaknesses: the period over which remittance use is recorded differs by survey; money is fungible and remittances difficult to separate from other income sources. Moreover, remittances may affect investment through loosened capital constraints or insurance provisions as suggested by the NELM, and descriptive results cannot take account of the possible endogeneity of remittances (Taylor, 1999; McKenzie and Sasin, 2007). Several authors propose therefore to investigate the overall effect of migration rather than the specific effect of remittance flows (McKenzie and Sasin, 2007; Kilic et al., 2007).

Amuedo-Dorantes and Pozo (2006) study for the Dominican Republic the effect of remittances on the odds of household business ownership in a system of simultaneous probit models, in order to take account of the possible simultaneity between remittances and business ownership. Their results suggest that households receiving remittances have a lower probability of owning a business, but households owning a business are more likely to attract remittances.

A second type of study examines differences in marginal spending patterns between migrant and non-migrant households by estimating a system of household demand equations and adding remittances as an explanatory variable. Adams (2005) applies this method in the context of Guatemala and finds that households receiving remittances spend, at the margin, less on food and more on housing and education. Taylor and Mora (2006) use migration instead of remittances and instrument migration with migration networks, as migration may be endogenous if unobserved factors that explain households' selection into migration also affect expenditure patterns. Their conclusions are nonetheless similar as households with international migrants spend at the margin more on investment (education, health, and housing) and less on consumption.

Migrant experience effect on migrants and returnees' investments

Other studies focus on comparing individuals with and without migration experience to analyse the determinants of investments. Massey and Parrado's (1998) paper on Mexico is closest to the research proposed. The authors use spells at risk data to estimate the hazard of business formation using a logit model. Current migrants are less likely to become entrepreneurs, indicating that investments may be difficult to manage from abroad. The cumulative number of years spent abroad, which could proxy the effect of experience gained during migration, is insignificant.

A study focusing specifically on housing investments (Osili, 2004) uses a duration model to analyse Nigerian migrants' housing investment decision as a function of individual, family and home town characteristics. Her results support the theoretical motivations regarding the importance of securing membership in the household and home community as older migrants closer to return are more likely to invest. The findings include results on macro-economic variables: changes in the exchange rate and the real interest rate affect the hazard to invest in housing. At the micro level, the results show a dependence between investment and duration of migration. However, no comparison is made with housing investments by individuals without any migration experience.

Another body of empirical literature concentrates on the occupational choice of return migrants, in particular the odds of becoming an entrepreneur. Descriptive analyses and simple bivariate analyses including a "returnee dummy" suggest that the proportion of entrepreneurs is generally higher among return migrants than non-migrants (McCormick and Wahba, 2001; Mesnard, 2004; Ilahi, 1999). Wahba and Zenou (2008) argue that estimates may be biased if the decisions on return and entrepreneurship are taken simultaneously, or if unobservables drive both outcomes. Modelling the decisions of business ownership and return in a recursive bivariate probit model, estimates indicate that returnees are in fact less likely to become entrepreneurs. Moreover, strong and weak ties have a positive impact

on non-migrants but not on returnees, what suggests that social capital gets lost during the stay abroad.

Regarding the hypothesis that know-how accumulated abroad stimulates productive investment, Ilahi (1999) finds for Pakistan that having a skilled employment abroad reduces the probability of urban self-employment after return, whereas a study by Tani and Mahuteau (2008) on the Maghreb suggests that self-employment abroad has a positive effect on being self-employed after return. A recent paper by Black and Castaldo (2009) on return migrants' involvement in entrepreneurship in Ghana and Cote d'Ivoire finds that foreign work experience and hence know-how, but also networks and contacts gained abroad have a positive effect on investing in businesses.

All in all, the empirical literature leaves us with rather conflicting results on the impact of migration on different types of investment, but overall findings tend to be rather optimistic. Results highlight that even if the major share of migrant savings are spent on consumption, migrant savings and remittances appear to increase significantly the odds of productive investment, change marginal expenditure shares towards less consumption and more investment, and would even more so if economic conditions at the origin were more favourable.

Furthermore, there are still some limitations in the literature on migration and investment. Most research has focused on business investments, without specifically examining housing/land investments, which appear to be a privileged investment target for Senegalese migrants. The timing of investment has not been sufficiently studied either, as migrants and returnees are rarely analysed together. Timing of investments may however be important if investment is linked to the migration or return motive, if investment follows a "basic needs" ladder, placing housing before productive investment, or if different investment types are interdependent.

Evidence from Senegal

Although a considerable amount of research exists on migration and investment, evidence on Senegal is mostly limited to qualitative findings.

As state-regulated housing plans have failed to satisfy the rising demand for housing in urban areas, research has emphasized the role of migrants in the development of the Senegalese housing sector. According to Tall (1994, 2002), housing constitutes the main investment target for Senegalese migrants, and is to a large extent financed through savings accumulated abroad. It is considered to be a relatively safe investment and faces less bureaucratic hurdles than business investment. The investments tend to target larger cities (Dakar, Touba), even if migrants originated from elsewhere. In Dakar, migrants invest primarily in the periphery, and contribute in this way to revitalising districts previously neglected in urban planning.

The motives of housing investments are varied: investments occur in the context of an intended return, but migrants also invest while abroad to obtain income from rents or house family members. It is also common that a two-storey house is built in order to rent out one floor and house family members in the remaining rooms, or to foresee a room for a business activity (Robin, 1996). Moreover, the ownership of a dwelling is considered to be a sign of social status and success, which facilitates maintaining social ties while abroad and the reintegration after return.

Concerning the capacity of Senegalese migrants to undertake and develop business investments, most authors share a rather pessimistic view. Firstly, migrants appear to be unable to accumulate sufficient savings while abroad (Bruzzone et al., 2006; Fall et al., 2006). While expenditures are kept at a minimum-level, income levels are generally too low to allow for savings in addition to remittance

transfers. Secondly, migrants and their contacts at the origin seem to lack the necessary human capital to start and maintain a productive venture (Fall et al., 2006). Even if migration led to gains in know-how, the employment experience acquired abroad would not be easily transferrable, as entry into the formal sector is restricted and leaves as an option the reinsertion in the already saturated informal trading or service sector (Tall, 2002). Given these financial and human capital constraints, there would be a need for pooling capital and know-how among migrants, but migrants seem to pursue individual rather than joint projects (Sakho, 2006; Fall et al., 2006; Cissé et al., 2006). The lack of a trustworthy and motivated social network at home constitutes a further obstacle to investment (Bruzzone et al., 2006; Fall et al., 2006). If the migrant is otherwise in the position to invest, this lack of trust tends to delay investments until after the return. The legal status of a migrant also appears to play a role, as documented migrants have better possibilities to circulate, and to make use of their migration experience in building up businesses involving "transnational" activities. In addition, disposing of the starting capital is often not synonymous with a successful investment, making remigration abroad necessary to keep business projects going. Another factor influencing investment (in both housing and businesses) is the location of the family. As family reunification procedures are complex, cultural habits such as polygamy usually not accepted, and the maintenance of a family in Europe costly, migrants still tend to follow a strategy whereby the family is segmented. However, family reunifications seem to be on the increase, for instance in Italy, what may reduce incentives to invest at home if ties are weakened (Fall et al., 2006).

Cissé et al. (2006) present a slightly more positive picture of the Senegalese migrants' investment capacity, based on interviews with 19 migrants who started a business in the Dakar region. Most of the entrepreneurs interviewed benefitted from training received in Europe and managed to stay in touch with other migrants, but the main determinant was personal previous entrepreneurial experience or, within the family, previous entrepreneurial experience.

3 Data

The analyses performed in this paper use new survey data collected in 2008 in the framework of the MAFE-Senegal project (Migration between Africa and Europe)[3]. This project aims at filling the gap in data availability on African international migration highlighted in the literature (Lucas, 2006; Hatton, 2004), and at generating quantitative evidence on migration between Africa and Europe. The design of the MAFE survey builds on the following key studies on international migration in the world. First, the "Mexican Migration Project" (MMP), which is a major longitudinal dataset that provided numerous insights into patterns, causes and consequences of Mexican migration to the United States (Massey 1987). The MMP design was adapted to ensure its applicability to African migration. Second, recent experience with biographic surveys in Europe and in Africa has provided inspiration for the design of the MAFE project questionnaires (GRAB 1999; Poirier et al. 2001; Schoumaker 2006). Third, the project "Push and Pull Factors of International Migration", a large Eurostat-funded project in the mid-1990's collecting data from selected countries in West Africa, the Mediterranean region and Europe, has provided inputs with regard to the research design and sampling strategy (Groenewold et al. 2004).

[3] The Migration between Africa and Europe (MAFE-Senegal) survey is a project coordinated by INED (France), in association with the Institut de Population, Développement et Santé de la Reproduction of the University of Dakar (IPDSR, Senegal). It also involves the Pompeu Fabra university (UPF, Spain) and the Forum Internazionale ed Europero di Ricerche sull' imigrazione (FIERI, Italy). The survey was conducted with the support of the Agence nationale de la rercherche (ANR, France), the Ile de France Region, the Institut de recherche pour le développement (IRD, France), the Centre population et développement (CEPED, France) and the FSP programme entitled 'International Migrations, territorial reorganizations and development of the countries of the South. The MAFE-Senegal project is now being enlarged to Ghanaian and Congolese Migrations.

The MAFE survey design rests on two principles

(1**) Longitudinal data**. Among other objectives, the MAFE survey was built to study the consequences of international migration. To do so, we need information not only at the time of the survey but at the time of migration and at the time of the possible subsequent changes (Bilsborrow et al. 1997). For instance, to study whether migration has an impact on investment, we need to know whether an individual has invested before or after migration, and we need to control for individual characteristics, household-level factors and contextual factors at the time of the outcome of interest, in this case the first investment made.

Through the individual questionnaire, the MAFE survey collected therefore annual retrospective information on a broad range of life histories (family formation, education and employment, housing histories etc), covering the time from the respondent's birth till the survey date. One module is specifically dedicated to asset ownership and investments (land, housing and business activities) and provides detailed information on the outcome variable of this paper, the timing and type of investment made by the respondent. The two main variables of interest – personal migration experience and migrant networks – are constructed on the basis of migration and housing histories.

(2) **A transnational sample**. Our contention, in line with recognized recommendations (Bilsborrow et al. 1997; Massey 1987), is that data collected only at the place of origin or at the destination are not sufficient to study the impact of migration. On the one hand, surveys carried out only in sending countries tend to collect poor information on the migrants themselves, either through proxy respondents (since migrants are absent by definition) or from a biased sample of those who use to return at particular times of the year. Neither do they provide an accurate or representative picture of the migration experience. On the other hand, surveys carried out in receiving countries can collect information on the current migrants' investments but they do not allow for a comparison of migrants with non-migrants, which is essential to determine the impact of migration on investment decisions. We thus collected data both at origin (among non-migrants and return migrants in Senegal) and in destination places (among migrants in the main European destination countries, France, Italy and Spain).

Sampling strategies

For cost reason, the sample in Senegal was limited to the region of Dakar with its four administrative departments of Dakar, Pikine, Guédiawaye and Rufisque. The region accounts for approximately a quarter of the national population. A three-stage probabilistic sampling design was used, oversampling households with migration experience. In a first step, National Census data from 2002 was used as a sampling frame to group census districts into 10 strata of equal size based on the migration prevalence (number of households with at least one migrant) in the district. Six districts were randomly drawn out of each stratum, and a micro-census was carried out in the sampled districts to update the list of households. Within the sampled districts, households were further stratified into two strata (migrant households and non-migrant households). 22 households were randomly sampled in each selected census district, with migrant households representing a maximum proportion of 50%. Finally, individuals were sampled within households for the individual survey. All return migrants and partners of current migrants identified in the household survey were sampled for the individual survey, and in addition one non-migrant per household was sampled randomly. The Senegalese sample is representative of the Dakar region, and inference to the population characteristics is therefore valid at the regional level, but not at the national level.

The original survey design anticipated matched samples by tracking down migrants in Europe whose contact details were obtained during the household survey in Senegal. Although a relatively large number of contacts were collected, only a small share could be used due to problems of non-eligibility (age, regional criteria) or because the person could not be traced (had moved, phone number not assigned, phone calls left unanswered) (Beauchemin and Gonzalez, 2009). Therefore, complementary sampling strategies were applied to achieve the set sample of 200 migrants per country (without links to the households interviewed in Senegal). Respondents in France and Italy were sampled through non-probabilistic methods (e.g. snowballing, intercept points, contacts obtained from migrant associations) in order to fill pre-established quotas. The municipal register in Spain (padrón) offered a national sampling frame from which documented and undocumented migrants could be randomly sampled (stratifying by gender and age and adhering to the same eligibility criteria as in France and Italy).

The eligibility criteria for the individual questionnaire established that individuals had to be between 25 and 75 years of age (to have long enough life histories), born in Senegal (to exclude second generation in Europe) and of present or past Senegalese nationality (to exclude immigrants in Senegal). In Europe, another criterium was added to exclude 1.5 generation migrants and insure more homogeneity within the samples:

In Senegal, 1,067 individuals were interviewed, including 202 return migrants, while 200 migrants were interviewed in each of the three destination countries.

Since samples are collected both at origin and destination, one disposes of rich information to analyse the behaviour of current migrants, returnees and non-migrants. At the same time, one needs to be aware of certain “sample mismatches” this implies. In particular, current migrants in 2008 have only be interviewed in the three main European destination countries, while return migrants in Senegal may have had very different migration trajectories, living for example mainly in other African countries or other new destination countries such as the United States. Moreover, the Senegalese sample covers only the region of Dakar, while current migrants interviewed in Europe may originate from other areas in Senegal. These peculiarities are described in the following table.

Place of residence at the time of the survey	Stratum	Number	Peculiarities regarding migration history
Senegal	Non-migrants	720	- Reside only in Dakar Region at the time of the survey, but some used to live at least 1 year out of Dakar in Senegal - Never lived more than 1 year out of Senegal
	Non-migrants and migrants’ spouses	152	
	Return migrants	195	- Reside only in Dakar Region, but some lived at least 1 year out of Dakar in Senegal) - Used to live at least 1 year out of Senegal, whatever the country (a large amount where in Africa) and whatever the age of first migration
Europe	Current migrant in France	200	- Some never lived in Dakar Region - Reside only in Europe, even though some have lived in other countries - First arrived in Europe at 18 or later
	Current migrant in Spain	200	
	Current migrant in Italy	203	

4 Methods

Previous analyses of the migration-investment link have mainly reverted to cross-sectional analyses (except the studies using data from the Mexican Migration Project), and focus to a large extent on either the group of non-migrants, of migrants or of return migrants, since data on all three migrant statuses is rarely available. The MAFE survey data allows us to perform analyses which compare the investment behaviour of these three groups and to use retrospective information for longitudinal analyses. In line with policy concerns, the theoretical framework and findings from the existing empirical analyses, the aim of this paper is to test the following hypotheses:

- H1. Individual migration experience stimulates personal investments in Senegal;
- H2. The effect of personal migration experience varies by type of asset and the fact of being abroad or in Senegal, being higher for current migrants in the real estate sector (land, housing) and for returnees in entrepreneurial activities;
- H3. Migration experience can mediate the effect of individual characteristics on investment into assets, in particular characteristics which determine asset inequality, such as gender and education;
- H4. There is an indirect effect of international migration. Non-migrants with access to a migrant network are more likely to invest than non-migrants without any migrant network.
- H5. The indirect effect of migration varies according to the characteristics of the migrant network (e.g. strong vs. weak ties).

To test these hypotheses, we combine descriptive statistics from a cross-section perspective and event-history models with a longitudinal approach.

Descriptive statistics from a cross-section perspective

The first analyses revert to descriptive statistics to assess the associations between (1) the individual's migrant status (current migrant, return migrant, non-migrant) and asset ownership, and (2) the individual's access to a migrant network and asset ownership.

Since our research question concerns personal investments at origin, the descriptive analysis, which compares property rates in 2008 for non-migrant, return migrant and migrant groups, was performed on a subsample including: (i) individuals owning in 2008 at least one asset in Senegal they acquired personally; (ii) individuals who never owned any asset. Some surveyed individuals are thus excluded from the data-set used for descriptive statistics. These people are those who inherited assets, but did not invest themselves; those who invested abroad but not in Senegal; those who only owned assets in the past, but not at the time of the survey. By excluding them, we ensure that the category of "non-investors" remains homogenous. Table 1 shows the resulting sample of 1,458 individuals, with 523 migrants in Europe, and 172 return migrants and 763 non-migrants in Senegal. Individuals who are excluded from the analysis are thus

Table 1: Sample characteristics – descriptive analysis

	Europe			Senegal		
	Spain	France	Italy	Return migrant	Non-migrant	Total
No asset	103	89	138	97	641	1,068
Owns in 2008 at least one asset in SN & not inherited	59	83	51	75	122	390
Total	162	172	189	172	763	1,458

Most descriptive results consist in the comparison of property rates, i.e. the ratio of people owning an asset over the total population of each group (current migrant in Europe, return migrant, non-migrant). All statistics are adjusted for the respective sampling design[4]. Sampling weights are applied in the case of the Senegalese sample, while the weighting represents an adjustment for the over-representation of certain population groups (in particular women and elderly) in the European quota samples. Tables providing absolute and relative frequencies without weights are included in the Annex.

Discrete-time Event-history models: a longitudinal perspective

To go beyond statistical association and provide an assessment of the causal effects of migrant status and migrant networks on individual investment decisions, we estimate binary discrete-time duration models. Person-year datasets are constructed from the retrospective histories, and individuals are followed from age eighteen to the date of their first investment or the survey date, whatever date occurs first. The definition of the dependent variable follows the same criteria set in the descriptive analysis, i.e. inherited assets and assets abroad are not included. However, all individuals are considered to be "at risk of a first investment" and their person-years are included in the analysis, even if they already own an inherited asset or an asset abroad.

Given the discrete data structure, the discrete-time hazard for interval t is the probability of investing during interval t, given that no investment has occurred in a previous interval:

$$h_{it} = prob(y_{it} = 1 | y_{is} = 0,\ s<t)$$

As this corresponds to the response probability for a binary dependent variable, a straightforward estimation approach proposed by Allison (1982) is to use a logit model, specified as:

$$\log\left(\frac{p_{it}}{1-p_{it}}\right) = \alpha(t) + \beta' M_{it-1} + \gamma' NET_{it-1} + \delta' X_{it-1} + u_i$$

where p_{it} is the conditional probability that an individual i invests at period t, given that the event has not yet occurred. The variable M_{it} indicates the individual's migrant status in year t, and NET_{it} captures the existence of a migrant network in any spell at risk. The baseline hazard is represented by α(t) and X_{it} is a vector of time-invariant and time-varying individual and family-level covariates. Most time-varying variables are lagged by one year to measure characteristics prior to the investment event. In order to control for unobserved heterogeneity, the models are estimated including random effects (u_i), which are assumed to vary across individuals and remain constant over time.

We start by estimating a model which groups all types of property and only distinguishes between investing and not investing as outcomes (Models 1a to 1d). In a second step, separate binomial

[4] Weights used for these paper are still provisory. Some results might be adjusted in the future.

models for investment in different property types (land, housing, business) are estimated (Models 2a to 2c)[5]. Lastly, we estimate two separate models in order to explore if covariate effects vary depending on the migrant status at the time of investment. One model contains only non-migrant person-year spells before the observation period ends, either because the individual invests or because of censoring at the time of the survey (Models 3a to 3d). The other model contains migration and return spells of individuals who spent years abroad before investment or before censoring at the time of the survey (Models 4a to 4d). The separate models allow us to examine whether and by how much the effect of covariates on investment depends on the individual's migration experience, and provide insights into the role of migration in compensating for potential differential access to assets due to individual characteristics such as gender or the educational status. Table 2 summarizes the model specifications.

Table 2: Model parameters

	Models 1a, 1b, 1c, 1d	**Models 2a, 2b, 2c**	**Model 3a, 3b, 3c, 3d**	**Model 4a, 4b, 4c, 4d**
Event studied	Time of first personal investment into an asset (land, housing or business)	Time of first personal investment into land (Model 2a), housing (Model 2b), a business activity (Model 2c)	Time of first personal investment into an asset (land, housing or business)	Time of first personal investment into an asset (land, housing or business)
Population (migrant status in year t)	Non-migrants, migrants and return migrants	Non-migrants, migrants and return migrants	Non-migrants	Migrants and return migrants
Left truncation / time origin	Each individual enters the risk set at age 18	Each individual enters the risk set at age 18	Each individual enters the risk set at age 18	Each individual enters the risk set – at the date of migration, – at age 18 if first departure took place before the age of 18
Right censoring	Each individual leaves the risk set: – When he/she invests for the first time (event under study) – In 2008 (survey date)	Each individual leaves the risk set: – When he/she invests for the first time into land (Model 2a), housing (Model 2b), a business activity (Model 2c) (event under study) – In 2008 (survey date)	Each individual leaves the risk set: – When he/she invests for the first time (event under study) – When he/she migrates abroad for the first time – In 2008 (survey date)	Each individual leaves the risk set: – When he/she invests for the first time (event under study) – In 2008 (survey date)

[5] If the asset is a dwelling, the questionnaire asks if the plot on which the dwelling is built was owned previously, and if yes, from which year on. If the date of land investment takes place at least a year before the construction of the dwelling, both the land and the dwelling are considered as separate investments, and can appear as dependent variable in the land equation as well as the housing equation.

Construction of variables

The outcome variable – **investment** into an asset – is constructed based on yearly dated retrospective information on assets owned by the respondent, at the time of the survey or in the past. Types of assets captured are land (agricultural and for construction purposes), dwellings (traditional house, single-storey house, multi-storey house, apartment, apartment block), and business activities (owning the business premises or business/venture without walls). Since we are interested in investment behaviour, we use information on the acquisition mode to exclude inheritances from the analysis. Similarly, we rely on information on the location of the asset in order to limit our investigation to investments in Senegal.

The retrospective housing and **migration** histories enable us to identify individuals as non-migrants, current migrants and return migrants in a given year. To be classified as migration (for the individual as well as network members), the stay abroad must have lasted for at least one year. Similarly, to be counted as return migrant, the individual must have spent at least one year back in Senegal after an international migration experience.

Moreover, the location and composition of the respondent's social network is recorded in a "migration network" history, and allows us to construct variables indicating access to a **migrant network** at any time during the respondent's life. Since family structures in Senegal are characterised by large and extended families and households, a relatively broad definition of "migrant network" has been adopted. Apart from the close family (partner, children, parents, and siblings), other relatives as well as close friends are recorded, under the condition that these would have provided a significant support to the respondent in case of migration. Moreover, the questionnaire does not only capture migration episodes abroad, but records also return migrations of network members. The migrant network variable includes therefore close family and extended family members, current migrants and return migrants. We test for the significance of the specification of the network variable by using variables distinguishing the relationship link, the location of the network and the presence of women in the network in addition to the general variable which only compares individuals with and without migrant network.

Control variables included in the discrete-time event-history models comprise relevant individual characteristics, family factors, information about previous asset ownership, and contextual factors. Individual variables capture the life-cycle effect of age contained in the baseline hazard, the role of gender, the effects of educational attainment and occupational status, income stability and the place of birth. Family factors measure the number of children aged below 16, as well as the marital status. The marital status variable distinguishes, on the one hand, singles from individuals in a relationship. For the latter, we further differentiate those who live in the same country as their partner and those who live in different countries. To control for existing wealth, we also include controls for previously owned assets. In Models 1, 3, and 4, which have as outcome variable the first investment into any asset, a dummy for previous inheritances is used as a covariate. When modelling the first investment into land (Model 2a), houses and business assets which have been acquired previously – via inheritance or investment - are used as regressors. Similarly, land and business assets are included when the outcome is the first investment into a dwelling (Model 2b), and land and dwellings are used to explain first investment into a business activity (Model 2c). To account for period effects, dummies for the respective time period (before 1980, 1980-1994, 1995-1999, after 2000) are also included. The first investment in the data set occurred in 1960, the last ones in 2008. All variables used in the regression

analysis are listed below (Table 3), including an indication of the sample proportions at the time of the first investment or at the survey if the observation is censored.

Table 3: List of variables used in discrete-time event-history analyses

Variables	Categories/description	% of sample at the event or date of survey (exceptions in brackets)
Time		-
Time squared		-
Migrant network	*No migrant network (ref)*	22.27
Broad definition	Any migrant network	77.73
By relationship link	Children or siblings	52.44
	Other relationship	25.29
By location	In Senegal	20.70
	Abroad (not Senegal)	57.03
By presence of women	At least one woman	38.74
	No women in network	38.99
Migrant status	*Non-migrant (ref)*	56.31
	Current migrant	34.52
	Return migrant	9.17
Gender	*Male (ref)*	47.68
	Female	52.32
Occupational status	*No wage earner (ref)*	31.14
	Manager/employer	5.20
	Skilled worker	16.14
	Unskilled worker	19.38
	Self-employed	27.63
Education	*No education (Ref)*	24.7
	Primary education	29.51
	Secondary education	32.56
	Tertiary education+	13.23
Income stability	*Sufficient resources (Ref)*	76.17
	Insufficient resource	6.34
	Instable	17.49
Children	Number of children 0-16	1.5 (mean value)
Marital situation	*Single (ref)*	28.67
	In partnership and the same country	53.17
	In partnership and different countries	18.17
Previous wealth	*No inherited asset (ref)*	89.26
	Owns inherited asset	10.74
	No land owned (ref)	-
	Owns land	-
	No dwelling owned	-
	Owns dwelling	-
	No business owned	-
	Owns business	-

Place of birth	*Born elsewhere in SN (ref)*	49.3
	Born in Dakar	50.70
Period	*before 1980 (ref)*	9.61 (at time of first investment)
	1980-1994	24.38 (at time of first investment)
	1995-1999	16.26 (at time of first investment)
	after 2000	49.75 (at time of first investment)

Most variables are constructed as varying over time (e.g. migrant status, networks, occupation, income stability etc.). Variables which are time-invariant are fixed individual characteristics, such as gender and place of birth, or are considered to be fixed at age 18, such as education. However, for the descriptive analysis presented in section 5.1, all characteristics are measured as of the time of the survey (year 2008). The descriptive findings provide thus a "cross-section" perspective and a reference point for subsequent longitudinal analyses.

5 Results

5.1 Descriptive results

To migrate and invest for yourself – the direct effect of personal migration experience

A comparison of the overall property rates of current migrants, return migrants and non-migrants at the time of the survey suggests a strongly positive association between personal migration experience and access to property in Senegal (Table 4). While less than one out of five non-migrants declares ownership of at least one land plot, dwelling or a business in Senegal in 2008, this share increases to 41 per cent for individuals living abroad in 2008. Return migrants living in Senegal in 2008 situate themselves between these two groups, with higher property rates than Senegalese without any migration experience, but staying below the group of migrants living abroad. Investment is thus not necessarily linked to a return to Senegal. This finding should, however, be treated with some caution, since the migration experience and characteristics of return migrants – who often lived in other African countries - are not entirely comparable those of current migrants in Europe.

Table 4: Property rates by migrant status, in 2008

	Current migrant	Return migrant	Non-migrant	Total
At least one asset	41%	31%	17%	23%
Construction land	21%	12%	7%	10%
Agricultural land	5%	1%	0%	1%
House	28%	21%	5%	11%
Business	8%	11%	6%	7%

The association between migration experience and asset ownership is likely to vary depending on the type of asset. While non-migrants' asset ownership remains below the one of return migrants and current migrants for all four asset types (construction land, agricultural land, housing and businesses), the difference is largest in the case of housing and construction land, and much less pronounced if the asset is a business activity. Migrants seem to have thus a clear preference for investments in the real estate sector, a phenomenon which has been highlighted throughout the existing literature (Tall 1994, 2002). Possible explanations for this bias towards construction land and housing include both economic and social motivations, and have to be examined within the institutional context in Senegal.

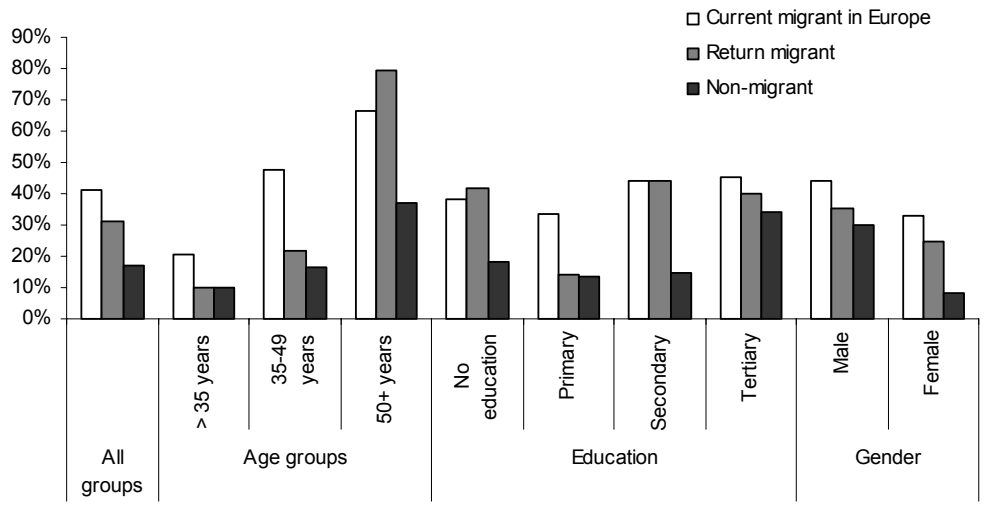
Housing is considered to be a relatively safe investment, which requires less financial, human and social capital than investments into businesses and faces less bureaucratic hurdles than business investment. Incentives to invest into real estate have further been provided by institutional initiatives. The Senegalese Housing Bank (BHS), for instance, supports the opening of savings accounts for housing investments by migrants, and annual housing fairs are organised in major destination countries (Ndione and Broekhuis, 2006). Investment into land and housing can represent a form of saving for the migrant, since the investment can be done step-by-step, and the money is no longer fungible and possibly diverted to more ad-hoc expenditures as it may be in the case of remittance transfers. Real estate property may also constitute a collateral in the context of constrained access to credit markets. Moreover, the completed dwelling may be rented out and provide regular income flows in form of rental payments. An important non-economic reason is that housing owned at the origin may be a visible sign of social status and success, which facilitates maintaining social ties while abroad and the reintegrating in the home community after the return (Osili, 2004).

Return migrants, on the other hand, appear to have a slight advantage in the area of business investments compared to migrants living abroad (11 per cent vs. 8 per cent). Business activities need to be managed and maintained, and are therefore likely to require the presence of the owner, at least from time to time. Several authors have also noted that the lack of a trustworthy and motivated social network at home, which would take over the management of the business during the migrant's stay abroad, constitutes an obstacle to investment into business activities (Bruzzone et al., 2006; Fall et al., 2006). Migrants may therefore delay their investment into businesses until after the return. Still, the discrepancy between current migrants and return migrants is relatively small, and more detailed analysis on the type of business, the characteristics of business owners, and the timing of the investments would be needed.

Does international migration experience affect the role of other characteristics?

Other individual characteristics than the migrant status are likely to affect property rates, both through a direct link and by moderating the association between migration experience and asset ownership. Figure 1 shows differences in property rates for current migrants, return migrants and non-migrants in various age and educational groups, and for men and women. Although rates for individuals with migration experience exceed those of Senegalese who never lived abroad in all subgroups, the findings suggest considerable variations with regard to the size of the discrepancy.

Figure 1: Property rates by migrant status and individual characteristics, 2008



The positive association between age and asset ownership holds for all individuals, whatever their migration experience. However, migration experience seems to accelerate the process of savings accumulation and acquisition of assets, causing the differential between migrants and non-migrants to widen with age. From ten percentage points in the youngest age group, the differential reaches 31 percentage points in the middle age groups and remains approximately the same for the oldest age group. Those who are current migrants in 2008 invested hence relatively early in life. In contrast, the property-age pattern for return migrants suggests that assets were mainly acquired later in life, possibly in conjunction with or after the return to Senegal. Property rates in the age groups of the under 35 and 35 to 49 years old stay relatively close to the rates of non-migrants. However, property rates increase from 22 per cent to 80 per cent when moving from the 35-49 years age group to the age group of over 50s. At older age returnees overtake even current migrants, with four out of five returnees owning at least one asset. Although, at this stage, we are only concerned with associations at the time of the survey, the age patterns indicate a potential problem of simultaneity between migration/return and investment. In theory, investment may well precede and even trigger migration if, e.g. wealthier individuals both invest and migrate, or if investments are made in anticipation of the return to Senegal. However, our data also indicates that more than around 90 per cent of investments by individuals with migration experience were made after the first departure, and more than 70 per cent of investments by current returnees were made after the first return.

The results for education suggest a more complex relationship between the three variables (migration status, investment and education). Among the non-migrants, being highly educated (tertiary education and more), is positively correlated with asset ownership, as the property rate among highly educated is approximately twice as high as among individuals with lower education (34% vs. 18%). For the group of current migrants, the migration experience appears to “equalize” the access to asset ownership across educational levels. While the more educated still have a slightly higher property rate, the difference between the highest educational level and individuals without any education amounts to just six per cent (45% vs. 39%). Individuals with primary education have the lowest rate of asset ownership among return migrants in Senegal in 2008, whereas both lower (no education) and higher education groups (secondary, tertiary and more) level at about 40 per cent. A more detailed analysis of the type of asset owned would be necessary in order to detect selection of highly/low educated returnees into specific investment patterns.

The female-male discrepancies in access to asset investment are shrinking with migration experience, suggesting that migration may, at least partly, compensate for the gender disadvantage. Male migrants (44%) and return migrants (35%) still exhibit a larger property rate than females in their group, but the latter lag only 10 percentage points behind, while female non-migrants have a 22 percentage points lower property rate than their male counterparts.

To sum up, it appears that international migration has generally a positive impact on access to property. More specifically, migration seems to accelerate access to property for the younger and to erode inequalities due to education or gender.

Migrate for those staying behind? Access to migrant networks and investments by non-migrants

Our second research question concerns the indirect channel between migration and investment: do non-migrants, who have links to a network of family and friends with migration experience, invest more than non-migrants without any migrant network? A first attempt to approach this question consists in comparing the asset ownership status of non-migrants with and without migrant network, keeping in

mind that the association may work in both directions: having a network may influence the investment behaviour, if financial support or know-how is provided, but wealth in form of asset ownership can also finance the migration of network members. Moreover, one should take into consideration that our definition of "migrant network" is relatively broad. In fact, the majority declares to have a network of relatives or friends with migration experience, either abroad or back in Senegal. Only 28 per cent of non-migrants have no migrant network of any kind in 2008.

The first descriptive results indicate that there is no statistically significant association between non-migrants' ownership status and their link to a network of migrants and return migrants. In either group, the property rate reaches slightly less than 20 per cent, those with a migrant network exhibiting a rate of 17%, while it is 18% for those without a network (Table 5).

Table 5: Is investment associated with the fact of having access to a migrant network (broad definition)

	No migrant network	Migrant network
No asset	82%	83%
At least one asset	18%	17%
Total	100%	100%

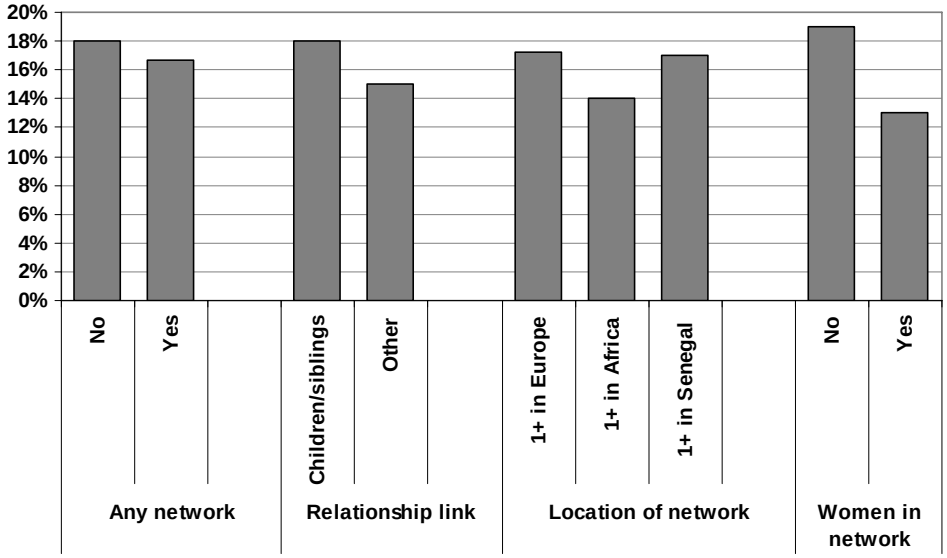
To investigate if this lack of association observed when grouping together all network members and all assets is robust to modifications of the network definition, we distinguished migrant network characteristics by various variables: (1) the relationship link with the (return) migrants in the network, (2) the location of the migrants, and (3) the presence of women in the network.

(1) The network variable by relationship link separates non-migrants who have at least one child or sibling with migration experience from non-migrants with networks of other relationship links. Since the broad definition of the network, which takes account of the extended family structures in Senegal, does not provide any differential for individuals with and without network, a "close family" definition is hence tested to explore if stronger links have a stronger association with investment. An exploratory analysis (not shown) by detailed relationship links suggested that children and siblings are closest in their association with investment. From a theoretical point of view, the grouping corresponds to a view of migration as household-level decision, whereby older children migrate to provide additional income and/or minimize income risk for the household remaining at origin, in particular parents and younger siblings.

(2) The location of the migrant network in 2008 is captured by three dichotomous variables, being equal to one if at least one relative lives in Europe, in Africa, or in Senegal. Since the migrant network consists most often of more than one relative or friend with migration experience, the same non-migrant can have simultaneously a network in a European country, an African country, and links to returnees in Senegal. Migrants in Europe could dispose of more resources, transfer more, and hence may have a stronger association with investment. However, return migrants in the network may have repatriated their savings. Being at home, they are more accessible, and, given their presence, they may keep a certain control over the way savings from migration are invested by their kinsmen.

(3) Finally, networks with at least one female (return) migrant are distinguished from all-male networks, given that the literature takes increasingly a gendered perspective, analysing e.g. if women are more altruistic and hence more likely to send transfers.

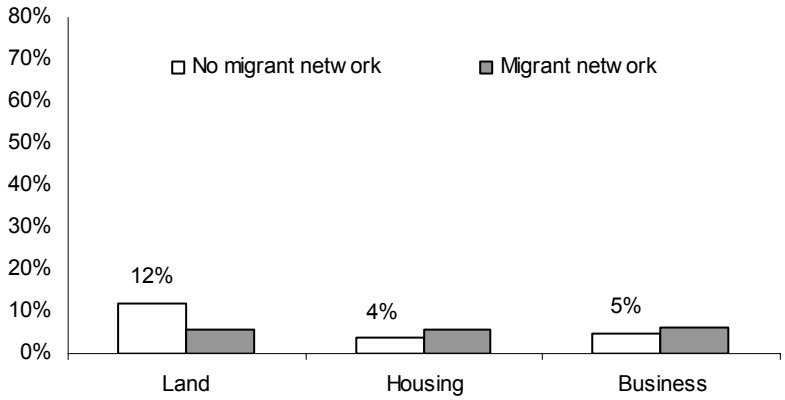
Figure 2: Property rates using various definitions of the migrant network



Non-migrants with and without migrant network remain very similar with regard to their ownership status, whatever the migrant network definition adopted (Figure 2). Only for the case of female migrant networks, one observes a slightly negative association with asset ownership, but the difference is not statistically significant. This suggests that there is no significant association between investment into assets and access to migrant networks, whatever the network definition.

A distinction by the type of asset could provide insights into patterns of migrants channelling resources only into certain types of investments by non-migrants. The variables indicate ownership (not inherited) of at least one construction land, dwelling or business in Senegal at the time of the survey. Agricultural land is not separately listed since absolute frequencies are very low. The type of asset does not seem to alter the lack of association observed in the previous results (Figure 3). While non-migrants without any migrant network have a slightly higher land property rate, the difference remains statistically insignificant. Given the relatively small number of observations in each cell, these findings should however be treated with caution (see Annex for tables without sampling weights).

Figure 3: Association between access to migrant network and property rates by type of asset



Overall, the first results indicate that individuals with personal migration experience in 2008 are more likely to invest in assets than non-migrants. On the other hand, access to migrant networks in the form of family members and friends with migration experience does not seem to influence asset ownership.

Non-migrants may, however, still benefit from these investments if they are able to use the assets owned by the migrants and returnees (live in a house, exploit a business), or if the asset is transferred to them later on. These cases are not captured in our analyses, since we limit the exploration to personal investments by the respondents in the sample, and exclude assets which have been inherited.

The descriptive analysis of the situation in 2008 does not allow for an assessment of the causal relationship between migration and investment. The direction of the effect can be from migration to investment, if migration allows for the accumulation of resources, know-how and changes in cultural norms, but assets represent at the same time wealth which can be used to finance international migration. Moreover, we have been measuring characteristics at the time of the survey, and not at the time when the investment actually happened. An understanding of the causal relationship between the two processes requires also controlling for other determinants of investment, which may affect the way in which networks and personal migration experience are related to the acquisition of land, housing or business. In the next section, we will therefore turn to the discussion of findings from several discrete-time event-history models.

5.2 Evidence on the migration-investment relationship from discrete-time event-history models

First investment in any type of asset

The first set of models pools all types of assets. The odds-ratios for the effect of the baseline hazard, as well as our main variables of interest, migrant status and migrant network, are shown in Table 6[6]. The four models adopt different definitions of the migrant network, similarly to the descriptive analysis presented above. In Model 1a, all types of migrant network are grouped as "having access to a migrant network". Model 1b distinguishes between having children or siblings with migration experience versus other family members and friends. The third model (1c) takes into account the network location (at least one return migrant in Senegal versus all network members abroad in the previous year). Lastly, Model 1d investigates if networks with female migrants have a different effect on first investment than all-male networks.

The baseline estimates indicates that the odds of investment increase with age, though at a decreasing rate. Having access to a migrant network does not have any effect on the odds of first investment with respect to individuals without any network, independently of the specification of the network variable. Although odds ratio estimates for the children and sibling network, as well as for return migrants in Senegal among network members, and women in the network are positive, the estimates are not significantly different from one. The model confirms therefore the findings from the descriptive analysis, and our hypothesis that migration may affect non-migrants' investment behaviour e.g. via transfers of material resources or know-how, is not supported by the data.

The positive effect of personal migration experience on the odds of investing, in contrast, is large and highly significant. Being a current migrant or a return migrant doubles the odds of investing. Return migrants have a slightly higher odds ratio than current migrants, but the difference between the two is not statistically significant. Returnees do not seem to have an important advantage over current migrants due to the fact that they are present at the site of investment, while migrants have to manage the investment from abroad.

[6] Since the models are estimated with random effects to account for individual heterogeneity, odds ratios should be interpreted as individual-specific effects, not as population averaged effects.

Table 6: Odds ratio estimates for first investment into any type of asset in year t from discrete-time event-history analyses (only baseline, migrant status and various network definitions)

	Model 1a : Network of any type	Model 1b: Network by relationship link	Model 1c : Network location	Model 1d: Women in network
Time since age 18	1.104***	1.103***	1.105***	1.103***
Time squared since age 18	0.998***	0.998***	0.998***	0.998***
Migrant network (in t-1)				
No migrant network (ref)	1.000	1.000	1.000	1.000
Any migrant network	1.148	…	…	…
Children or siblings	…	1.242	…	…
Other relationship	…	1.021	…	…
In Senegal	…	…	1.305	…
Abroad	…	…	1.098	…
At least one woman	…	…	…	1.278
No women	…	…	…	1.069
Migrant status				
Non-migrant (ref)	1.000	1.000	1.000	1.000
Current migrant	1.951***	1.904***	1.972***	1.883***
Return migrant	2.230***	2.191***	2.186***	2.201***
	with controls (see estimates below)	*with controls*	*with controls*	*with controls*

Since the network variables are not statistically significant, we will limit the exploration of the effect of other covariates to the first model, in which the network is defined as having at least one network member with migration experience (Table 7).

Most individual characteristics have a significant effect on the odds of investing, and with the expected sign. Women have a clear disadvantage in accessing asset ownership, as being female reduces the odds of investing for a first time in year t by over 50 per cent, compared to male individuals. Earning an income from an economic activity pushes the odds of investment upwards. The strongest effect is observed for the group of managers/employers, for which the odds of investment more than triple compared to individuals who do not earn any income. Skilled workers, unskilled workers and self-employed have similar odds ratio estimates of around 2, compared to the group of non-income earners. When a person transitions a period of income instability or even clearly lacks the financial resources to assure day-to-day life expenses, the odds of investing drop compared to a situation in which the individual disposes of sufficient financial resources to manage every-day-life. Human capital matters as well, as a higher educational attainment raises the odds of investing, with 60% higher odds for individuals with tertiary education or more, and 37% higher odds of investing for those with secondary education when compared to individuals who did not receive any formal education.

Also the family factors influence the likelihood of investment. The odds of acquiring an asset increase with the number of children between zero and sixteen years. Children therefore do not appear to represent an economic burden, in which case we would expect a negative effect. Possible explanations for the positive effects may be that having more children may require investments into certain assets, such as housing, and older children may also already represent a support. Individuals in a relationship have higher odds to invest than individuals who are singles, but only if the couple does not live in the same country (increases the odds by 43 per cent). This is the case of the individual

living in Senegal and having a partner abroad, or of a current migrant with a spouse in Senegal. In the first case, the positive effect could be interpreted as a positive migrant network effect, if the partner lives abroad; in the latter case one could understand the effect as representing a stronger link with the home country, and hence a stronger incentive to invest for the migrant. We will further explore which type of effect is at work when presenting the results of models 3 and 4. The fact of having already inherited an asset does not have a significant effect on the odds of investment. This could be also due to the fact that two opposite effects cancel each other out: on one hand, previous asset ownership may have a positive impact since it is a wealth attribute; but on the other hand, there might be a substitution effect since owning already an asset may fulfil the needs. In the models by type of asset (Models 2a to 2c), we will examine in more detail which types of previously owned assets influence first investment. Individuals, who were born in Dakar, see their odds of investing reduced. It could be explained by the fact that Dakar is a place where investments are costly compared to the rest of the country. Those who are born there are deprived of an alternative target location for investments and therefore tend to delay their possible investment[7].

Interestingly, there appear to be no period effects, despite the very heterogeneous economic and political situation in Senegal over the past half century (after independence, structural adjustment programs, devaluation, elections, etc.). Period-specific effects may become visible when differentiating by the type of asset and/or the migrant status, since asset types and the groups of non-migrants, migrants and returnees may have been affected differently by changes in the economic, political and social context.

Table 7: Odds ratio estimates for first investment into any type of asset in year t from discrete-time event-history analyses (Other explanatory variables)

Variable	Category	Model 1a: Any network (cont.)
Cont.		
Gender	*Male (ref)*	1.000
	Female	0.476***
Occupational status (in t-1)	*No income earner (ref)*	1.000
	Manager/employer	3.444***
	Skilled worker	2.156***
	Unskilled worker	1.897***
	Self-employed	2.086***
Income stability (in t-1)	*Sufficient resources (Ref)*	1.000
	Insufficient resources	0.886
	Instable income	1.374*
Education	*No education (Ref)*	1.604**
	Primary education	1.000
	Secondary education	0.438**
	Tertiary education+	0.702**
Children (in t-1)	Number of children 0-16	1.102***
Marital situation (in t-1)	Single (ref)	1.000
	In parternship and same country	1.206
	In parternship and different countries	1.433*

[7] From the descriptive statistics about the place of investment and the place of birth, one deduces that most investments are not made at the place of birth (approx. two thirds), and from the investments made elsewhere, over 80 per cent are located in the region of Dakar. which could be one possible reason of the effect observed.

Variable	Category	Model 1a: Any network (cont.)
Family background (in t-1)	No inherited asset (ref)	1.000
	Owns inherited asset	0.734
Place of birth	Born elsewhere in SN (ref)	1.000
	Born in Dakar	0.712**
Period	before 1980 (ref)	1.000
	1980-1994	0.722
	1995-1999	0.803
	after 2000	1.114
	Rho	0.23**
	Observations	31608
	Number of groups	1626

First investment according to the type of asset

We now turn to the separate models for each type of asset, construction land, housing and business activities. Due to the few relevant observations, agricultural investment is not considered as a separate outcome variable. As in the overall model, the migrant network variable remains statistically insignificant in explaining investment, with an odds ratio estimate close to one in all three models. For the migrant status, on the other hand, we observe a differential impact on investment depending on the asset type, as well as less homogenous effects for the current migrant and return migrant groups than in the overall model. The current migrant status has the strongest positive influence on investments in the housing sector compared to individuals without any migration experience. Investments into land range second, while being abroad has a negative effect on business investment, which may require a more continued presence of the investor. For returnees, the findings suggest a strong involvement in entrepreneurship, with the largest odds ratio on business investment. Being a return migrant also raises the odds of housing investments, and, to less extent, of investment into construction land, compared to individuals without any migration experience. These findings match with the first results from the descriptive statistics, and provide a quantitative support to the largely qualitative literature studying the role of international migration in the Senegalese housing sector (e.g. Tall, 2004), as well as the literature on the preference of return migrants for taking up business activities after their return (e.g. McCormick and Wahba, 2001; Mesnard, 2004; Ilahi, 1999). The higher odds ratio on housing investment than on construction land for current migrants suggests that migrants invest, in addition to constructing dwellings, in already built houses and apartments, a type of housing investment which requires less management and oversight effort, and may be faster ready to be rented out or used by family members.

The female disadvantage in accessing assets is also heterogeneous across asset types. The difference to men becomes insignificant in the case of land, is highest for business investments and strong, but less pronounced in the case of first investments into housing. This suggests that entrepreneurship is still mainly driven by men, limiting women's access to own revenues, despite the emphasis on female entrepreneurship in policy-making and in the literature (e.g. Sarr, 1999; Diagne, 2005).

The individual's occupational status is most essential for the decision to acquire a plot of construction land. Compared to individuals without any income from employment or self-employment, being in a management position or owning a company has the strongest positive effect, followed by skilled employment, and unskilled employment. In the case of housing investment, in which we control for the previous ownership of land, only the manager/employer and the self-employed categories remain

positive and significant. The odds of business investment are negatively affected if the individual is in a manager/employer or in skilled employment. This type of employment may provide for a sufficient and regular income, which represents a disincentive to starting a business activity.

Better educated individuals remain having higher odds for investment into housing than individuals without any formal education, and the highest level of education is marginally significant for land and business investment. Since odds ratios on the primary and secondary education categories are not significantly different from one, the tertiary education effect may capture income effects rather than skill effects.

Table 8: Odds ratio estimates for first investment into land, housing and businesses in year t from discrete-time event-history analyses

	First investment in land (constr.) – Model 2a	First investment in housing – Model 2b	First investment in business – Model 2c
Time	1.409***	0.996	1.076
Time squared	0.993***	1	0.998**
Migrant network (in t-1)			
No migrant network (ref)	1.000	1.000	1.000
Any migrant network	1.213	1.001	0.911
Migrant status			
Non-migrant (ref)	1.000	1.000	1.000
Current migrant	2.196**	2.849***	0.480*
Return migrant	1.901*	2.107**	2.358***
Gender			
Male (ref)	1.000	1.000	1.000
Female	1.406	0.527***	0.497**
Occupational status (in t-1)			
No income earner (ref)	1.000	1.000	1.000
Manager/employer	3.412**	2.364*	0.421*
Skilled worker	2.491*	1.502	0.465*
Unskilled worker	2.299**	1.546	0.775
Self-employed	1.649	2.632***	1.088
Education			
No education (Ref)	1.000	1.000	1.000
Primary education	0.665	1.194	0.995
Secondary education	0.900	1.672**	1.574
Tertiary education+	2.485*	1.958**	1.996*
Income stability (in t-1)			
Sufficient resources	1.000	1.000	1.000
Insufficient resource	1.470	0.720	0.547
Instable	0.868	0.621	0.719
Children (in t-1)			
Number of children 0-16	1.002	1.042	1.043
Marital situation (in t-1)			
Single (ref)	1.000	1.000	1.000
Partnership and same country	1.082	1.328	1.213
Parternship and different countries	0.745	2.023*	1.69
Assets already owned (in t-1)			
No previous land owned (ref)	…	1.000	1.000

	First investment in land (constr.) – Model 2a	First investment in housing – Model 2b	First investment in business – Model 2c
Owns land	…	5.036***	1.926**
No previous dwelling owned (ref)	1.000	…	1.000
Owns dwelling	0.339**	…	1.18
No previous business owned (ref)		1.000	…
Owns business	1.180	1.414	…
Place of birth			
Born elsewhere in SN (ref)	1.000	1.000	1.000
Born in Dakar	0.857	0.610**	0.678
Period			
before 1980 (ref)	1.000	1.000	1.000
1980-1994	1.779	0.510**	2.664
1995-1999	2.121	0.439**	2.861
after 2000	3.156	0.280***	4.811**
Observations	19765	18639	20201

* significant at 10%; ** significant at 5%; *** significant at 1%

Being in a relationship and residing in different countries, which was positive and significant in the model grouping all types of assets compared to being single, remains only significant for investment into housing assets. If the individual abroad, housing investment in Senegal can provide utility to the family remaining at origin, but represent at the same time a status symbol. Business investments would be too difficult to manage, and land investments would be less visible. If there is a network effect at work, the individual at origin benefits from the international migration of the spouse, it would be limited to “unproductive” housing investments.

The fact that other types of assets are owned before acquiring a land, housing unit or business, also influences the odds of investment. Individuals who already own a dwelling are less likely to invest in additional construction land. At the same time, owning construction land raises strongly the odds of investment into housing, and, to a lesser extent, of starting a business activity. The investment may hence take place sequentially. First a land plot is bought, and the investment into housing or businesses occurs later on, once the necessary capital is accumulated.

When differentiating the analysis by the type of asset, the time period becomes a significant determinant of the odds of first investment into housing and businesses. Later periods lower the odds of housing investments compared to the reference period before 1980, possibly because of increasing economic difficulties in the context of the structural adjustment programs started in the 1980s, and continuously increasing prices in the real estate sector due to an excess demand for housing.

A the same time, living during the most recent time period, the years since 2000, increases the odds of business investment, compared to the reference period. While the odds ratio estimates on the periods 1980-1994 and 1995-1999 are not significant, they exhibit an increasing trend. One explanation would be a restructuring of the labour market away from the formal sector towards the informal sector since the beginning of the structural adjustment programs in the 1980s. This evolution was exacerbated in more recent years, which were characterised by a mismatch between supply and demand on the labour market, in particular in the urban context of Dakar (Diagne, 2005).

Overall, the findings support the hypothesis that current migrants are more involved in the real estate sector, while returnees have higher odds of starting a business activity. However, once again we have

to reject the hypothesis of an indirect positive effect of migration on investment, channelled through different types of migrant networks. Also after distinction by the type of asset, we observe that having access to a migrant network remains insignificant compared to the reference group without any relatives or friends with migration experience abroad or in Senegal.

Does migration affect the effect of other variables?

In our last models, we split the sample into non-migrant spells and migrant/return spells, to investigate if some of the average effects studied before may indeed hide differences depending on the migrant status[8]. In particular, we want to test further the hypothesis that the migration experience can compensate to some extent for disadvantages and inequalities in access to investment arising from individual characteristics, such as gender or education. Actually, results of the models 3a and 4a confirm the conclusions of the descriptive analyses. Women are generally disadvantaged in matter of access to property (see Table 7). But while being a female non-migrant lowers the odds of investment even more, the negative gender effect disappears for migrant and returnee spells (Table 9, lower part). Similarly to the case of gender, individuals with a low level of education are generally less likely to access to property. Here, it appears that higher education only matters for non-migrants, and becomes statistically insignificant for migrants. Furthermore, migration experience augments the odds of individuals who have not the better occupational statuses. The occupational categories of economically active individuals have similar effects for migrants/returnees and non-migrants in the groups of managers/employers and skilled employees, but almost doubles the odds in case when comparing self-employed migrants and non-migrants. On the contrary, migration does not help to overcome income instability. This seems to affect only migrants and returnees, possibly because they are less embedded in social networks which could absorb the income shocks.

By the way, after differentiation between non-migrant spells (models 4) and migrant/return spells (models 3), presence of a migrant network remains to have no effect on personal investment. This result is robust when exploring the different specifications of the migrant network (Table 9, upper part). It also persists when looking at the location of the spouses. Being in a partnership raises the odds of investment for non-migrants, but only for the case that both partners are in Senegal. The “living apart” effect is neither present for non-migrants, in which case one could have interpreted it as a network effect, nor for current migrants, who would have been investing for the family staying at origin.

Finally, one can observe a marginally significant negative effect of the 1980-1994 period on non-migrants compared to the years before. The period corresponded to years of economic and social crisis.

[8] In models 4, migrant and return migrants are pulled. However, in order to keep the comparison between models 3 and 4, we did not include a variable to control for the status of the migrants (returnee or not). The pooling of migrant and return migrant spells without controlling for the return migrant status is justified since there was no significantly different effect compared to being a non-migrant on first investment in model 1a. Moreover, when adding an indicator variable for return migrant status, the estimate is statistically insignificant and does not alter odds ratio estimates of other variables by much.

Table 9: Separate models for non-migrant and migrant/return person-periods: Odds ratio estimates for first investment into any type of asset (effect of networks and migrant status)

	Models 3a-4a : Network of any type		Models 3b-4b : Network by relationship link		Models 3c-4c : Network location		Models 3d-4d : Women in network	
	Non-migrant spells	Migrant spells	Non-migrant spells	Migrant spells	Non-migrant spells	Migrant spells	Non-migrant spells	Migrant spells
Time since age 18	1.133***	1.058	1.125***	1.056	1.125***	1.06	1.126***	1.058
Time squared since age 18	0.998***	0.998**	0.998***	0.998**	0.998***	0.998**	0.998***	0.998**
Migrant network (in t-1)								
No migrant network (ref)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Any migrant network	0.364	1.033	…	…	…	…	…	…
Children or siblings	…	…	1.172	1.113	…	…	…	…
Other relationship	…	…	1.148	0.852	…	…	…	…
In Senegal	…	…	…	…	1.189	1.253	…	…
Abroad	…	…	…	…	1.150	0.951	…	…
At least one woman	…	…	…	…	…	…	1.025	1.288
No women	…	…	…	…	…	…	1.238	0.826
	with controls (see estimates below)				*with all controls*			

Table 9 : Continuation

Variable	Category	Model 3a : Any network; Non-migrant spells (cont.)	Model 4a : Any network; Migrant spells (cont.)
Gender	*Male (ref)*	1.000	1.000
	Female	0.364***	0.827
Occupational status (in t-1)	*No income earner (ref)*	1.000	1.000
	Manager/employer	3.116***	3.523***
	Skilled worker	1.641*	2.602***
	Unskilled worker	1.713**	2.054***
	Self-employed	1.577**	2.910***
Income stability (in t-1)	*Sufficient resources (Ref)*	1.000	1.000
	Insufficient resources	0.652	0.252**
	Instable income	0.711	0.668**
Education	*No education (Ref)*	1.000	1.000
	Primary education	1.055	0.69
	Secondary education	1.764**	0.915
	Tertiary education+	1.981**	1.194
Children (in t-1)	Number of children 0-16	1.036	1.157***
Marital situation (in t-1)	Single (ref)	1.000	1.000
	In partnership and same country	1.512**	0.984
	In partnership and different countries	1.605	1.342
Family background (in t-1)	No inherited asset (ref)	1.000	1.000
	Owns inherited asset	0.623	0.911
Place of birth	Born elsewhere in SN (ref)	1.000	1.000

	Born in Dakar	0.77	0.78
Period	before 1980 (ref)	1.000	1.000
	1980-1994	0.607*	0.815
	1995-1999	0.697	0.88
	after 2000	0.892	1.264
	Observations	23080	8528

6 Conclusion and Discussion

Let us now come back to our initial objectives and hypothesis in order to sum up the findings. On one hand, all hypotheses referring to the direct effect of migration are supported by the results. Direct experience of international migration indeed stimulates personal investment (Hypothesis 1). This effect varies according to the type of asset and the migratory status: while current migrants invest in housing and land in priority, return migrants are much more engaged in the business sector (Hypothesis 2). And international migration appears as a way to overcome some social disadvantages in matter of access to property (Hypothesis 3). Females with a migration experience are not less likely than male migrants to invest, while there is a huge gender gap among non-migrants. Migration also augments the odds of investing among less educated people. On the other hand, hypotheses referring to the indirect effect of migration on investment are quashed. Non-migrants with access to a migrant network are not more likely to invest than non-migrants without any migrant network (hypothesis 4). And this result holds whatever the characteristics of the migrant network (hypothesis 5).

These results suggest that the investment spin off effect of international migration is only at the individual level: migrants would invest for themselves but not to help their close family or people from a larger social circle. This would tend to confirm the idea that the African solidarity is a myth (Vidal, 1994). It also suggests, in contradiction with the NELM theory, that international migration could be a matter of individualistic behaviour rather than a community or a family strategy. However, these observations need to be qualified. Firstly, even if the migrant is the owner, other people from his family circle could well be using the asset (living in the house, working in the business…) and thus have an indirect benefit of migration that we did not capture in this paper. Further analyses of the MAFE data could give some insights on this form of support to the left behind. Secondly, apart from the personal investments we analysed here, it is also likely that migrants send remittances to non-migrants and take part into collective investments. Actually, first cross-tabulations show that the same migrants, who invest for themselves, also distribute savings via remittances and are members of migrant associations involved in community investment in towns and villages in Senegal. Further investigation would also be needed to study in what extent these results on the personal character of migrants investments is due to the urban context. It is indeed important to keep in mind that our sample of non-migrants is limited to the region of Dakar. The functioning of networks might be different in rural areas, as it has been observed in other contexts. This would require an extension of the survey to other Senegalese regions.

As for the direct effect of international migration, further investigations are also needed. We found that international migration helps individuals to overcome some social disadvantages to access to property (gender, education). But so far, we just distinguished between land, house and business. These broad categories mask very probably a large heterogeneity of situations. There is thus a need to refine the analyses in order to understand the value and stability of the acquired assets. Finally, this paper focused on the differences between migrants and non-migrants in order to test whether migration triggers investment. Now that this hypothesis is confirmed, further analyses should study the factors that facilitate migrants' investments.

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ANNEX: Tables presented in descriptive analysis: without and with sampling weights

(Numbering corresponds to table number in the text)

Association with individual migration experience

Table 4: Property rates by migrant status – without weights

	Current migrant	Return migrant	Non-migrant	Total
No asset	330	97	641	1,068
%	63%	56%	84%	73%
At least one asset	193	75	122	390
%	37%	44%	16%	27%
Total	523	172	763	1,458
	100%	100%	100%	100%
Construction land	104	32	59	195
%	20%	19%	8%	13%
Agricultural land	22	4	3	29
%	4%	2%	0%	2%
House	123	48	39	210
%	24%	28%	5%	14%
Business	28	29	47	104
	5%	17%	6%	7%

Table 4: Property rates by migrant status – with weights

	Current migrant	Return migrant	Non-migrant	Total
No asset	59%	69%	83%	77%
At least one asset	41%	31%	17%	23%
Total	100%	100%	100%	100%
Construction land	21%	12%	7%	10%
Agricultural land	5%	1%	0%	1%
House	28%	21%	5%	11%
Business	8%	11%	6%	7%

Figure 1 : Corresponding tables

Age – without weights

		Current migrant in Europe		Return migrant		Non-migrant	
> 35 years	**No asset**	121	80%	27	87%	331	94%
	Asset	31	20%	4	13%	22	6%
35-49 years	**No asset**	181	60%	53	69%	220	83%
	Asset	120	40%	24	31%	44	17%
50+ years	**No asset**	28	40%	17	27%	90	62%
	Asset	42	60%	47	73%	55	38%

Age – with weights

		Current migrant	Return migrant	Non-migrant
> 35 years	**No asset**	80%	90%	90%
	Asset	20%	10%	10%
35-49 years	**No asset**	52%	78%	83%
	Asset	48%	22%	17%
50+ years	**No asset**	34%	20%	63%
	Asset	66%	80%	37%

Education – without weights

		Current migrant in Europe		Return migrant		Non-migrant	
No education	**No asset**	45	61%	19	43%	193	85%
	Asset	29	39%	25	57%	35	15%
Primary	**No asset**	90	68%	39	76%	228	89%
	Asset	42	32%	12	24%	29	11%
Secondary	**No asset**	131	63%	25	53%	169	84%
	Asset	76	37%	22	47%	33	16%
Tertiary	**No asset**	53	55%	14	47%	51	67%
	Asset	43	45%	16	53%	25	33%

Education – with weights

		Current migrant	Return migrant	Non-migrant
No education	**No asset**	61%	58%	82%
	Asset	39%	42%	18%
Primary	**No asset**	66%	86%	87%
	Asset	34%	14%	13%
Secondary	**No asset**	56%	56%	85%
	Asset	44%	44%	15%
Tertiary	**No asset**	55%	60%	66%
	Asset	45%	40%	34%

Gender – without weights

		Current migrant in Europe		Return migrant		Non-migrant	
Male	**No asset**	155	54%	59	50%	205	73%
	Asset	132	46%	59	50%	76	27%
Female	**No asset**	175	74%	38	70%	436	90%
	Asset	61	26%	16	30%	46	10%

Gender – with weights

		Current migrant	Return migrant	Non-migrant
Male	**No asset**	56%	65%	70%
	Asset	44%	35%	30%
Female	**No asset**	67%	75%	92%
	Asset	33%	25%	8%

Role of migrant network for ownership status for non-migrants

Table 5: without weights

	No migrant network		Migrant network	
No asset	162	86%	479	83%
Asset	27	14%	95	17%
Total	189	100%	574	100%

Table 5: with weights

	No migrant network	Migrant network
No asset	82%	83%
Asset	18%	17%
Total	100%	100%

Figure 2: Corresponding tables

Relationship type: without weights

	Children or siblings		Other network		No migrant network		Total	
No asset	284	81%	195	87%	162	86%	641	84%
Asset	66	19%	29	13%	27	14%	122	16%
Total	350	100%	224	100%	189	100%	763	100%

Relationship type : with weights

	Children or siblings	Other network	No migrant network	Total
No asset	82%	85%	82%	83%
Asset	18%	15%	18%	17%
Total	100%	100%	100%	100%

(only those with at least one network member):

Location of network: without weights

	At least one network member in Europe		At least one network member in Africa		At least one returnee in Senegal	
No asset	374	83%	92	84%	125	81%
Asset	76	17%	18	16%	30	19%
Total	450	100%	110	100%	155	100%

Location of network: with weights

	At least one network member in Europe	At least one network member in Africa	At least one returnee in Senegal
No asset	83%	86%	83%
Asset	17%	14%	17%
Total	100%	100%	100%

Female network : without weights

	No women		At least one woman		Total	
No asset	270	83%	209	84%	479	83%
Asset	55	17%	40	16%	95	17%
Total	325	100%	249	100%	574	100%

Female network : with weights

	No women	At least one woman
No asset	81%	87%
Asset	19%	13%
Total	100%	100%

Figure 3: Association between access to migrant network and non-migrants' property rates by type of asset (corresponding tables)

Construction land – without weights

	No migrant network		Migrant network		Total	
No asset	174	92%	530	92%	704	92%
Asset	15	8%	44	8%	59	8%

Total	189	100%	574	100%	763	100%

Construction land – with weights

	No migrant network	Migrant network	Total
No asset	88%	94%	93%
Asset	12%	6%	7%
Total	100%	100%	100%

Dwellings – without weights

	No migrant network		Migrant network		Total	
No asset	181	96%	543	95%	724	95%
Asset	8	4%	31	5%	39	5%
Total	189	100%	574	100%	763	100%

Dwellings – with weights

	No migrant network	Migrant network	Total
No asset	96%	94%	95%
Asset	4%	6%	5%
Total	100%	100%	100%

Businesses – without weights

	No migrant network		Migrant network		Total	
No asset	178	94%	538	94%	716	94%
Asset	11	6%	36	6%	47	6%
Total	189	100%	574	100%	763	100%

Businesses – with weights

	No migrant network	Migrant network	Total
No asset	95%	94%	94%
Asset	5%	6%	6%
Total	100%	100%	100%

Noted in text (no figure or tables)

Assets before or after departure/return: without weights

If at least one asset owned, asset acquired…	Current migrant in Europe		Return migrant	
after first departure	168	87%	67	89%
after first return				72%

Assets before or after departure/return: with weights

If at least one asset owned, asset acquired…	Current migrant in Europe	Return migrant
after first departure	88%	91%
after first return		72%