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Microeconometric analysis of determinants of return migration of North African immigrants

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Abstract

The objective of this paper is to provide a better understanding of the mechanisms that affect the return migration of North African citizens. A better comprehension of the motivations of return implies a better targeting of immigration policies of receiving and sending countries.With this aim, we analyze information from the MIREM (return migration to the Maghreb) survey. This survey was addressed to immigrants from Morocco, Algeria and Tunisia returning to their origin country. Different statistical and econometric techniques are used in order to identify the main determinants of their decision to return. The obtained results show the need to consider the heterogeneity of the different groups, but also the need to improve statistical knowledge on the phenomena and to carry out external evaluations of policies recently adopted in these countries.

Keywords

Return migration, Maghreb, microeconometric analysis.

JEL Classification

1. INTRODUCTION AND OBJECTIVES

During the last twenty years, the process of globalization has played a decisive role in intensifying the mobility of labor (study, work, family reunification, etc.). According to the United Nations the total number of international migrants has increased from more than 155 million in 1990 to over 178 million in 2000. In 2010 the number was even gets enlarged to nearly 214 million. An evidence of the relationship between migrants and the global population (up 0.2% from 2.9% to 2000 to 3.1% in 2010), in spite of disparities by country and by level of study. The latest database on the international mobility of labor of Docquier and Marfouk (2007) consolidated this assumption. In 2000 the rate of international mobility of people with a post bachelor level was 5.4% against 1.1% with a low educational level.

The situation in the MENA region is taking a higher proportion. In a recent document, Docquier and Marchiori (2012) argue that " MENA 9 is a group which includes Algeria, Djibouti, Egypt, Iran, Lebanon, Libya, Malta, Morocco and Tunisia. These 9 countries send 9.2 million adult emigrants abroad, and for more than half (50.5 percent of them), the EU27 is the migration destination". This has significant repercussions on the economic development of countries of origin. For example, the rate of mobility of highly skilled in Morocco, Lebanon and Algeria has already exceeded the critical limit of 10-15% beyond which Docquier and Marfouk (2007) have predicted a negative impact for the development of the country of origin.

Within this context, return migration may be a legitimate alternative to the increased mobility of labor across the world. It can have a very important role in the eradication of perverse effects caused by the intensified international mobility of labor especially the most qualified (Brain Drain). It can also play a catalytic role in the transfer of knowledge (physical & human capital) acquired from abroad and lead to a better productivity in the country of birth. Moreover, return migration can also permit that the potential knowledge acquired by migrants is transferred to the country of origin. For example, the transfer of technology between the Silicon Valley and India in the field of software has developed synergies in terms of creation of new sciences parks around the country and generated a new local labour market for engineers, computer scientists and software developers. Nowadays, India occupies an important place in the development and programming software with nearly 500 global companies established there.

However, the study of return migration suffers from several deficiencies and barriers: First, the absence of reliable statistical databases on return movements both at the international level and the regional level; second, a shortage of theoretical literature about push and pull factors of return movements; and third, the high heterogeneity or return migrants. In fact, the return may be considered as a (partial or full) realization of the objectives fixed at the time of departure. However, these objectives are not fixed in time and their dynamic update can alter the process by delaying (myth of return) or accelerating (failed migration) the return decision.

The objective of this paper is to account for the effective mechanisms of return among the North African emigrants in relation to the advanced theoretical conceptions. Most analyses have restricted themselves to a simple descriptive level. The adopted approach aims to show how the analysis of the determinants can considerably be enriched through the mobilization of multidimensional and econometric techniques. The database used innovatively allows broadening the scope of analysis. The approach contains two complementary steps. Initially, we need to describe the structure of data and then use the results of such description to think of a reduced form model. The first step of analysis mobilizes the multidimensional techniques of description in order to reduce data with the help of the Correspondence Analysis technique. This step leads to the formulation of a typology. The second step of analysis is econometric. In other words, it involves considering, through a multinomial, the dimensions of belonging to profiles determined in the previous step. The considered illustrative varieties are either individual or socio-demographic.

2. THE TYPOLOGY OF RETURNING MIGRANTS

Relatively very few studies have been devoted to the analysis of return migration in the context of North African countries. This deficit is mainly explained by to the lack of appropriate individual data in order to analyse the dynamic behavior of emigrants. It also constitutes a broad field where a mixture of economic, demographic, social, psychological and political factors coexist. Dumont and Spielvogel (2008) have conducted one the most recent studies in this field pointing to the following determinant factors: the failure of migration and the importance of the macroeconomic context; the preference to consume in the native country; saving for the purpose of investment; accumulation of the human capital; and circular or repetitive migration. In an earlier contribution Cassarino (2004) also pointed to five different theoretical approaches: .The neoclassical approach; the New Economic Labour Migration

(NELM); the structural approach; the transnational approach; and the social network theory and return migration.

According to these contributions, the characteristics of the North African Return Migration lead us to stratify our population into five patterns:

- The failure of migration: the rational behaviour prevails in this context. The migrant is seen as a rational entity where the purpose from migration is to maximise the incomes produced by the differential in wages between the host and native countries. The migrant may have to overestimate the benefits he could draw from such differentials of wages while underestimating the expenses of his staying period (life expenses, depreciation of professional experiences and degrees he attained in the native country and so on). In a panel survey, which was conducted on a sample of engineers and scientists born abroad (outside the USA), Borjas (1989) concluded that scientists, who were less successful, are most likely to leave the sample. He also concluded that return can occur on the basis of wrong information about the economic opportunities in the USA. For our case, this pattern represents about 21% of the sample and breakdown with regard to the native country (29% for Morocco, 45% for Algeria and 26% for Tunisia).

- The structural approach and return for the purpose of investment: the progress made by the homeland's institutions is a changeable criterion that may enhance returning, namely the role that can be played by governments to encourage and attract emigrant investors. This type of return equally presupposes a set of objectives to be met during the period where the emigrant's life is active. According to Dumont and Spielvogel (2008), this option requires several staggered steps, including migration, saving, return and investment. The matter is concerned with maximizing the accumulation of savings in the host country, then investing it in a project and infinitely taking profit of outputs of such investment when the emigrant's life is active. Furthermore, the skill acquisition in the host country also plays a decisive role to make the return project successful. For our case, this pattern represents 15% of the size of both the sample and distribution with regard to the native countries (42% for Morocco, 17% for Algeria and 41% for Tunisia).

- Return of human capital: this case deals with the accumulation of the initial training in the native country with the training acquired in the host country. This case is essentially concerned with the expatriate students who go back to their homelands once they finish their studies. This complementary pattern between the training of the initial human capital and the one which is acquired abroad increases the output of human capital in the native country. There should be beard in mind that knowledge transfer can take place outside the physical return routine. This approach goes beyond the simple physical return through the generation of an international network capable of establishing close ties with the native country outside the sphere of the return. The example given by Colombian CALDAS network fits into this analysis scheme. In 1991, the Colombian government has set up a network composed of Colombian expatriate engineers and scientists. The idea was to encourage the emigrant scientists to take part in research and development of Colombia via an exchange between members of the network. The fact that internet has become a part of everyday life and the increasing globalisation have amplified the process. For our case, this pattern represents 5% of the size of the sample (21% for Morocco, 51% for Algeria and 28% for Tunisia).

- Preference to consume in the native country and the New Economic Labour Migration (NELM): this perception includes two reasons that legitimise the choice. First of all, there is the existence of a national variable preference; then there is a desire to take profit of the differential linked to the purchasing power that may exist between the homeland and the host country at the end of the working life process. Returning may take place when the marginal benefit from higher savings is compensated for the loss of a utility associated with living abroad. This situation tends to show that the person has probably immigrated while young or has a preference rate for a higher present. Several authors have enriched this perspective (for instance, Stark et al., 1997). Cassarino (2004) relates the family sphere to this kind of return through the New Economies of Labour Migration. In fact, the emigrant must deal with a triple constraint, including balancing, maximization of income and stay duration on the one hand, and transferring money to his homeland, particularly his own household, on the other. In this case, returning is seen as an outcome of this triple conciliation. For our case, this profile represents about 26, 5% of the size of the sample. (24% for Morocco, 41% for Algeria and 35% for Tunisia).

- The transnational approach of returning and circular migration: unlike the group of structuralist and allies of NELM, returning does not form the end of a migration process. According to transnationalists, the history of migration is a continuous process. Return migration is part of a circular system of socio-economic relations and exchanges that facilitate reintegration of migrants while providing knowledge, information and membership. Dumont and Spielvogel (2008) add two other factors which illustrate this type of circulation. Firstly, there is the positive correlation between the psychological cost of immigration and the stay duration (in this case, the low cost of transport increases this type of circulation). Then, the temporary aspect of residence permits may encourage emigrants to travel chronically to extend their residence permits. For our case, this profile represents about 10% of the investigations. (37, 5% for Morocco, 17% for Algeria and 45, 5% for Tunisia).

These different explanations are not mutually exclusive. For example, a graduate who has finished his studies abroad and worked for an amount of time would love to go back to his homeland and invest there in a promising and illustrative project. Indeed, this case includes three approaches—accumulation of human capital, return for investment and national preference. The determinants of return are multidimensional, including socio-economic and familial factors and institutional changes of the host country.

In order to account for the effective return mechanisms among the North African emigrants in relation to the advanced theoretical conceptions., we have used microdata from the MIREM survey that was conducted in the North African region on a sample composed of 992 emigrants, who have chosen to go back to their native countries (Algeria: 332, Morocco: 330 and Tunisia: 330). The structure of questionnaire attempted to underline a biographical analysis via the determination of different stages through which the emigrant underwent during his career; that is, starting from the preparation for the migration project and its concretisation to settling down in the native country and infinite return. The richness of the context (566 variables to be raised) and the diversity of profiles of individuals as well as countries (national/regional dimension) make the MIREM survey an excellent platform for empirical studies on the effective mechanisms of returning among the North African emigrants while taking into account the different advanced theoretical conceptions. The structure of the questionnaire comprises three steps: the situation in the native country before departure; the time spent in the Main Country of Immigration (MCI); and, the returning to the native country.

In order to identify the different patterns of returning migration, we have applied correspondence analysis to a different variables coming from the survey. In particular, we have taken into account the educational level and the reasons behind returning. The profiles generated by the Correspondence Analysis are generally in conformity with the specificities of the North African migration to Europe (see Table A.1). The axis 1 reproduces about 35,7% of the information while that of axis 2 is about 24,6%. More than half of the information is projected by the two axes (60,3%). (Table A.2). The study of the table of contributions in relation to the inertia of the two axes enables us to dissociate two aspects. As far as the first factorial axis is concerned, we note down an opposition between labour migration and migration to complete studies. Several explanatory varieties are used to characterize each of the two groups:

- The profile number 1 is associated with the first waves of migration. It is mainly concerned with emigrants born and come from the rural areas with a low educational level, who went to work in Western Europe (primarily France, Belgium, Netherlands and Germany) in activities such as workers' jobs and trade. The main returning motivation linked to this group is "preference for the native country" (see Table A.3).

- The profile number 2 is concerned with people who have emigrated to complete their studies abroad, in particular. This category is referred to as the main trigger for "returning after studies in the MCI". We can define this type of migration as a post-graduate mobility. What makes them primarily different from the first category is that the pre-migratory socioeconomic features are neatly more advantageous than the first group. There are other criteria that make the two groups different from each other, above all the professional inactivity in the countries they chose to settle down, the returning age and the neatly higher educational level (see Table A.4).

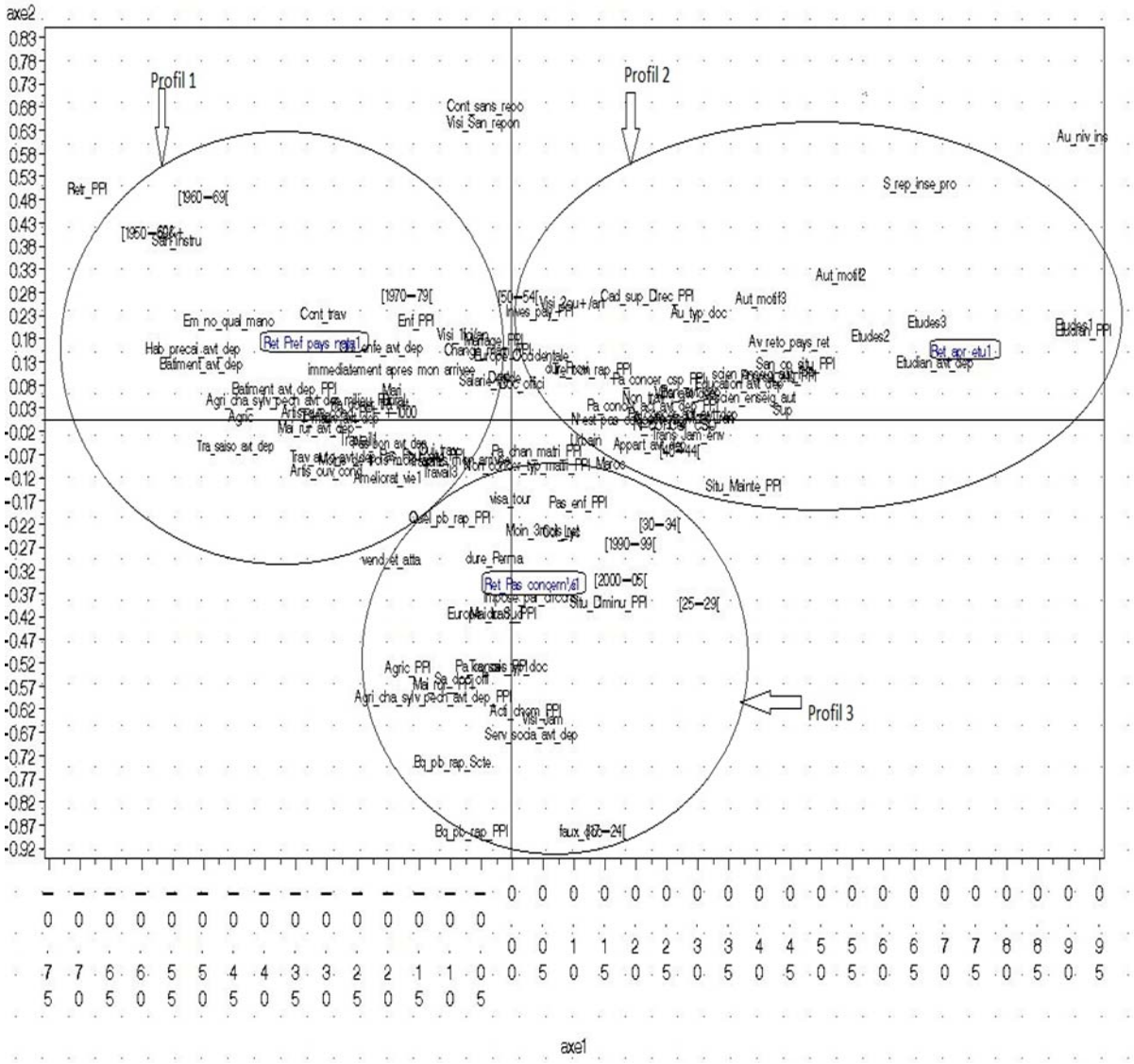
As for the second factorial axis, it shows an opposition between returning voluntarily and the forced and/or imposed returning due to certain circumstances. The common feature shared by the two first profiles has to do with returning voluntarily (a desired one) though the reasons vary from one group to another. The profile number 3 differs from the others according to the reason degree which is related to returning due to certain circumstances. It is primarily marked by a clandestine migration; a very low age category when departing; a recent emigration period, and a mid-educational level (middle and high school levels). We also have to note that this group is based rather in South Europe (Spain, Italy, Greek, etc); it shows no tangible

interest in returning (see Table A.5). Because of its fragile situation on the regulatory level, it is hardly surprising to conclude that this group refuses to return unless it meets its migration objectives. One can detect this group be referring mainly to the statements that show determination to settle down permanently in a given host country.

So, the results of the Multiple Correspondence Analysis (see figure 1) permit us to affirm that returning for preference for the native country is associated with a classical labour migration marked by a set of factors that are generally consistent with the end of the working life process (the age category when leaving the MCI, emigration decade, and the emigrant's age during the survey). This profile's features do not deviate from the theoretical prediction which provides two reasons for returning: national preference and the desire to benefit from the purchasing power differential. The second result to highlight has to do with return migration after completing studies. Also, the features specified in this group, either during the pre-migratory stage or time spent in the host country confirm the complementary dimension between the initial training in the native country and that acquired in the host country. In this case, returning is seen as a success of the migration project. However, we assume that its success depends on the attraction of the job market in the native country as well as opportunities to lead possible careers. As far as the forced or imposed returning due to certain circumstances is concerned, it is revealed by a set of features which make it different from the others. In this respect, it has to with a failure to migrate because the purpose from migration was not accomplished and the investment while being developed has not been absorbed.

Although the Correspondence Analysis has enabled us to distinguish three profiles, each of which has its own specificities, we notice that it does not account for everything in terms of the theoretical reasons mentioned before. Both returning following a failure to migrate and that for the purpose of investment are not included in the factorial plan of the Correspondence Analysis, and their respective contributions to the formation of factorial axes remain negligible.

Figure 1. Correspondence Analysis and related profiles



The analysis of the increasing number of reasons behind returning has allowed us to shed more light on the own specificities of each group. The most relevant features deal with a hierarchical stratification based on the educational level, the average age at the time of survey, the amount of time spent in the MCI, and the origin and birth environment. Furthermore, we have grouped together the profiles of both returning for other reasons and that after a temporary migration with regard to the weak workforces for the purpose of better translating the results into actions.

Nearly three quarters (74%) of emigrants, who have come back preferring to settle down in the native country, are illiterate or have primary educational level. In contrast, more than 83% of emigrants, who have returned after completing studies, have a higher level of education. We must also note down that these two extreme proportions do not discard the other profiles, including clandestine migration, investment in the native country and failure to migrate. People belonging to these profiles have predominantly a middle or high school educational level (53%, 50% and 44% respectively). Nevertheless, we should not put aside the specificity of returning after a temporary migration and other reasons, as nearly half of the emigrants (49%) have a higher educational level.

The average age at the time of returning and the period the emigrant had settled down differ greatly according to the profiles. The structural approach and returning for investment assume that the migrant has to overcome a triple constraint—migration, maximization of income and finally investment in the native country. The reconciliation of this triple constraint implies a distribution of time of working life between the MCI and the native one. Moreover, it is hardly surprising to conclude that the period the emigrant spent in the MCI is the longest (15,7 years following the group prefers returning for national preference). This period is deemed necessary in order to maximize the income and then leads to productive investment in the native country. Furthermore, the average age when leaving the MCI is quite low (39, 2 years), which creates a compromise between the distribution of working life in both native and host countries. As far as the group which prefers to return favoring the native country over the host one is concerned, it records the longest average period in the MCI (28, 9 years) as well as the highest average age when leaving such a country (54, 6 years). Several studies justify this national preference by psychological feelings of belonging to a given territory. The example given by. Constant and Massey (2003) concretises this approach. They have analysed data concerning the return migration of temporary workers in Germany between 1984 and 1997 as they noted down that

large transfers are accomplished in the native country. Other studies account for the preference to settle down in the native country by the loss of marginal utility generated by the professional performance in the host country in favour of consumption in the homeland benefiting from the differential of the purchasing power between the two (Hill, 1987 and Djajic and Milbourne, 1988). Thus, we assume that both cases (feelings of patriotism and/or taking profit of the differential of the purchasing power) correspond mostly to emigrants who have completed the phase of working life in the MCI and come back to the homeland for retirement. The results of the descriptive analysis confirm this hypothesis as nearly 54% of respondents chose to go back to the homeland for retirement reasons.

Table 1. Average length of stay and average age profiles according to the return

Variables	Profile	Mean	Standard Deviation
Length of stay in the main countries of integration (SEJ_PPI)	Other reason + Temporary migration	10.31	9.64
	Investment in the country of origin	15.71	10.10
	Preference Country of origin	28.91	12.35
	Accumulation of human capital	7.02	5.09
	Failed migration	12.70	10.86
	illegal migration	8.05	7.26
	Total	**15.87**	**13.08**
Age at the time of the survey (AGE)	other reason+temporary migration	41.75	10.55
	Investment in the country of origin	62.88	134.58
	Preference Country of origin	59.35	16.18
	Accumulation of human capital	38.79	8.01
	Failed migration	43.69	12.41
	illegal migration	36.68	10.70
	Total	**48.69**	**54.52**
Age at start (AGE_dep2)	Another reason + Temporary Migration	38.4	9.73
	Investment in the country of origin	39.2	9.59
	Preference Country of origin	54.6	12.72
	Accumulation of human capital	33.9	6.0
	Failed migration	39.2	11.38
	illegal migration	32.5	9.9
	Total	**41.4**	**13.68**

Unlike the first two profiles mentioned above, returning after competing studies, clandestine and temporary migration and others feature a standard period of a shorter settling down in the MCI (7, 8 and 10 years respectively). The standard age for returning is also lower among any confused profile (33, 9, 32, 5 and 38, 4 years respectively). Returning after completing studies can be stimulated by a positive correlation between finding professional opportunities in the native country and the end of studies (more than 61% of respondents asserted that they found a job immediately before three months and/or less than three after their return) . As far as the last two profiles (temporary and clandestine migration) are concerned, they can be synonymous with both the end of employment contract for the first part and the policy of forced return, which falls within the framework of fighting against clandestine migration, for the second part.

Table 2. Correlation test between the average length of stay, the average age compared to profiles.

Variables		**Sum of squares**	**Degrees of freedom**	**Sum of squares**	**F**	**Signification**
Length of stay in the main country of installation (SEJ_PPI)	Between groups	64951.62	5	12990.32	126.60	0.00
	Within groups	96044.45	936	102.61		
	Total	160996.07	941			
Age at the time of the survey (AGE)	Between groups	107772.15	5	21554.43	7.49	0.00
	Within groups	2838351.84	986	2878.65		
	Total	2946123.99	991			

3. MICROECONOMETRIC ANALYSIS

The theoretical conception on return migration for investment has shed light on a wide range of elements deemed necessary to come to an investment project in the country of birth. These factors include in particular the time spent abroad, which must correspond to a sufficiently long period to enhance the accumulation of (physical and human) capital without altering however the period of emigrant's working life. The reconciliation of the triple constraint- migration, accumulation and return for investment- responds to the optimal residence time. The empirical results conducted by McCormick and Wahba (2003) on the Egyptian returning migrants and Gubert and Nordman (2008) on the North African investors have further enriched the return perception for investment. The history of migration in the native country (the origin environment and the place chosen to settle down as well as the emigration period) and the professional experience (type of activity, professional training in the host country) affect on the probability of conducting an investment project. As for the structural approach adopted by Cassarino (2004), it insists on the attraction led by the development of infrastructures and the political stability of the host country with regard to the general way of returning and more specifically the migrant investors. The human and physical capital accumulated by savings and learning constitutes two major catalysts in the initiation of the return project.

The migrant's integration within the social fabric of his original society plays a complementary role. It also constitutes a safe alternative valve preventing a reemigration towards other skies. Thus, the family dimension is logical when accelerating or decelerating the moment of returning-decision. Gmelch (1980) concludes that the process of the emigrant's returning is often altered by his family environment (wife and children). To have children, while being in the MCI, stands against the elaboration of the return project, including the linguistic barriers of children at school or the wife's professional career. On the other hand, Constant and Massey (2003) have shed light on returning acceleration stimulated by the presence of a wife and children in the native country. Hence, the family dimension plays the role of a temporal regulator to extend the staying period in the MCI.

The survey reveals that there is a negative correlation between having children in the native country and staying period. The more the staying period in the MCI increases, the more the proportion of emigrants, who have had children before departure, decreases. The situation is

reversed when comparing it to the staying length and having children in the country where the settled down.

Table 3. Children of migrants prior to departure from country of origin.

Percentage	Length of stay [01-09[	[10-19[	[20-29[	[30-39[	40&+	Total
Had children before departure in country of origin	39%	17%	23%	4%	17%	100%
Has not had children before leaving in the country of origin	46%	15%	15%	5%	18%	100%
Total	41%	16%	21%	5%	17%	100%

Table 4. Migrant children in the Main Country of Installation.

	Length of stay [01-09[	[10-19[	[20-29[	[30-39[	40&+	Total
Had children in MCI	18%	20%	27%	10%	25%	100%
Has not had children in MCI	61%	7%	8%	3%	20%	100%
Total	43,9%	12,4%	15,3%	6,1%	22,3%	100,0%

Let us assume that the staying length in the host country is affected by the combination of having children in the MCI (the extension of the staying length) or by having them living in the native country (returning acceleration). The returning profiles for preference for the native country, investment, temporary migration and others and failure to migrate have the highest rates of children born in the host country (58%, 53%, 43% and 40%) and their average staying length are also the longest (29 years, 14 years, 10 years and 13 years, respectively). As far as the profiles of return after completing studies and clandestine migration are concerned, they post the lowest average staying length in the MCI. Such profiles also display the highest celibacy rates before departure and during the staying period in the MCI (81% of emigrants who return after completing studies remain single before departure and during the staying period in the MCI as opposed to 74% of forced returning migrants).

Although the three North African countries do not share a variety of socio-cultural, linguistic, religious and other environment elements, dissimilarities can namely be found in terms of the macro-economic context and the history of migration of each country. Based on the same survey, an empirical study conducted by Gubert and Nordman (2008) concluded that nearly third of migrants have conducted a project when returning. However, the two authors have also noted down significant dissimilarities with regard to probability of investment by country. Algeria differs clearly in terms of a lower share of emigrants have become self-employed, on the one hand, and the weaker proportion of others have become investors, on the other. Both authors justify their results by the fact that a significant portion of Algerians in the sample began their migration process well before their Tunisian or Moroccan counterparts. In addition, the Algerian returning migrants are on the average older and most of them are now retired. The fact that they held low-skilled jobs did not allow them to acquire entrepreneurial skills.

The most relevant variables include in particular the educational level (without the primary one) which plays a significant1 role with regard to the returning group preferring the native country. This seems to be consistent with the results received later on. The North African labor migration in Western Europe has taken many aspects during the 50 and 60 decades and also the mid-70s. One of these demonstrations constitutes the highest illiteracy rates among the newly arrived emigrants on the European territory.

Starting from configuration to six classes, we now seek to assess the impact of certain variables on the probability of belonging to a given class. The estimated Multinomial Logistic Model takes into account the individual and socio-demographic varieties: the origin and birth environment, sex, native country, educational level, reasons for emigration (improving the standard of living, work, family) and so on. The model was estimated by referring to the class characterized by return after temporary or other migration. Let us consider Yi0 as the varieties corresponding the reference profile, temporary return migration and other. Yi1 shows the investment in the native country; Yi2 indicates the preference for then native country; Yi3 corresponds to the accumulation of the Human Capital; Yi4is associated with failure to migrate; and Yi5has to do with the clandestine migration. The utility of each possibility (which is not noticed) corresponds to a linear model:

1*** p<0.001, *** p<0.05, *p<0.1

$$Y_{i0}^{*} = x_i \beta^0 + u_{i0}$$

$$Y_{i1}^{*} = x_i \beta^1 + u_{i1}$$

$$Y_{i2}^{*} = x_i \beta^2 + u_{i2}$$

$$Y_{i3}^{*} = x_i \beta^3 + u_{i3}$$

$$Y_{i4}^{*} = x_i \beta^4 + u_{i4}$$

$$Y_{i5}^{*} = x_i \beta^5 + u_{i5}$$

If the random terms in the three previous models are independent and identically distributed with extreme values of type I, then we can write the following formula:

$$\Pr ob(Y_{ik} = 1 \mid x_i) = \frac{e^{x_i \beta^k}}{1 + \sum_{r=1}^{5} e^{x_i \beta^r}}, \qquad k = 1..5$$

$$\Pr ob(Y_{i0} = 1 \mid x_i) = \frac{1}{1 + \sum_{r=1}^{5} e^{x_i \beta^r}}.$$

Such estimation is carried out by maximum likelihood techniques that ensures consistent and efficient estimators once the model is correctly specified.

The empirical model confirms the heterogeneous aspect of returning profiles and also the influence of a certain number of varieties before the drawing up of the project for migration taking place during the amount of time spent in the host country.

The level of secondary school education has the same effect of belonging on all groups in relation to reference profile, with the exception of the negative effect of returning after completing studies (-0.9). An emigrant with a middle or high school educational level has more opportunities to be a part of the reference group rather than belonging to that of returning after completing studies. This result seems to be logical because being graduates decreases the

probability of belonging to this class. The reality is that variable has further familiarized us with the educational level of other profiles that are predominantly secondary school.

Being a man maximizes the opportunities of belonging to a returning class for investment in the native country. This effect can be interpreted with reference to the social labor division between men and women. In the North African context, men are regarded as key workers; the distribution of gender in the entrepreneurship is highly gendered. For instance, the share of Moroccan businesses run by women rises up to 10% of the total number of businesses2.

The change of the marital status in the host country is another factor that makes the profiles differs from each other. We can assume that changing the marital status positively and significantly affects on all the groups, except for that of returning after completing studies. Our hypothesis suggests that such event plays a role in extending the staying length in the host country. The results of the descriptive analysis support this trend as we notice that returning after completing studies and after temporary migration and others have the shortest staying length in the host country (7 and 10 years respectively).

The frequency of visits in the country of birth is another aspect that differentiates the returning profiles. The recurrence of visits in the native country (several times a year) is significant and positively affects on belonging to returning groups for investment and that for returning after completing studies. In contrast, we notice the opposite effect of belonging to the group profile related to clandestine migration (-1.27); that seems to be logical if we take into account the specific feature of clandestine migration and its impact on the frequent visits paid to the native country.

The native country negatively and significantly affects on reference groups of profiles all together, except for returning for investment. Also and as a case in point, we can assume that a Moroccan emigrant has more opportunities to be a part of a reference group rather than that after completing studies. The same conclusion is applied to other profiles as well as emigrants from Tunisia.

[2] International Finance Corporation « Genre- Entrepreneuriat-Accès aux Marchés (GEM) » Maroc 2005.

Table 5. Results of the ML estimation of the multinomial logit model

Profile	Investment in countries of origin		Preference country of origin		Accumulation of human capital		Failed Migration		Illegal migration	
	Coeff.	Sign.	Coeff.	Sign.	Coeff.	Sign.	Coeff.	Sign.	Coeff.	Sign.
constant	-1.71	****	-1.27	**	-1.69	ns	0.6	ns	0.27	ns
Place of residence										
Reference: Urban										
rural environment	0.42	ns	0.4	ns	1.07	**	0.24	ns	0.48	ns
Genre										
Reference: Women										
men	1.33	****	0.57	ns	0.31	ns	-0.14	ns	0.17	ns
country										
Reference: Algeria										
Morocco	-0.32	ns	-1.55	****	-1.65	****	-1.4	****	-0.57	****
Tunisia	-0.67	ns	-1.66	****	-1.04	**	-1.88	****	-1.08	****
Level of education										
No level or primary	0.64	ns	2.32	****	-2.88	ns	0.82	****	1.26	****
intermediate	0.87	****	1.03	****	-2.88	ns	0.82	ns	1.26	****
Reference: Upper										
Improvement of living conditions										
A emigrate to improve living conditions	-0.14	ns	-0.14	ns	-1.17	*	0.27	ns	-0.06	*
Reference: other reason										
Period of immigration										
A emigrate after 1990	1.06	****	1.8	****	1.38	****	0.64	ns	0.5	ns
Reference: A emigrate before										
Change of marital status in the main country of installation										
Reference: no change										
A change of marital status in the main country of installation	0.82	****	0.62	**	0.24	ns	0.31	****	0.34	ns
Children in the main country of installation										
Reference: no children in the main country of installation										
One or more children in the main country of installation	-0.26	ns	-0.52	*	-1.33	****	-0.33	ns	0.34	ns
transfer to										
Country of origin										
Reference: no transfers										
Did transfers to	-0.18	ns	0.03	ns	-1.65	****	0.17	ns	0.18	ns
Country of origin										
Contacting one or more times a week										
Reference: other situations										
Contact once a week	-0.33	ns	0.39	ns	1.41	ns	0.32	ns	-0.1	ns
Contacting one or more times per month										
Reference: another situations										
Contact once a month	-0.06	ns	0.4	ns	1.79	ns	0.52	ns	0.37	ns
Contact one or more times per year										
Reference: other situations										
Contact once a year	-0.09	ns	0.16	ns	2.89	****	0.57	ns	0.19	ns
Visit the country once a year										
Reference: other situations										
Visit the country once a year	0.83	****	0.39	ns	1.17	**	-0.6	ns	-1.27	****
Visit the country several times a year										
Reference: other situations										
Visit the country several times a year	-0.61	ns	-0.03	ns	0.23	ns	-0.62	**	-1.17	****
Log Likelihood	-1200.018									

4. CONCLUSIONS

During the last twenty years, the globalization process has been instrumental in enhancing the mobility of labor. Globally, the trade/GDP ratio was increased to 1.5 during the nineties. Within the same period, the ratio of GDP foreign direct investments has risen up to 3 (WTO, 2004), and the "stock of immigration of OECD countries has also risen up to 50%". But given the migration restrictions imposed by the Northern states, this windfall may dry up in the coming years. Returning is thus required as a legitimate alternative for emigrants to keep pace with their country's development. Furthermore, this policy increasingly keeps drawing attention to the migration policies set up by the native country, which enhances the emigrants' returning and integration in Morocco. However, these return-assisted policies have not met the expected outcomes.

If public intervention seems to be necessary, its effectiveness largely depends on the conditions of its implementation. In this context, the TOCKTEN experience introduced by Morocco in 1994 and the FINCOM program in 2007 is extremely instructive in the sense that it gives importance to two major elements, including the provision of statistics and the measures management. Regarding the provision of statistics, the range of issues that could be raised in terms of analyses would significantly be enlarged if countries update their administrative records and undertake partnerships that would enable them to follow up their immersed populations. The measures management is also relevant. The effectiveness of a measure depends on targeting degree. In principle, the more the measure is well-targeted, the larger the effectiveness opportunities become. Indeed, the migrants' category is statistically too heterogeneous so that it will be subject to the same device. The motives that encourage a young post-graduate holder of a degree in the host country largely differ from the objectives of an emigrant who went back to his homeland after retirement. The empirical analysis of the MIREM survey on the North African Returning Migrants reinforces this assumption by highlighting the uniqueness of the North African dynamism (clandestine migration, returning for preference of the host country and its consistency with returning after the end of the working life process). The staying length in the host country is also discriminating. It is higher when referring to returning groups for the purpose of investment (15.7 years) and for those who prefer to settle down in the native country (29 years). It therefore involves the correlation between duration and savings in order to account for consumption or investment in the native country. In contrast, we have found shorter staying duration when referring to those who return

after completing studies (7 years), clandestine migration (8 years) and temporary or other migration (10 years). Within the native country, the combination of the staying duration and the respondent's age with regard to those who return after completing studies shows the dominance of the effect of providing professional opportunities on the returning-decision of this profile. Other involved discriminatory varieties include in particular the frequent visits paid to the native country and the change of status in the host country. The targeting measures will not take place unless the measures conception is based on a realistic analysis of profiles, which undermines the implicit assumption that statistical categories used are homogeneous. The work carried out in this context follows this logic in that it seeks to analyze the development of the returning project by highlighting the specificities and sensitivity of each return category.

5. REFERENCES

AFSA ESSAFI C. (2003), “Les modèles logitpolytomiques non ordonnés : théorie et applications” , série des documents de travail, Méthodologie Statistiques. Institut National de la Statistique et des Etudes Economiques (INSEE), N°0301, pp19-67.

BORJAS G., BRATSBERG, B., (2007), “Who leaves? The Outmigration of the Foreign-born”. The Review of Economics and statistics, vol. 78, N°1, pp 165-176.

CASSARINO J. P. (2004), “Theorising Return Migration: The Conceptual Approach to Return Migrants Revisited”, International Journal on Multicultural Societies (IJMS) Vol.6, No 2, pp. 253-279.

CASSARINO, J. P. (2007), “Migration de retour au Maghreb, réintégration et enjeux de développement”. Rapport général, MIREM.

CONSTANT, A. MASSEY, D.S. (2003), “Self-selection, earnings, and out-migration: A longitudinal study of immigrants to Germany”, Journal of Population Economics, vol. 16(4), pages 631-653.

DUMONT J. C., SPIELVOGEL, G. (2008), “Les migrations de retour: un nouveau regard”, Perspectives des migrations internationales, pp.181-246.

DEAN, Y, (2004), “Why Do Migrants Return to Poor Countries? Evidence from Philippine Migrants’ Responses to Exchange Rate Shocks”, Gerald R. Ford School of Public Policy and Department of Economics, University of Michigan pp 2-8.

DJAJIC, S., MILBOURNE, R. (1988), “A general equilibrium model of guest-worker migration: The source-country perspective”, Journal of International Economics 25(3-4): 335-51.

DOCQUIER, F., MARCHIORI, L. (2012), “The impact of MENA-to-EU migration in the context of demographic change”, Journal of Pension Economics and Finance, 11 (2), 243-284.

DOCQUIER, F., RAPOPORT, H. (2007), “L’immigration qualifiée, remède miracle aux problèmes économiques européens?”, Université de Boeck- Reflets et perspectives de la vie économique Tome XLVI, pp 95-111.

DUSTMAN. C., MESTRE, J. (2008), “Remittances and Temporary Migration”, Journal of Development Economics, Elsevier, vol. 92(1), pp. 62-70.

DUSTMAN, C. WEISS, Y. (2007), “Return Migration: Theory and Empirical Evidence from the UK”, British Journal of industrial Relations, vol 45 (2), pp 236-256.

DUSTMAN C. (2007), “Return Migration, Investment in Children, and Intergenerational Mobility. Comparing Sons of Foreign- and Native-Born Fathers”, The Journal of Human Resources, XLIII.2.

DUSTMAN C. (2001), Why Go Back? Return Motives of Migrant Workers, Department of Economics, University College London.

GMELCH, G. (1980), “`Returning migration'”, Annual Review of Anthropology 9 135-159.

GUBERT, F., NORDMAN, C. J. (2008), The Future of International Migration to OECD Countries. Regional Note. North Africa, OECD.

HILL, J.K. (1987), “Immigrant decisions concerning duration of stay and migratory frequency”, Journal of Development Economics 25(1): 221-34.

LAHLOU, M. (2006), “Migration de retour au Maroc : une approche socio-économique et institutionnelle”, Projet MIREM (Migration de retour au Maghreb).

MCCORMICK, B., WAHBA, J. (2003), “Return International Migration and Geographical Inequality: The Case of Egypt”, Journal of African Economies, 12, (4), 500-532.

KHACHANI, M. (2010), “La migration des personnes hautement qualifiées le cas du Maroc». CARIM Notes d’analyseet de synthèse, 2010/37 pp. 1-23.

STARK, O., FAN S., (2007), “The brain drain, educated unemployment, human capital formation, and economic betterment”, Economics of Transition, vol. 15(4), pp 629-660.

STARK, O., HELMENSTEIN, C., YEGOROV, Y. (1997), “Migrants' Savings, Purchasing Power Parity, and the Optimal Duration of Migration”, International Tax and Public Finance, vol. 4(3), pages 307-324.

6. ANNEX

Table A1. Reasons to return in the questionnaire MIREM and grouping them according to the theoretical concepts

Codes	Modalities	grouping	
1	Precarious employment in the country of immigration	Failed migration for economic reasons	Failed migration
6	Integration problems in the country of immigration	Failed migration for reasons of integration	
14	Unfavorable socio-cultural environment		
3	Family problems in the country of origin	Failed migration for family reasons	
4	Family problems in the country of immigration		
11	I finished my studies in the country of immigration	Return after studies	
12	Complete my formation		
5	Health problems	Preference the country of origin	
7	Retreat		
13	Nostalgia for my country and its traditions		
8	Manage my business	Investments in the country of origin	
9	Creating Projects		
2	To benefit from aid to return	Temporary migration	
10	End of my contract of employment in the country of immigration		
15	Other	Other reasons	
99	Do not know		
-1	Not concerned	Irregular migration	

Table A2. Contributions to the axes of inertia

Inertia and Chi-Square Decomposition					
Singular Value	Principal Inertia	Chi-Square	Percent	Cumulative Percent	7 14 21 28 35 ----+----+----+----+----+---
0.18621	0.03467	3817.9	35.71	35.71	**********
0.15441	0.02384	2625.3	24.56	60.27	**********
0.13502	0.01823	2007.4	18.78	79.05	**********
0.08968	0.00804	885.6	8.28	87.33	******
0.07707	0.00594	654.1	6.12	93.45	****
0.05730	0.00328	361.5	3.38	96.83	**
0.04515	0.00204	224.5	2.10	98.93	**
0.03217	0.00103	113.9	1.07	100.00	*
Total	0.09709	10690.3	100.00		
Degrees of Freedom = 1793					

Table A3. Principal terms contribution to the formation of the first axis (negative contributions).

	Contributions négatives Axe 1					Contributions négatives Axe 1			
	Libellé	Modalités	Inertie	cos²		Libellé	Modalité	Inertie	cos²
Age of respondent: 60 and over	60&+	0,073	0,7909		Reason for return: preference country	Ret_Pref_pays_natal	0,3126	0,7519	
Migration period: before 1974	Avant 1974	0,0596	0,716		Reason for leaving: not to pursue studies	Pas_Pour_etu_PPI	0,1079	0,7215	
Level of education: elementary	Elementaire	0,0566	0,9262						
Occupation Country of Origin: workers	Ouvriers_PO	0,0329	0,8972						
Type of travel document: the travel contract	Cont_trav	0,0239	0,5241						
Industry before departure building	Batiment_avt_dep	0,0207	0,8757						
Not affected by the return to work	pas_concerne_tra_ret	0,0201	0,6897						
Industry before departure: Agriculture	agriculture_avt_dep	0,0189	0,8889						
Sector acitivity in the PPI: building	Batiment_PPI	0,0168	0,853						
Economic situation before departure: bad	mauv_Situ_fi_avt_dep	0,0161	0,7714						
Principal occupation in the Country of Installation	Ouvriers_PPI	0,0157	0,669						
Type of activity before departure seasonal worker	Tra_sais_avt_dep	0,0157	0,7729						
Reason for leaving: work	Travail	0,0144	0,6928						
Environment from: rural	milieu_Rur	0,0129	0,786						
Midst of birth: rural	nais_Rural	0,0123	0,8777						
Marital status: married	Mari	0,0121	0,6466						
Had children before departure	enf_avt_dep	0,0119	0,6165						
Type of housing before departure rural housing	loge_rur_avt_dep	0,0101	0,7148						
Reason for leaving: improvement of living conditi	Amel_vie	0,0097	0,6489						
Quick employability in the PPI	inser_pro_rapi_PPI	0,0095	0,692						
Work before departure: yes	Oui_trav	0,0064	0,5395						
Type of accommodation before departure precaric	loge_prec_avt_dep	0,0061	0,8944						
Amount of transfers: 1000 €	1 000 €	0,0057	0,6347						
Economic situation in the PPI: improved	Situ_ameli_PPI	0,0042	0,7558						
Frequency of transfers: several times a year	Trans_+foi/an	0,0042	0,6619						
Country of Origin: Tunisia	Tunisie	0,0031	0,2961						
Transfer frequency: once a month	Trans_1foi/moi	0,0028	0,6623						
Industry: Industry	Industries_PPI	0,0028	0,4327						
Frequency of contact: several times a year	Cont_+sieurfoi/an	0,0025	0,7347						

Table A4. Principal terms contribution to the formation of the first axis (positive contributions).

Contributions positives Axe 1				Contributions positives Axe 1			
Libellé	Modalités	Inertie	cos²	Libellé	Modalités	Inertie	cos²
First reason for leaving: study	**Etudes**	0,0858	0,6831	Continued studies in the main country of installation	**Poursui_etu_PPI**	0,3106	0,7556
No activity before departure	**Au_acti_avt_dep**	0,0015	0,1212	Reason for return: return after studies	**Ret_apr_etu1**	0,146	0,5376
Long employability after returning	**inser_pro_long_ret**	0,0031	0,457				
woman	**F**	0,0026	0,2375				
Not affected by the work in the Main Country	**pas_concerne_tra_PPI**	0,0059	0,3912				
Environment from: urban	**milieu_Urb**	0,0042	0,6899				
Long employability in the Main Country of	**inser_pro_long_PPI**	0,0022	0,3614				
Average financial position before departure	**Situ_fi_moy_avt_dep**	0,0018	0,4344				
Professional situation in the country: a	**Cadres_PO**	0,007	0,5549				
Not concerned by employment status in the	**N_concer_csp_PPI**	0,0055	0,33				
No activity in the Main Country of Installation	**San_acti_PPI**	0,0054	0,3346				
Not affected by the number of children before	**Pa_concer_enf_avt_dep**	0,0055	0,6452				
Not concerned by the activity before departure	**Pa_concer_act_avt_dep**	0,0155	0,7211				
Not concerned by the shipment transfers	**N_concer_Mont_Tran**	0,017	0,7545				
Economic situation in the Main Country of	**Situ_Mainte_PPI**	0,0135	0,6294				
Did not work	**Non_trav**	0,0093	0,5803				
Without activity before departure	**San_acti_avt_dep**	0,0114	0,7045				
Single	**Celib**	0,0049	0,5708				
Age group of 30-39 years investigated	**[30-39]**	0,0081	0,6305				
Not affected by the activity in the Main	**Pa_concer_act_PPI**	0,0055	0,33				
Type of housing before departure urban	**loge_urb_avt_dep**	0,0037	0,737				
Not concerned by the employment situation in	**N_concer_csp_PO**	0,0155	0,7211				
Age group of 40-49 years investigated	**[40-49]**	0,0113	0,7648				
Country of Origin: Morocco	**Maroc**	0,0074	0,4062				
Midst of birth: urban	**nai_Urbain**	0,0066	0,8679				
Quick employability after returning	**inser_pro_rapi_ret**	0,012	0,6113				
Before departure Location: good	**Bon_Situ_fina_avt_dep**	0,0092	0,6965				
Education in the country, higher	**Superieur**	0,0357	0,7272				
Never made transfers	**Trans_Jam_env**	0,017	0,7545				

Table A5. Principal terms contribution to the formation of the second axis (negative contributions)

Contributions négatives Axe 2				Contributions négatives Axe 2			
Libellé	Modalités	Inertie	cos²	Libellé	Modalités	Inertie	cos²
Frequency of visits to the country of origin: never	**Visi_Jam**	0,0941	0,8237	Reason for return: failure migr	**Ret_Ech_mig1**	0,0076	0,0822
Travel documents: without and / or forged documents	**San/fau_doc_offi**	0,0526	0,8375	not concerned by the return	**Ret_Pas concer**	0,266	0,7872
Main Country of Installation: Southern Europe	**Europe_du_Sud**	0,0396	0,6901	Back imposed by circumstanc	**Impose_par_ci**	0,266	0,7872
Is not affected by the type of travel documents	**Pa_concer_typ_doc**	0,0383	0,6771				
Period of Immigration: 1990-2005	**[1990-05[**	0,0311	0,4717				
Nature of the relationship with the institutions of the main settlement countries difficult	**pb_rap_PPI**	0,0307	0,9238				
Age of the respondent class: 17 to 29	**[17-29]**	0,0258	0,4643				
Intend to install in the main country of installation: Permanent	**Ins_Perma_PI**	0,0247	0,9046				
Employment situation in the main settlement countries seasonal worker	**Tra_sais_PPI**	0,0233	0,7671				
Industry in the main settlement countries agriculture	**agriculture_PI**	0,0228	0,871				
Level of education before departure: Secondary	**Secondaire**	0,016	0,5214				
Has no children in the main country of installation	**San_enf_PPI**	0,0136	0,4549				
Type of housing in the main settlement countries rural	**loge_rur_PPI**	0,013	0,8726				
Nature of the relationship with the company's main settlement countries difficult	**pb_rap_Scte**	0,0109	0,7273				
Travel documents: tourist visas	**visa_tour**	0,007	0,5357				
No change of marital status in the main country of installation	**Pa_chan_matri_PPI**	0,0059	0,4958				
Not affected by the type of change in marital status	**Non_concer_typ_matri_PPI**	0,0045	0,4055				
Industry before departure services	**Service_avt_dep**	0,0042	0,2085				
Economic situation in the main settlement countries decreased	**Situ_Diminu_PPI**	0,0039	0,5569				
Employment status before departure: employees	**Employes_PO**	0,0036	0,3705				
Annual amount sent: less than 200 €	**-200**	0,0023	0,4622				

Table A6. Principal terms contribution to the formation of the second axis (positive contributions)

Contributions positives Axe 2				Contributions positives Axe 2			
Libellé	Modalités	Inertie	cos²	Libellé	Modalités	Inertie	cos²
Type of travel document: other	**Au_typ_doc**	0,0235	0,4287	Reason for return: other reasons	**Aut_rais_ret1**	0,0413	0,1468
Frequency of visits to the country of origin: two or more times per year	**2visi_ou+/an**	0,0207	0,6169	Reason for return: return to investment	**ret_Investissements1**	0,0254	0,1112
Had children in the main country of installation	**Enf_PPI**	0,0157	0,4093	Reason for return: return after r	**ret_Migration temporaire1**	0,0006	0,0022
Main Country of Installation: Western Europe	**Europe_de_Ouest**	0,0131	0,4768	No answer on the continuation	**San_repo_etu_PPI**	0,0651	0,1081
marriage	**Mariage_PPI**	0,0109	0,4798	Nature Return: Decided	**Decide**	0,0808	0,7872
profession in the main settlement countries under	**Cadres_PPI**	0,0102	0,4043				
Frequency of visits to the country of origin: once a year	**1visi_par_an**	0,0099	0,3387				
installation country good	**bon_rap_PPI**	0,0094	0,5339				
A Changed marital status in the main country of installation	**Change_matri_PPI**	0,0087	0,4055				
installation	**Ins_Provi_PPI**	0,0087	0,54				
A invests in the main country of installation	**Inves_PPI**	0,007	0,1824				
Travel documents: official	**Doc_offici**	0,0067	0,6771				
Reason for leaving: Other	**Aut_motif**	0,0063	0,2604				
Age of the investigated class: 50 to 59 years	**[50-59]**	0,0053	0,3664				
settlement countries good	**bon_rap_Scte**	0,0049	0,3976				
Migration Period: 1975-1989	**[1975-89[**	0,0036	0,3075				
installation: employee	**Salarie_PPI**	0,0032	0,195				
Child in the main settlement countries unanswered	**S_rep_enf_PPI**	0,0031	0,1496				
installation: employer	**Employeur_PPI**	0,0022	0,0734				
Type of housing before departure: other	**Aut_loge_avt_dep**	0,0019	0,3717				