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Return Migration and Working Choices
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MIREM

Le projet MIREM, ou «Action collective de soutien à la réintégration des migrants de retour dans leur pays d'origine», a été lancé en décembre 2005, grâce au concours financier de l'Union Européenne et de l'Institut Universitaire Européen. Il est hébergé au sein du Robert Schuman Centre for Advanced Studies (Florence, Italie). L'objectif majeur du projet MIREM vise à assurer une meilleure prise en compte des enjeux propres à la migration de retour et à mieux en valoriser l'impact à des fins de développement. Il s'agit, en premier lieu, de produire des outils d'analyse et de compréhension du phénomène de la migration de retour vers les pays du Maghreb (Algérie, Maroc, Tunisie) et, en second lieu, de rendre librement accessibles l'ensemble des informations produites.

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The 'Collective Action to Support the Reintegration of Return Migrants in their Country of Origin', henceforth the MIREM project, was created in December 2005, thanks to the financial support of the European Union and the European University Institute. It is hosted at the Robert Schuman Centre for Advanced Studies (Florence, Italy). The main objective of the MIREM project lies in better taking into consideration the challenges linked to return migration as well as its impact on development. Analytical tools will be provided to better understand the impact of return migration on the Maghreb countries (Algeria, Morocco, and Tunisia). All the data produced will be made freely accessible to stimulate a constructive debate on this issue.

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Abstract

This paper uses the recent survey carried out in the framework of the MIREM project on returnees to Algeria, Morocco and Tunisia and studies the duration of emigration and the labour force status upon returning. The results suggest that age and the year of emigration play a central role in the migration decision, but they do not support the hypothesis that the duration of migration is determined by the desired labour market status upon returning home.

Acknowledgements

1.   Introduction

Economic analyses tend to view the decision to migrate as the result of a rational income-maximising process, which includes when to leave and which country to move to. In such an interpretative framework, the duration of stay in the host country should prima facie be as long as possible. If migrants maximise income, and the wage in the host country is higher than in the home country, then would-be migrants should intuitively stay abroad until retirement age, or as long as allowed by the migration policy of the host country. However, recent work has suggested otherwise, highlighting that retirees are not the main group of returning migrants. In particular, Dustman and Kirchkamp (2002) show that most Turkish migrants returning from Germany not only remain economically active upon returning but become self-employed. The authors suggest that these findings can still be interpreted within an optimising decision framework if would-be migrants decided *simultaneously*, and prior to emigration, the desired activity to carry out upon returning and how long to emigrate for. For a given age distribution of the emigrant population, emigrants wishing to become self-employed or entrepreneurs will therefore emigrate when young (to allow their long working lives upon returning to cover the set up costs of new activity), and stay abroad just enough time to accumulate capital to set up a business activity once back home. In contrast, people preferring to be employed would not necessarily emigrate when young (they could do so at an intermediate age), but would stay in the host country for a longer period than those wishing to become entrepreneurs. Empirical work by Dustmann and Kirchkamp supports these initial hypotheses.

These findings carry relevant policy implications about the stock and composition of migrants in both sending and receiving countries. For example, they suggest that rising wage inequalities between the home and the host countries will not only generate a larger volume of emigrants, but will shorten the stay of those emigrants who want to become entrepreneurs upon returning. Contemporaneously higher inflows and outflows of migrants have an ambiguous effect on the host country's stock of migrants, and reduce the need of active policy intervention to moderate the number of migrants in the host country.

This paper analyses the duration of migration of Moroccan, Algerian, and Tunisian migrants returning home from a spell in the European Union. The analysis uses the database constructed by the MIREM. In particular, we study the emigrants' length of stay abroad and the determinants of the labour market choice undertaken upon their returning. In doing so, we are able to add empirical evidence to the still limited literature on return migration.

The rest of the paper is organised as follows: Section 2 reviews the characteristics of the individuals in the MIREM sample before migration, as well as a summary of their labour market status and their transitions throughout the emigration process. Section 3 presents the statistical model used to estimate the determinants of the duration of emigration. Section 4 discusses the results. Section 5 concludes.

2. The sample

2.1. Who are the emigrants?

The MIREM sample covers almost 1,000 individuals from Algeria, Morocco and Tunisia, in broadly equal proportions, as illustrated in Table 1. Of these, the majority is male (87.4%).

Table 1. Country of Origin

Country	Freq.	Percent	Cum.
Algeria	332	33.47	33.47
Morocco	**330**	33.27	66.73
Tunisia	330	33.27	100
Total	**992**	**100**	

Source: MIREM, © EUI

The duration of migration of the people surveyed is varied, ranging from less than five to over thirty one years. As shown in Table 2, there is a skew towards relatively recent emigrants, while only a third spent twenty years or more in the host country.

Table 2. Length of Stay in the Main Country of Destination

Years spent in ppal mig. country	Freq.	Percent	Cum.
0 to 5 years	301	32.16	32.16
6 to 10 years	168	17.95	50.11
11 to 15 years	107	11.43	61.54
16 to 20 years	81	8.65	70.19
21 to 25 years	51	5.45	75.64
25 to 30 years	66	7.05	82.69
31 years and more	162	17.31	100
Total	**936**	**100**	

Source: MIREM, © EUI

Before emigrating, most of the surveyed had a job. Almost half were in salaried employment (45.67%) while 16.77% were self-employed. About a quarter of the migrants were not in the labour force prior to migrating.

Table 3. Labour Force Status Before Migration

Prior to departure: LFS status	Freq.	Percent	Cum.
Not in LF	228	24.68	24.68
Unemployed	119	12.88	37.55
Wage earner	422	45.67	83.23
Self employed*	155	16.77	100
Total	**924**	**100**	

Source: MIREM, © EUI
* are considered self employed, individuals whose main activity is business owner employing 1 or more persons, regular independent worker or irregular independent worker.

The decomposition of the labour force status by country of origin before departure indicates that a larger proportion of Moroccans were not in the labour force before migrating, as illustrated in Table 4.

We will review the influence of the country of origin as a determinant of the duration of migration in Section 4.

Table 4. Labour Force Status before Migration: by Country of Origin

	Labour force status prior to departure				
Country	**NLF**	**Unemp**	**Wage**	**SE**	**Total**
Algeria	16.01%	17.22%	49.85%	16.92%	**100.00%**
Morocco	39.64%	10.91%	32.00%	17.45%	**100.00%**
Tunisia	20.75%	10.06%	53.14%	16.04%	**100.00%**
Total	**24.68%**	**12.88%**	**45.67%**	**16.77%**	**100.00%**

Source: MIREM, © EUI

Despite a relatively large proportion of those surveyed were not in the labour force or were unemployed prior to emigration, most emigrants were relatively well off. A large 38.55% of the individuals surveyed owned a house or an apartment and 36.23% reported owning land with an average size of 3.71 hectares. This finding supports that emigrants are not drawn from the lower end of the income distribution scale: after all, one needs to support a certain amount of costs in order to emigrate.

Overall, when asked about their financial situation before departure, just over a third of the respondents answered that they had a 'bad' or 'not good' financial situation. Table 5 cross tabulates the country of origin and the financial situation in the country of origin before departure. No major differences among home countries emerge.

Table 5. Financial Situation Prior to Emigration

	Financial situation before migration				
country	**bad**	**not good**	**average**	**good, very good**	**Total**
Algeria	24.69%	20.99%	35.19%	19.14%	100%
Morocco	7.72%	20.58%	53.70%	18.01%	100%
Tunisia	14.64%	23.99%	45.48%	15.89%	100%
Total	15.79%	21.86%	44.67%	17.68%	100%

Source: MIREM, © EUI

Upon migration, 71.76% of the individuals arrived alone in the host country. Entry to the host country was commonly granted through a tourist visa (28.3%), though 22.85% entered with a work contract, as shown in Table 6. Working visa was the prevailing entry visa among Tunisians (Table 7), perhaps reflecting the presence of preferential migration treatment between sending and receiving countries.

Table 6. Visa Used to Enter the Host Country

visa type	Freq.	Percent	Cum.
not answered	147	15.41	15.41
tourist visa	270	28.3	43.71
work contract	218	22.85	66.56
family reunion visa	75	7.86	74.42
other	244	25.58	100
Total	954	100	

Source: MIREM, © EUI

Table 7. Visa Used to Enter the Host Country: by Country of Origin

Country:	Visa type					
	not answered	tourist visa	work contract	family reunion visa	other	
Algeria	4.52%	39.16%	19.58%	8.43%	28.31%	100%
Morocco	30.79%	19.37%	12.38%	5.71%	31.75%	100%
Tunisia	11.40%	25.73%	37.13%	9.45%	16.29%	100%
Total	15.41%	28.30%	22.85%	7.86%	25.58%	100%

Source: MIREM, © EUI

2.2. The emigrants' labour force status

To assess the labour force status of the emigrants, we first cross-tabulate the current labour force status after return (column) and the last labour force status in the immigration country (row). Each labour force status shows the absolute number of respondents and their proportion, respectively. Table 8 displays the frequencies obtained.

Table 8. Labour Force Status in the Home and Host Country

current LFS after return	last LFS in host country				
	NLF	Unemp	Wage earner	Self emp	Total
NLF	63	4	134	16	217
	45.65	**8.89**	**23.67**	**11.11**	**24.3**
Unemployed	7	16	65	10	98
	5.07	**35.56**	**11.48**	**6.94**	**10.97**
Wage earner	45	15	190	13	263
	32.61	**33.33**	**33.57**	**9.03**	**29.45**
Self employed	23	10	177	105	315
	16.67	**22.22**	**31.27**	**72.92**	**35.27**
Total	138	45	566	144	893
	100	**100**	**100**	**100**	**100**

Source: MIREM, © EUI

Table 8 is quite informative as the diagonal of the matrix indicates the proportion of individuals who have not changed labour force status between the last job in the host country and the current job after returning home. With the exception of the self employed, where almost 73% remain self employed once back in their home country, there is significant dispersion away from the diagonal. For example, only one third of wage earners in the migration country remain wage earners after they return home. Another third become self employed and 23% leave the labour force, probably due to retirement. Comparatively only 11% of those who were self employed in the host country leave the labour force upon return. This statistic gives some support to the hypothesis that immigrants who want to become self employed upon return experience shorter durations of migration, as suggested by Dustmann and Kirchkamp.

It is worth noting that Chi square and G-square tests of independence between the two variables (current LFS and last LFS in host country) give respectively 172.594 and 160.941 leading to reject the hypothesis that the labour force status upon return is independent from that held last in the host country.

To explore the possibility that self-employed after returning stay less time in the host country, we cross tabulate the current labour force status after return and the duration of stay in the main country of immigration in Table 9.

Table 9. Current LFS Status and Length of Stay in the Host Country

	Duration of stay in main country of migration							
Current LFS	0 to 5 yrs	6 to 10 yrs	11 to 15 yrs	16 to 20 yrs	21 to 25 yrs	26 to 30 yrs	31 or more	Total
NLF	19	10	7	11	17	28	125	217
	8.76	**4.61**	**3.23**	**5.07**	**7.83**	**12.9**	**57.6**	**100**
Unemployed	51	17	15	10	1	4	3	101
	50.5	**16.83**	**14.85**	**9.9**	**0.99**	**3.96**	**2.97**	**100**
Wage earner	130	63	23	18	5	10	1	250
	52	**25.2**	**9.2**	**7.2**	**2**	**4**	**0.4**	**100**
Self employed	87	63	50	37	26	22	31	316
	27.53	**19.94**	**15.82**	**11.71**	**8.23**	**6.96**	**9.81**	**100**
Total	287	153	95	76	49	64	160	884
	32.47	**17.31**	**10.75**	**8.6**	**5.54**	**7.24**	**18.1**	**100**

Source: MIREM, © EUI

Here, we can see that the majority of those who are now wage earners have migrated for 5 years or less (52%) and more than three quarter of the now wage earners have stayed abroad for less than 10 years.

The distribution is not as skewed for those who are now self-employed. Only 47% have durations shorter than 10 years in the host country. This fact is against the hypothesis that individuals who wish to be self employed upon return choose shorter durations of stay before migration (the Dustmann-Kirchkamp hypothesis). However, it should be recognised that individuals may have had shorter durations expecting to become self employed upon return but they may have found it harder than expected to set up their own business once back in the home country.

As expected, most of those who have left the labour force and are now retired have stayed in the host country for the longest spell.

Regarding the individuals who are unemployed after their return, a large proportion of them have stayed short periods in the host country. This is likely to include individuals who were not successful abroad. Yet there is little evidence that these individuals have successfully integrated in the labour market of the home country upon return.

Taking the same frequencies but looking at the proportions per duration categories rather than per labour force status, it appears that those who have stayed the least in the host country are now wage earners and self employed (respectively 45.3% and 30.31% of those who stayed less than 5 years are in those two categories).

The sample therefore shows that a large number of people have left their origin country recently have returned. About 40% of the individuals have left less than 10 years before the interview and we have no indication about how common this is among Moroccans, Algerians, and Tunisians who emigrated to Europe and subsequently returned to their respective countries of origin. More importantly, it is possible that recent migrants are a self-selected group relative to earlier migrant cohorts. To visualise whether this might be the case, we cross tabulated the duration of stay in the host country and the year in which the individual left his/her country of origin. The median departure year in the sample is 1989.

Table 10. Duration of Stay and Year of Departure

			Duration of stay in host country					
Year left:	0 to 5 yrs	6 to 10 yrs	11 to 15 yrs	16 to 20 yrs	21 to 25 yrs	26 to 30 yrs	31 or more	Total
Before 1965	0.00%	0.00%	0.00%	1.04%	0.00%	3.13%	95.83%	100%
1966-1975	4.29%	3.68%	1.84%	6.13%	9.82%	31.29%	42.94%	100%
1976-1985	5.65%	6.45%	12.90%	37.10%	28.23%	9.68%	0.00%	100%
1986-1995	18.26%	35.27%	36.51%	9.96%	0.00%	0.00%	0.00%	100%
1996-2005	77.88%	22.12%	0.00%	0.00%	0.00%	0.00%	0.00%	100%
Total	32.16%	17.95%	11.43%	8.65%	5.45%	7.05%	17.31%	100%

Source: MIREM, © EUI

Table 10 indicates the likely presence of selection bias across successive cohorts of emigrants, as those who left after 1996 mostly stayed abroad for less than 5 years while those who were given the opportunity to stay longer (those who departed earlier) experienced longer durations in the host country. The overwhelming majority of those who departed before 1975 have stayed abroad more than 26 years, while those who departed between 1976 and 1985 stay also predominantly more than 26 years (out of a maximum of 29 years).

To explore the presence of a selection bias, we checked whether those who are currently self employed or wage earner have stayed the shortest time also among people who could have stayed 25 years and over, that is people who left in 1980. The results are reported in Table 11.

Table 11. Duration of Stay if Emigrated Prior to 1980

			Duration of stay in host country (individuals who left before 1980)					
Current LFS	0 to 5 yrs	6 to 10 yrs	11 to 15 yrs	16 to 20 yrs	21 to 25 yrs	26 to 30 yrs	31 or more	Total
NLF	0	2	0	6	13	28	125	174
	0%	**1.15%**	**0%**	**3.45%**	**7.47%**	**16.09%**	**71.84%**	**100%**
Unemployed	1	0	1	3	1	4	3	13
	7.69%	**0**	**7.69%**	**23.08%**	**7.69%**	**30.77%**	**23.08%**	**100%**
Wage earner	1	4	0	8	4	10	1	28
	3.57%	**14.29%**	**0%**	**28.57%**	**14.29%**	**35.71%**	**3.57%**	**100%**
Self employed	6	2	4	8	22	22	31	95
	6.32%	**2.11%**	**4.21%**	**8.42%**	**23.16%**	**23.16%**	**32.63%**	**100%**
Total	8	8	5	25	40	64	160	310
	2.58%	**2.58%**	**1.61%**	**8.06%**	**12.9%**	**20.65%**	**51.61%**	**100%**

Source: MIREM, © EUI

If we look at those who stayed less than 15 years in the host country, which is a minority, the currently self employed and wage earners dominate. However, if we consider the sub-sample of those who stayed abroad for more than 16 years, who are the vast majority in the sample, current wage earners seem to have returned earlier than those who ended up self employed, against the finding of Dustmann and Kirchkamp for Turkish emigrants returning from Germany.

Additional information on the decision to return after emigrating includes the financial wealth of the migrant. Table 12 links the durations of stay and the variable indicating whether the individuals owned their dwelling in the host country:

Table 12. Financial Wealth and Duration of Emigration

	Duration of stay in host country							
Dwelling ownership in host country	0 to 5 yrs	6 to 10 yrs	11 to 15 yrs	16 to 20 yrs	21 to 25 yrs	26 to 30 yrs	31 or more	Total
No	271	146	81	62	41	42	129	772
	35.1%	**18.91%**	**10.49%**	**8.03%**	**5.31%**	**5.44%**	**16.71%**	**100%**
Yes	15	16	14	9	7	18	30	109
	13.76%	**14.68%**	**12.84%**	**8.26%**	**6.42%**	**16.51%**	**27.52%**	**100%**
Total	286	162	95	71	48	60	159	881
	32.46%	**18.39%**	**10.78%**	**8.06%**	**5.45%**	**6.81%**	**18.05%**	**100%**

Source: MIREM, © EUI

Table 12 clearly shows that those who did not own their dwelling in the host country have the shortest stay, with almost a third of those who owned their dwelling having stayed 30 years or more.

Finally we considered the intentions of future migrations. At the time of return in the origin country, more than half of the individuals wished to permanently stay at home, while 20% seem prepared to re-emigrate.

The details indicate that a significant number of those stating that are likely to re-emigrate are individuals employed in either salaried work or self-employed, though those responding affirmatively to this question include the retirees. This result is prima facie at odds with the view that (young) emigrants returning home and becoming entrepreneurs will not migrate again. Less than half of the people surveyed suggests unlikely to re-emigrate.

Table 13. Future Intention to Re-emigrate by LFS Group

	do you expect to migrate again?					
LFS before return to home country:	**very likely**	**Probably**	**not now**	**never again**	**don't know**	**Total**
Permanent full time emp	56	47	49	69	58	**279**
Full time on contract emp	19	40	27	57	34	**177**
Part time emp	14	9	8	11	13	**55**
Seasonal worker	28	13	14	14	9	**78**
Self employed/employer	3	11	6	12	7	**39**
Regular self employed	10	10	17	8	7	**52**
Irregular self employed	9	12	5	11	22	**59**
Carer	1	2	0	0	4	**7**
Unemployed participating	14	13	6	6	8	**47**
Student	5	11	15	14	17	**62**
Housewife	3	7	3	9	7	**29**
Retired	6	13	4	13	7	**43**
Other	19	7	3	6	10	**45**
Total	**187**	**195**	**157**	**230**	**203**	**972**

Source: MIREM, © EUI

2.3. The transition between home and host countries

One of the most valuable contributions of the MIREM database is the record of the labour force status at various points of the emigration and returning process. We highlight the transition between labour force statuses separately in this section. In particular we focus our analysis on four transitions:

1. the transition between the last activity in the country of origin and the first job in the home country;

2. the transition between the first and last activity in the host country;

3. the transition between the last activity in the host country and the first activity after returning home;

4. the transition between the fist and last activity in the home country.

Each transition is reviewed separately.

Table 14 shows the transition from the origin country to the first job in host country. Perhaps unsurprisingly there is a fairly high persistence among the unemployed and the wage earners, as illustrated by the relatively higher percentages along the cells identically labelled across rows and columns. However, most emigrants appear to be successful in entering the labour market of the host country: 41.7% and 71.43% of those outside the labour force and the unemployed in the home country, respectively, become salary earners in the host country. With respect to the self-employed, a third of self-employed emigrating remain self-employed in the host country.

Table 14. Transition 1: Home Country to Host Country, by LFS Status

| Origin country | First labour force status in host country | | | | |
	NLF	Unemp	wage earner	self employed	Total
NLF	43.05%	3.59%	41.70%	11.66%	**100%**
Unemp	11.76%	6.72%	71.43%	10.08%	**100%**
Wage earner	10.12%	4.69%	76.30%	8.89%	**100%**
Self employed	4.03%	2.68%	61.07%	32.21%	**100%**
Total	**17.52%**	**4.35%**	**64.51%**	**13.62%**	**100%**

Source: MIREM, © EUI

During the stay in the host country, there is relatively little movement between labour force status categories. Persistence is highest among wage earners and self-employed emigrants (85.67% and 82.17%, respectively), though about half of those entering the host country as unemployed (11.76% in the second row and first column in Table 14) find a job before they leave (second row in Table 15).

Table 15. Transition 2: Host Country Experience

| first LFS in host country | last LFS in host country | | | | |
	NLF	Unemp	wage earner	self emp.	Total
NLF	58.13%	3.13%	34.38%	4.38%	**100%**
Unemp	5.41%	43.24%	40.54%	10.81%	**100%**
wage earner	6.58%	2.36%	85.67%	5.40%	**100%**
self emp.	2.33%	8.53%	6.98%	82.17%	**100%**
Total	**14.91%**	**5.01%**	**63.87%**	**16.21%**	**100%**

Source: MIREM, © EUI

The transition between the host country and the home country seems however more problematic than the transition in the other direction. Of those employed in the host country, many become unemployed upon returning home (14.41% among the wage earners and 12.41% among the self employed, respectively). Among wage earners, about a quarter exit the labour force (retirement), while among the self-employed almost three quarters continue to work as self-employed.

Table 16. Transition 3: Host Country to Home Country, by LFS Status

last LFS in host country	first LFS on return				
	NLF	unemp	wage earner	self emp.	Total
NLF	52.99%	7.46%	28.36%	11.19%	100%
unemp	8.89%	44.44%	33.33%	13.33%	100%
wage earner	24.02%	14.41%	35.94%	25.62%	100%
self emp.	9.66%	12.41%	4.83%	73.10%	100%
Total	25.28%	14.56%	29.57%	30.59%	100%

Source: MIREM, © EUI

The final transition, reported in Table 17, suggests that some of the difficulties experienced upon returning home tend to disappear. Of those returning home and becoming unemployed (second column in Table 16) about a quarter finds jobs as either wage earner or self-employed (second row in Table 17).

Table 17. Transition 4: Home Country to Home Country, by LFS Status

first LFS on return	current LFS				
	NLF	unemp	wage earner	self emp.	Total
NLF	90.83%	1.31%	5.24%	2.62%	100%
unemp	5.30%	67.42%	12.12%	15.15%	100%
wage earner	0.74%	2.21%	86.72%	10.33%	100%
self emp.	1.08%	1.44%	2.52%	94.96%	100%
Total	24.18%	11.21%	29.67%	34.95%	100%

Source: MIREM, © EUI

To analyse in more detail the determinants of the duration of emigration, we now turn to the statistical analysis of the data.

3.   Econometric Analysis

The preliminary analysis of the duration of stay as a dependent variable consisted of an initial non parametric analysis, where data were stratified according to the current labour force status as per the hypothesis that either the self employed and/or the wage earners have different duration patterns to other emigrants. The log rank and generalized Wilcoxon tests of homogeneity of the durations between the *not in the labour force*, *the unemployed*, the *wage earners*, and the *self employed* (current occupation) give respective statistics of 373.26 and 240.88 which comfortably reject the hypothesis of homogeneity. Therefore the tests show that each group, stratified by its current labour force status, is indeed heterogenous.

Following Dustmann (2003) and Dustmann and Kirchkamp's main hypothesis that individuals determine their length of stay in the host country based on their desired occupation upon return, such an heterogeneity is to be expected. In the following estimations, we aim at investigating the determinants of the migration durations and more importantly whether or not individuals self select themselves into different patterns of migration based on their expected occupation upon return. In other words, we expect the determinants of duration for individuals who wish to participate to the labour force upon return (as self employed or wage earners) to be different and/or carry different weights. Typically the durations should be shorter. Economic determinants may carry more weight as the stay in the host country is directed towards either benefiting from positive wage differentials between the two countries or accumulating enough assets in order to set oneself up upon return.

Altogether, these hypothesis involve that some observable and unobservable variables affecting the durations are also correlated with the labour force status choices once back in the origin country. Some of the economic determinants stressed out by Dustmann and Kirchkamp as being important in determining migration durations are missing from the MIREM survey. Besides, variables which are intrinsically unobservable such as motivation or ability are deemed to affect both labour force choices and duration. For these reasons, our estimation technique needs to account not only for endogeneity but also for the fact that it relies on unobserved factors. The difficulty lies in the fact that the selection mechanism involves a discrete choice made by the individuals regarding their labour for status upon return, namely not in the labour force, unemployed, wage earner and self employed.

Our estimation technique is analogous to Lee (1983) in that the selection mechanism is based on a multinomial logit model. Suppose that *LFS* is the selection variable, namely the labour force status upon return in the origin country. Based on the Logit specification, the probability that individual i chooses labour force status j is given by:

$$P\left(LSF_i = j\right) = \frac{e^{\alpha_j' v_i}}{1 + \sum_{j=1}^{J} e^{\alpha_j' v_i}}$$

where *i* stands for the individual observation and *j* for the choice category (Not in the labour force, Unemployed, Wage earner and Self employed)

The implied regression on the duration of stay in the main country of immigration is given by (see Lee, 1983 and Greene, 2003):

$$y_j = \beta' x_i + \left(\rho_j \sigma_j\right) \frac{\phi\left(H_j\left(\alpha_j' v_i\right)\right)}{\Phi\left(H_j\left(\alpha_j' v_i\right)\right)} + \eta_j$$

$$y_i = \beta' x_i + \left(\rho_j \sigma_j\right) \lambda_j + \eta_j$$

where *H(.)* is the inverse of the standard normal cdf evaluated at $P\left(LFS = j\right)$, $\phi(.)$ and $\Phi(.)$ are respectively the standard normal pdf and cdf.

This is a two-steps procedure analogous to the Heckman selection model except that the selection mechanism is slightly different. In the first step we estimate the multinomial logit on the labour force status after return. The second step consists of estimating the durations given each of the labour force status. This approach yields four sets of estimated parameters for the durations corresponding to each alternative labour force status, from which it is possible to identify the relevant determinants.

4. Results

4.1. Selection equation: determinants of the labour force status choice upon return

Table 18 presents the marginal effects (changes in probability) attached to each variables in the determination of each labour force status. The first column reports the marginal effect calculated at the sample mean value of the relevant variable while the second and third columns show the corresponding standard deviation and statistical significance (t-statistics). The fourth column indicates whether the estimate obtained is statistically significantly different from zero and the last column indicates the corresponding elasticity. As an example, the coefficient 0.005 in the first column, second row of Table 18 suggests that the probability of not being in the labour force upon return to the home country increases by 0.005 (or 0.5%) for each year of age of the migrant, for an individual whose age corresponds to the sample mean. As indicated in the third column, the statistical significance of the estimate is greater than absolute 2, implying that the marginal probability estimated is significantly

different from zero at the 5% level of statistical significance. Interestingly the effect of age does not seem to be quadratic as higher powers of age prove to be insignificant, whatever the labour force status.

Table 18. Regression Results

Variable	Marg eff	St. err.	b/st.err.	P[|Z|>z]	Elasticity
Probability to be out of the labour force upon return:					
Constant	18.333	4.624	3.965	0.000	
Age	0.005	0.002	2.470	0.014	1.565
working visa	-0.026	0.070	-0.373	0.709	-0.015
before departure intended to migrate permanently	0.054	0.039	1.363	0.173	0.086
before return was unemployed	-0.164	0.113	-1.450	0.147	-0.048
before return was wage earner	-0.200	0.050	-4.004	0.000	-0.812
before return was self employed	-0.343	0.075	-4.585	0.000	-0.301
owned land before migrating	0.030	0.036	0.853	0.394	0.064
year of migration	-0.009	0.002	-4.051	0.000	-115.807
acquired diploma in the host country	-0.215	0.049	-4.357	0.000	-0.439
came back in a different place than used to live	0.102	0.036	2.871	0.004	0.216
intended to stay permanently upon return	-0.033	0.037	-0.879	0.380	-0.119
had kids after return	-0.155	0.042	-3.701	0.000	-0.292
Probability to be unemployed upon return:					
Constant	1.084	3.521	0.308	0.758	
age	-0.002	0.002	-1.474	0.140	-1.198
working visa	0.017	0.035	0.499	0.618	0.018
before departure intended to migrate permanently	0.005	0.025	0.180	0.858	0.013
before return was unemployed	0.148	0.054	2.728	0.006	0.077
before return was wage earner	0.043	0.041	1.047	0.295	0.313
before return was self employed	0.020	0.051	0.383	0.702	0.031
owned land before migrating	0.022	0.026	0.864	0.388	0.084
year of migration	-0.001	0.002	-0.297	0.766	-11.680
acquired diploma in the host country	-0.057	0.029	-1.980	0.048	-0.210
came back in a different place than used to live	-0.070	0.032	-2.213	0.027	-0.267
intended to stay permanently upon return	-0.068	0.026	-2.617	0.009	-0.447
had kids after return	-0.071	0.030	-2.372	0.018	-0.240
Probability to be wage earner after return:					
Constant	-32.997	5.742	-5.746	0.000	
age	0.004	0.003	1.696	0.090	0.752
working visa	0.159	0.073	2.190	0.029	0.053
before departure intended to migrate permanently	-0.088	0.048	-1.842	0.066	-0.082
before return was unemployed	0.049	0.108	0.451	0.652	0.008
before return was wage earner	0.002	0.058	0.040	0.968	0.005
before return was self employed	-0.210	0.086	-2.427	0.015	-0.107
owned land before migrating	-0.122	0.047	-2.616	0.009	-0.148
year of migration	0.016	0.003	5.788	0.000	119.384
acquired diploma in the host country	0.305	0.043	7.021	0.000	0.362
came back in a different place than used to live	0.059	0.049	1.205	0.228	0.072
intended to stay permanently upon return	0.000	0.043	-0.008	0.993	-0.001
had kids after return	0.101	0.043	2.351	0.019	0.110
Probability to be self employed after return					
Constant	13.580	6.665	2.038	0.042	
age	-0.007	0.003	-2.418	0.016	-0.729

working visa	-0.150	0.085	-1.754	0.079	-0.028
before departure intended to migrate permanently	0.030	0.052	0.579	0.562	0.016
before return was unemployed	-0.032	0.147	-0.220	0.826	-0.003
before return was wage earner	0.155	0.071	2.176	0.030	0.209
before return was self employed	0.533	0.091	5.860	0.000	0.155
owned land before migrating	0.069	0.049	1.409	0.159	0.048
year of migration	-0.007	0.003	-2.023	0.043	-27.660
acquired diploma in the host country	-0.033	0.055	-0.599	0.549	-0.022
came back in a different place than used to live	-0.091	0.053	-1.706	0.088	-0.063
intended to stay permanently upon return	0.101	0.049	2.073	0.038	0.122
had kids after return	0.125	0.049	2.573	0.010	0.078

Number of observations:	695	**Pseudo R2:**		0.316635
Information criterion:	1.89095	**Chi sq.:**		572.7927
logL:	-618.104	**dF:**		36
restricted LogL:	-904.501	**P(Chisq.>val):**		0.00000
Percentage correct predictions:	64.75%			

Source: MIREM, © EUI

With reference to the wage earners, gaining a degree in the host country substantially raises the probability of being a salary earner in the home country upon returning by a very significant 30.5% and reduces the probability to be unemployed upon return by about 6%. This is perhaps a sign that the home country recognises the value of a foreign-earned degree or qualification. This hypothesis is further corroborated by the marginal effect obtained for the same variable on the probability to return as labour force leaver. Indeed, acquiring a diploma abroad leads to a decrease of the probability to leave the labour force by about 21%. This result suggests that individuals do not invest in human capital in the host country just for the sake of staying until retirement. There clearly are two categories of individuals investing in education in the host country, namely those who will return fairly shortly in order to become mainly wage earners and those who wish to stay. This effect is corroborated in the analysis of the durations (see next paragraph).It is worth noting that while obtaining a diploma in the host country contributes to largely increase the probability that the individual will return as a wage earner, it does not affect that of the individual becoming self employed.

Other statistically significant determinants that raise the probability of being a salary earner upon returning include family formation (having kids – 10.1%), having emigrated with a working visa (15.9%), presumably to carry out temporary work abroad, and the year of emigration (1.6%). In contrast the ownership of land reduces the probability of being a salary earner by about 12%, while being a self-employed prior to returning to the home country reduces it by 21% compared to those individuals who were not in the labour force upon return. Note that the marginal effects obtained for the variables indicating the labour force in the host country are expressed with reference to an individual who was not in the labour force in the host country. Looking that the probabilities to be currently a wage earner, the results imply that the only significant difference is found for those who were self employed in the host country. Compared to an individual who was out of the labour force, someone who was self employed in the host country is more than 20% less likely to be a wage earner. As the results suggest, being unemployed or wage earner abroad does not significantly affect the probabilities of becoming a wage earner compared to those who were out of the labour force.

Likewise, looking at the probabilities to be currently unemployed, no other labour force statuses in the host country other than actually being already unemployed abroad significantly affect these probabilities. In other words, being unsuccessful abroad seems to produce lasting negative consequences upon return since it increases the probability to be currently unemployed by almost 15% while not increasing the probability that the individual becomes self employed. Regarding these later probabilities, it is clear that success abroad (self employed and wage earners) is a significant

determinant. Being self employed in the host country dramatically improves the probability that the individual will keep being self employed upon return by as much as 53% compared to labour force leavers. This marginal effect is found to be significantly larger than that of wage earners in the host country (with a marginal effect of 15.5%).

Regarding the year of migration, it appears that those who migrated in later years, age held constant, are more likely to return as wage earners rather than self employed. Moreover, year of migration held constant, being older reduces the probability to become self-employed by about 0.7%. While this result accounts partly for issues in the sampling of the individuals in the dataset, it also shows a slight shift in the individuals' migration patterns through time.

4.2. Determinants of the migration durations given the choice of labour force status upon return to origin country

Tables 19a-d report the selection corrected regression results explaining duration (in years) for each labour force status, respectively, starting with those who are no longer in the labour force, the unemployed, the wage earners and the self-employed. The regressions are obtained taking into account the truncation implied by the fact that we do not observe individuals who stayed in the host country. Everything else held constant, the results show a positive selection for individuals no longer in the labour force upon return. In other words, individuals who come back as labour force leavers have stayed significantly longer in the migration country. More interesting, the results show a negative selection for those who are now self employed and wage earners. Everything else held constant, an individual who currently is a wage earner or self employed experience significantly shorter durations of migration. Slightly at odd with Dustmann and Kirchkamp, wage earners experience significantly longer durations than self employed individuals. It is worth noting that this effect subsists even after controlling for the labour force status in the host country.

4.2.1. Determinants of the duration of migration for individuals who are not in the labour force upon return

It is not surprising that age is the most important factor explaining the non participation of this group, as it includes mostly people who have retired from the labour force. For each year of age (second row), the duration of emigration rises by 0.36 years (t-statistics: 6.136). There is a clear cohort effect, as indicated by the fact that most of the retirees emigrated prior to 1980. Interestingly, emigrants from Tunisia and Morocco stay a shorter period in the host country than emigrants from Algeria. This finding perhaps reflects changes in citizenship occurred in 1962, when France repatriated many citizens following Algeria's independence. Moreover, individuals who were married before migration experience shorter durations of almost four years. This effect is wide spread as far as current labour force statuses are concerned (see subsequent tables) and make sense.

Table 19a. Regression Results – Not in Labour Force

Variable	coef	St. err.	b/st.err.	P[|Z|>z
Constant	-1105.547	272.828	-4.052	0.000
Age	0.360	0.059	6.136	0.000
Was married before migrating	-3.887	0.871	-4.461	0.000
Number of people composing household before migrating	-0.024	0.133	-0.184	0.854
Migrated to France	-0.540	1.300	-0.416	0.678
Had kids in the host country	1.047	0.943	1.110	0.267
Number of kids lived with in host country	-0.094	0.255	-0.367	0.714
Obtained diploma in host country	-0.195	2.095	-0.093	0.926
Did extra studies in host country	1.830	1.484	1.233	0.218

Did professional training in host country	0.374	1.319	0.283	0.777
Got job within three months after migrating	1.379	0.873	1.580	0.114
Migrated before 1980	15.357	1.553	9.891	0.000
Owned dwelling in host country	0.108	1.131	0.096	0.924
Sent remittance at least every 3 months in the year before return	0.498	0.992	0.502	0.616
Year returned permanently to origin country	0.552	0.136	4.060	0.000
Before migrated, wanted to migrate permanently	-0.128	0.968	-0.132	0.895
Born in Tunisia	-4.046	1.112	-3.637	0.000
Born in Morocco	-2.698	1.716	-1.572	0.116
Lambda	-3.027	1.415	-2.140	0.032
Number of observations:	177	**R squared**		0.833923
Mean of dep. Var.	30.69492	**Adj. R squared**		0.815003
St dev of dep. Var.	12.66113	**F(18,158)**		44.08

Source: MIREM, © EUI

4.2.2. Determinants of the duration of migration for individuals who are unemployed upon return

For the unemployed, the country of birth (Tunisia) is a significant positive determinant of the length of stay in the host country, together with age and migration prior to 1980. Marriage prior to emigrating is also a significant determinant of the duration of migration, but in shortening the length of stay of those who are unemployed upon return.

Table 19b. Regression Results - Unemployed

Variable	coef	St. err.	b/st.err.	P[|Z|>z]
Constant	-427.815	438.285	-0.976	0.329
Age	0.409	0.100	4.077	0.000
Was married before migrating	-3.929	1.834	-2.142	0.032
Number of people composing household before migrating	-0.366	0.197	-1.863	0.063
Migrated to France	1.995	1.364	1.462	0.144
Had kids in the host country	-0.832	2.449	-0.340	0.734
Number of kids lived with in host country	0.970	0.878	1.105	0.269
Obtained diploma in host country	-3.953	1.915	-2.064	0.039
Did extra studies in host country	1.646	1.524	1.080	0.280
Did professional training in host country	-0.812	1.646	-0.493	0.622
Got job within three months after migrating	-0.833	1.239	-0.672	0.502
Migrated before 1980	10.279	2.747	3.742	0.000
Owned dwelling in host country	-1.829	2.462	-0.743	0.458
Sent remittance at least every 3 months in the year before return	0.489	1.538	0.318	0.751
Year returned permanently to origin country	0.209	0.219	0.956	0.339
Before migrated, wanted to migrate permanently	1.104	1.300	0.849	0.396
Born in Tunisia	4.261	1.561	2.730	0.006
Born in Morocco	2.861	1.644	1.741	0.082
Lambda	1.732	1.557	1.112	0.266
Number of observations:	60	**R squared**		0.830
Mean of dep. Var.	9.933	**Adj. R squared**		0.756
St dev of dep. Var.	9.12	**F(18,41)**		11.13

Source: MIREM, © EUI

4.2.3. Determinants of the duration of migration for individuals who are wage earners upon return

As seen already in the results displayed in Table 18, obtaining a degree in the host country raises the length of emigration for those becoming wage earners upon returning home. This result is consistent with the migration literature, which finds that human capital acquired in the host country helps the economic assimilation of migrants. In the results reported in Table 19c, a diploma in the host country extends the duration of migration by more than 5 years. Most of the other determinants, such as ownership of dwelling in the host country, obtaining professional experience in the host country, and family formation, do not appear to be statistically significant.

Table 19c. Regression Results – Wage Earners

Variable	coef	St. err.	b/st.err.	P[|Z|>z]
Constant	-933.509	273.368	-3.415	0.001
Age	0.295	0.060	4.929	0.000
Was married before migrating	-1.290	1.215	-1.061	0.289
Number of people composing household before migrating	0.084	0.184	0.454	0.650
Migrated to France	0.612	0.981	0.624	0.533
Had kids in the host country	1.617	1.135	1.426	0.154
Number of kids lived with in host country	0.111	0.509	0.218	0.828
Obtained diploma in host country	5.051	1.558	3.242	0.001
Did extra studies in host country	-0.271	1.064	-0.255	0.799
Did professional training in host country	1.355	1.146	1.182	0.237
Got job within three months after migrating	-0.738	1.375	-0.537	0.591
Migrated before 1980	3.736	2.027	1.843	0.065
Owned dwelling in host country	-0.798	2.233	-0.357	0.721
Sent remittance at least every 3 months in the year before return	0.426	1.132	0.377	0.707
Year returned permanently to origin country	0.458	0.136	3.369	0.001
Before migrated, wanted to migrate permanently	-1.577	1.217	-1.296	0.195
Born in Tunisia	1.024	1.296	0.790	0.429
Born in Morocco	0.509	1.161	0.438	0.661
Lambda	9.450	1.856	5.091	0.000
Number of observations:	168	**R squared**		0.6705
Mean of dep. Var.	6.887	**Adj. R squared**		0.6307
St dev of dep. Var.	6.0303	**F(18,149)**		16.84

Source: MIREM, © EUI

4.2.4. Determinants of the duration of migration for individuals who are self employed upon return

The results reported in Table 19d suggest that the duration of migration for those who are self-employed upon returning increases with the attainment of professional training in the host country and, most importantly, if they migrated prior to 1980. There is a positive effect on the year of return to the home country. This fact may reflect particular economic conditions in the home country. As for the other labour force statuses, age affects positively the length of stay in the host country, though there is no significant difference in the coefficients with the regressions previously reported (especially with reference to the unemployed). Unlike the case of wage earners, education acquired in the host country shortens (rather than extends) the duration of migration, though professional training abroad has the opposite effect, implying that self-employed might emigrate to specialise rather than to gain more basic education. Overall the results for the self-employed do not appear to significantly differ from those obtained for the other labour force statuses to provide support to the hypothesis suggested by Dustmann and Kirchkamp.

Table 19d. Regression Results – Self-Employed

variable	coef	St. err.	b/st.err.	P[|Z|>z]
Constant	-588.563	251.073	-2.344	0.019
Age	0.385	0.058	6.668	0.000
Was married before migrating	-2.392	1.115	-2.146	0.032
Number of people composing household before migrating	0.042	0.126	0.330	0.741
Migrated to France	-0.618	0.871	-0.710	0.478
Had kids in the host country	1.419	1.087	1.306	0.192
Number of kids lived with in host country	-0.346	0.369	-0.937	0.349
Obtained diploma in host country	-2.005	1.076	-1.863	0.063
Did extra studies in host country	0.923	1.158	0.797	0.426
Did professional training in host country	2.228	1.026	2.172	0.030
Got job within three months after migrating	-0.191	0.930	-0.205	0.837
Migrated before 1980	11.339	1.396	8.122	0.000
Owned dwelling in host country	2.304	1.389	1.658	0.097
Sent remittance at least every 3 months in the year before return	-0.041	0.930	-0.044	0.965
Year returned permanently to origin country	0.290	0.125	2.316	0.021
Before migrated, wanted to migrate permanently	-0.683	0.954	-0.716	0.474
Born in Tunisia	0.969	1.127	0.860	0.390
Born in Morocco	0.311	1.313	0.237	0.813
Lambda	2.073	1.224	1.694	0.090
Number of observations:	206	**R squared**		0.7239
Mean of dep. Var.	13	**Adj. R squared**		0.6973
St dev of dep. Var.	10.86907	**F(18,187)**		27.24

Source: MIREM, © EUI

5.   Conclusions

This paper analyses the determinants of the duration of emigration for a group of emigrants from Algeria, Morocco and Tunisia who moved to Europe but returned to their home countries. The results suggest that age and the year of emigration play a central role in the migration decisions of the various groups, organised by labour status. Although the data contain only a limited number of economic variables used by the existing literature, the preliminary results do not support the hypothesis that the duration of migration is determined by the desired labour market status upon returning home. The determinants of the duration of migration is far more complex than what captured by the labour force status upon returning. Data collections such as those implemented by MIREM are essential to shed light on much under-researched aspects of migration.

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