

# Temporary migration and self-employment : evidence from Tunisia

Alice Mesnard, University of Toulouse

## 1 Introduction

It has long been recognised that the effects on the countries of migrant workers of remittances sent home by them depend crucially on whether they are used for consumption or investment. In the 1970s, most socioeconomic studies outlined the strong negative effects of remittances used for conspicuous consumption (e.g. expensive houses) with limited dynamic effects (see for example Rempel and Lodbell (1978)). Remittances may also increase relative deprivation of non migrants or discourage labour-supply effort for recipients, thus increasing dependency and postponing rural development (see Durand *et al* (1996) for a critical review of these arguments). At the same time, a few studies following Griffin (1976) and Stark (1978, 1991) started challenging this view, by stressing the positive effects of remittances on development. They showed that remittances contribute also to finance investments in production, in particular in poor rural areas characterised by very limited access to credit markets and that they may provide coinsurance to household members, hence permitting poor households to invest into risky projects.

Recently, capital market failures have been emphasized extensively as an aid to understanding barriers to development. Because of limited commitment or moral hazard problems, poor workers do not have free access to credit when they want to invest, implying long run effects on economic growth<sup>1</sup>. This gave rise to several empirical papers, showing that liquidity constraints are important in explaining occupational choices of workers. A flourishing literature emphasized the positive effect of individual wealth on entrepreneurship in developed countries (see for examples Evans and Jovanovic (1989), Evans and Leighton (1989), Holtz-Eakin, Jouflaian and Rosen (1994), Magnac and Robin (1996), Lindh and Ohlsson (1996), Blanchflower and Oswald (1998)). More recently, empirical evidence on developing countries has started to accumulate, with a special focus on return migrants. For example, Ilahi (1999) for Pakistan, Mesnard (1999, 2003) for Tunisia,

---

<sup>1</sup>See, for examples, Banerjee and Newman (1993) and Aghion and Bolton (1997).

Mc Cormick and Wahba (2001) for Egypt, show that savings repatriated by migrants are used for investment into small businesses.

Under these conditions, we understand quite easily that temporary migration may be a way out of a development trap for a poor, liquidity constrained economy, as developed by Mesnard (2001). If workers from a poor economy have the choice to migrate into high wages countries, a new equilibrium on the labour market may follow from large return migration flows. This happens if a proportion of workers who would not have invested without migration overcome their liquidity constraints and invest in their home country with their savings accumulated abroad.

In practice, both migration flows and transfers sent by migrants are difficult to observe. Apart from obvious reasons linked to the illegality of a large part of migration and the importance of the informal economy that is very difficult to measure through official statistics, there are also problems in gathering information both in the countries of origin and destination in order to have a complete picture of migration. Nevertheless, several sources of statistics exist on these flows and already a few attempts have been made to study empirically the effects of migration for the countries of origin of the migrant workers<sup>2</sup>. This paper contributes to the empirical knowledge of capital flows linked to labour migration, by quantifying the importance of these flows for a developing country like Tunisia and stressing their significant role in increasing self-employment.

Studying migration flows of Tunisian workers over the period 1974-1986 is of particular interest, since many of them have chosen to return to Tunisia after having worked abroad, given the particular historical background outlined in Section 2. Section 3 describes the characteristics and activities of these workers, using an original data set belonging to the Arabic League<sup>3</sup>. Section 4 investigates whether savings accumulated abroad by temporary migrants allow them to overcome liquidity constraints and start up projects in Tunisia after return.

---

<sup>2</sup>For example Woodruff and Zenteno (2001) study the effects of remittances on the creation of microenterprises in the urban areas of Mexico combining the population Census, the data of the Bank of England on remittances and a national survey on microenterprises.

<sup>3</sup>I am indebted to R.Ben Jelili, H. Mzali, and the OTTE (Office des Travailleurs Tunisiens à l'Etranger) who provided the data and help in using them.

## **2 Importance of migration flows and financial transfers from migrants to Tunisia**

### **2.1 Historical background**

After the second world war, the chaotic history of international migration of Tunisian workers results in a heterogenous population of migrants who have returned to Tunisia before 1986, the date of the TSAO survey. Two periods may be broadly distinguished in this process, before and after 1974.

Before 1974, outmigration flows towards European countries increased continuously. Indeed bad economic conditions in Tunisia generate rising unemployment problems, at the same time as European countries have high labour demands in sectors with low levels of qualification. In order to control these flows, several agreements were signed by the Tunisian government, firstly with France in 1963, then with Germany in 1965, with Belgium in 1969, and other countries like Hungary and Holland. In 1967 the Tunisian government created an agency called “Office de l’Emploi et de la Formation Professionnelle” that organised the direct recruitment of unskilled Tunisian workers for industry and building sectors in European countries. Implicitly, these agreements expected that individuals will migrate temporarily to work abroad and eventually return to Tunisia to live with their families. During the same period, outmigration started to expand towards Libya, very often illegally, due to good prospects linked to the exploitation of new oilfields.

1974 was a turning point in the evolution of Tunisian migration for two main reasons. Firstly, most of European countries closed their borders and started to encourage workers to return home. For example, RFA was officially closed to new migrants in 1973 and France restricted immigration to family members joining already settled migrants, while encouraging workers to return to their home country. As a consequence, temporary migration of single workers was transformed into a permanent migration of family settlement. Moreover, in most host countries, migrants had to face severe problems of unemployment. Secondly, in the same period, political problems between Libya and Tunisia led to the breakdown of the migration expansion towards Libya. A chaotic period developed after 1974, characterised by more irregular out-and return migration between Tunisia and traditional host countries and by a new political orientation of Tunisian migration towards the Gulf countries.

In particular after 1983, when Tunisians were expelled en masse from Libya, many workers migrated towards other Arabic countries but also towards new European countries (like Spain, Italy, Greece, etc...) where illegal migration continued to rise.

## 2.2 Evolution of Tunisian migration flows

It is difficult to estimate precisely the number of migrants because many of them migrate either illegally or temporarily and the legal situation of individuals leaving Tunisia for different purposes can change over time. Official sources of information come mainly from the National Institute of Statistics, based on the reports from the police at the border, as well as from the consular services in foreign countries. To complete this information, a survey was conducted in 1986 by the Tunisian Settled Abroad Office (TSAO) in the Ministry of Foreign Affairs in collaboration with the Arabic League. This survey enquires about living conditions of a representative sample of workers living in rural and urban areas, with particular focus on an over-sampled group of individuals who have worked abroad between 1974 and 1986 and, subsequently, have returned to Tunisia<sup>4</sup>. Based on this survey, Zaiem (1992) estimates that around 316,000 Tunisian workers have worked in a foreign country between 1974 and 1986. This includes 214,000 migrants who have already returned to settle in Tunisia, 16,000 migrants still living abroad but who were temporarily visiting Tunisia at the date of survey, and 86,000 workers who are still abroad at the date of survey. Thus, according to this source, around one third of the workers who have migrated abroad between 1974 and 1987 were still living abroad. Note, however, that these statistics do not take into any individuals accompanying Tunisian workers like spouses and children. Adding them, Zaiem estimates the total number to be between 535,000 and 570,000 individuals<sup>5</sup>. Furthermore, these estimates reported by households surveyed in Tunisia only take into account migrants who are still linked to their country of origin and may underestimate migrants who are

---

<sup>4</sup>This very rich survey was initially designed in order to understand better the reasons why Tunisian workers wanted to migrate and their difficulties of insertion that they had to face upon return, as well as economic consequences of migration for Tunisia.

<sup>5</sup>These estimates are quite close to estimates by consular services, who find that around 512,000 Tunisians have left Tunisia before 1989, whereas the police at the border estimates that 320,000 workers have left Tunisia to work abroad before 1986.

living with their family abroad.

Therefore this survey is better designed to give more accurate information on migrants who have returned to Tunisia at the date of survey. Based on Zaiem's results, Table (1) describes the evolution of return migration flows over the period 1974-1986. Starting at the beginning of the seventies, with an average of 3600 workers per year between 1970 and 1975, the movement has strongly accelerated between 1979-1984 (around 6850 workers per year on average) before slowing down.

	<1974	1974	1975	1976	1977	1978	1979	1980
Total	1119	2741	6535	8056	6827	9837	12665	15474
from Libya	669	1951	5206	5099	5076	8038	10419	11881
from Europe	450	790	1329	2760	1751	1691	1878	3593

  

	1981	1982	1983	1984	1985	1986	1987
Total	10005	14245	26142	37322	34898	20315	4352
from Libya	5635	9488	16847	28960	27612	14633	1246
from Europe	3595	3872	8126	5797	6322	3922	2041

Table 1: Evolution of return migrants flows per country of last migration

Over the period, three types of return migrants may be distinguished: those who returned after European countries borders were closed in 1973, those who returned after having been expelled from Libya, (in particular in 1983,1984 and 1985) and those who returned from other Arabic countries for economic and social reasons.

### 2.3 Importance of capital flows linked to migration

Another important feature linked to Tunisian migration is the increasing volume of transfers sent by migrants. The main source of information comes from the Central Bank of Tunisia that estimates, among resources of the balance of payments (BP), transfers from Tunisian workers living abroad with their family. These funds are either transferred directly by the migrants<sup>6</sup> or by official agencies in host countries that collect social contributions for

<sup>6</sup>by bank (for 2/3 of them), by mail, or rapatriated by the migrants themselves during visits or upon return.

pensions, family allocations and health insurance from workers and employers. Representing one of the main sources of foreign currency for Tunisia, these transfers are playing a very important economic role, in particular during a period characterised by increasing debt and shrinking resources from oil exploitation. Table (2) from Zaiem (1992) reports the evolution of these transfers (T) in millions of current dinars and compares them to the current resources of payment balance (BP), to the growth national product (GNP), to the debt service (DS), to the resources from tourism (RT) and to oil exportations (OE).

	T <sup>a</sup>	T/BP	T/GNP	T/DS	T/RT	T/OE
1960-1970	75,4	5,4	1,3	32	42,7	68
1970-1980	829,7	9,5	3,7	87	54,1	40
1980-1990	3080,8	10,5	4,6	48	58,6	74,4
TOTAL	3985,9	10,1	4,2	52	57,2	61,4

Table 2: Evolution of transfers in millions of current dinars (a) or in percents

Over the period 1960-1990 these transfers represent on average around 4% of GNP, almost half of the debt service, and 10% of the current resources of the balance of payment, being the third most important resource after resources from oil exploitation and resources from tourism. Note that these statistics from the Central Bank underestimate strongly the total amount of transfers from Tunisian migrants. Indeed strong regulations limit the convertibility of foreign currency to Tunisian dinars. To overcome these barriers, an informal compensation system has been set up by workers. During visits in their family, many migrants bring back goods bought in foreign countries (like equipment for agriculture, cars, furniture, electro appliances, etc.) that are eventually exchanged against Tunisian dinars, with typically big mark-ups. This became very popular after 1981, when the currency from Libya was no longer convertible in Tunisia.

The saving efforts made by migrants abroad to transfer money back home appear very substantial over this period. Computing the ratio of total transfers estimated by the Central Bank to the total population of Tunisians working abroad, Zaiem reports the evolution of average transfer per worker in the following Table:

Transfers per worker (estimated in constant dinars in 1990) have tripled

1977	1978	1979	1980	1982	1983	1984	1985	1987	1989	1990
371	420	469	539	796	746	703	715	1179	952	937

Table 3: Average transfers per migrant (in constant dinars in 1990)

between 1977 and 1987. These transfers respond strongly to economic and political backgrounds in host countries and in Tunisia, as shown by big downturns during 1982-1984 and after 1987. Over 1987-1990, the yearly mean amount transferred per worker reached 1000 Tunisian dinars, representing over 80% of GNP per capita.

### 3 Who are the migrants who have returned to Tunisia?

Already established as considerable in the previous section, transfers from migration and migration flows of return migrants may have very different consequences on development, depending on what migrants do after return and how transfers are used in their origin country. In the following, we will describe findings from the TSAO survey providing rich information at individual level on workers' migration history and labour market outcomes.

#### 3.1 Selection of the sample

From the survey, two samples of workers living in rural and urban areas can be distinguished. One sample consists of a group of workers living in Tunisia and having migrated to work in a foreign country at least once since 1974 (hereafter, the "migrants"). The other sample consists of workers who have never migrated in the past and will be used as a control group (hereafter, the "non migrants"). In view of having more homogeneous samples of workers, in our final samples we kept only male workers, aged between 20 and 60 in 1986: 1168 workers who have returned from migrating and 944 workers who have never migrated<sup>7</sup>.

---

<sup>7</sup>Surveyed return migrants in the initial sample are predominantly male since most of women having migrated between 1974 and 1986 were following their husband. The women (numbered 12) who had migrated to work are dropped out of the sample of return

The double selection through migration and return explains a few differences between the two groups as shown in Table (9). Migrants are on average older than non migrants (37.3 versus 35.9 years old), having spent on average 4.1 years abroad and 4.2 years in Tunisia after return before being surveyed. They are also more often married (81%) than non migrants (59%). This difference observed between the two groups may be explained by life-cycle reasons and the fact that 22% of migrants have returned for family motives, in particular to get married in Tunisia (see the Appendix for the list of other motives). Moreover, return-migrants have larger households with 1.3 more dependents on average than non migrants.

Interestingly, in the survey workers report the legal or illegal status of their migration. 64% of them left Tunisia with a tourist visa and 31% with a work visa, whereas 5% migrated illegally. Also 85 % of these workers lived abroad without any family, while 63 % were married before migrating. Only 2.6 % of them left Tunisia with their wife and children, 7.8% migrated with other relatives or siblings, and 4.6% had some of their children joining them abroad during migration. A simple explanation is that these migrants were planning to return to Tunisia. Indeed, we have to bear in mind that these statistics do not represent the whole set of migrants and we have no information on workers who were still living abroad at the date of survey, possibly with their family.

## 3.2 Human capital

It is also questionable whether temporary migration has led to a “brain drain” process in Tunisia<sup>8</sup>. Indeed, migration models based on human capital accumulation predict that highly (lowly) educated individuals may gain more (less) from migration than lowly (highly) educated workers depending on the returns to the skills differential between the two economies (Borjas, 1987). For example, applying this selection model twice, Ramos (1991) shows that return-migration reinforces this auto-selection mechanism<sup>9</sup>. In our sample,

---

migrants.

<sup>8</sup>See the recent controversy on effects of outmigration for human capital accumulation in source countries, Haque and Kim (1995), Stark, Helmenstein and Prskawetz (1997), Vidal (1998), Beine, Docquier and Rapoport (2001).

<sup>9</sup>In particular he observes that the highest skilled among the low skilled Puerto Rican immigrants in the United States return to Puerto Rico.



we observe that return migrants have significant lower education levels than non migrants. 84% (73%) of migrants (non migrants) have less than a primary school level. 36% (32%) have no schooling and 48% (41%) have a primary education level. Only 4% (7%) of migrants (non migrants) have a short secondary degree and 12% (20%) have a higher education level. Again these statistics should be interpreted with care since workers are selected through migration *and return* and, in contrast to Ramos, we have no information on workers staying abroad.

Nevertheless, there is very little evidence of human capital accumulation through migration. Less than 20% of migrants report to have acquired new skills in the foreign country<sup>10</sup> and, for those who have, less than 8% of them report to use these skills in their job after return. Also note that 35% of migrants claim to have a job similar to the job they had before migrating. Workers also describe how working experience abroad has affected the job they have after return. For 15% of them quality and efficiency on the job have improved. For 15% of them, speed in work after migration is higher than before migration, and 7% (respectively 6%) of them claim that organization (respectively management) of work has improved, and only 3% claim to have a better control of tools and machine or to have improved creativity in working. Hence, migration experience seems to have improved the rationalization of work more than having brought any particular technical skills or engineering knowledge. Of course since all these statistics are based on self-reported information, they could be biased in which case we would need better information to give a more conclusive answer.<sup>11</sup>

This stands in contrast to the traditional literature on migration, which often considers migration as a way to acquire human capital as, for example, in the case of students' migration. This may not be too surprising since the migrants with very low school levels correspond to the flows of workers who were massively hired by firms in European and, later on, Arabic countries, as a response to labour shortages of unskilled labour force.

---

<sup>10</sup>Skills were acquired on the job for 83% of them, through special training for 13.5% of them, and through other methods for the rest of the respondents.

<sup>11</sup>Unfortunately we do not have better measures of human capital accumulation during migration. Although migration duration could be considered as a proxy for human capital accumulation abroad, this variable is potentially endogenous for different reasons, which would be very difficult to disentangle (see, for example, Mesnard, 2004).

### 3.3 Savings accumulated abroad

The survey gives interesting information on the amount of savings brought back to Tunisia at return and on transfers made during migration. However the amounts of transfers reported by migrants themselves suffer from too many missing answers (only 83 answers were given). This can be explained by strong social norms existing in Tunisia that make the reporting of how much one earns or transfers to one's family frowned upon.

(nb of obs.)	all	France	Libya	Arabic country	Europe
savings	587(1024)	928(186)	380(901)	625(50)	1608(36)
transfers	6260(83)	16186(10)	1208(64)	20299(6)	47406(3)

Table 4: savings accumulated abroad and transfers (in dinars in 1986. 1dinar in 1986 = 1.6 US dollars)

Therefore we used another variable that adds up all types of savings that migrants report to have brought back from migration. In contrast, this variable is much more frequently reported by migrants. Strikingly, workers returning from European countries have accumulated on average 2.5 as much savings as migrants from Arabic countries. Table (5) shows that savings are mainly used to acquire houses, building fields or real estate (42.2% of total savings).

In addition, Table (5) shows that workers coming back from France have spent relatively more of their savings to buy land (6.1%), transport means (11.5%) or shops (3.1%) and less to buy building fields (2.4%) and real estate (35.5%) compared to those coming back from Libya (who have spent, respectively for these items, 3.5%, 4.5%, 1.4%, 4.3% and 40.6% of their total savings).

These statistics, however, must not be over-interpreted. It is indeed difficult to distinguish savings that are effectively invested into projects after return from savings used for private consumption. Indeed savings brought back in kind as, for example, pieces of furniture, electric housing-appliances or cars, have been very often exchanged to obtain local currency, given the complicated legal restrictions on importations and convertibility of foreign currency in Tunisia<sup>12</sup>. Therefore, in the remaining of the paper, we will use

---

<sup>12</sup>A non resident Tunisian worker can only bring back a limited amount of goods and

use of savings (%total savings)	all	France	Libya	other Arabic	other European
monetary savings	12.7	9.2	12.9	23.5	10
gold	4.8	5.5	4.6	7.1	4.4
building fields	3.8	2.4	4.3	3.6	0.6
real estate	38.4	35.5	40.6	23.1	22.6
furniture	12.3	11.7	12.2	15.7	14.8
electric-housing appliances	8.8	7.2	8.6	11.5	18.1
land	3.7	6.1	3.5	1	1.9
cattle	3.4	2.9	3.5	3.1	5
equipment for agriculture	1.6	1.9	1.7	6	0
industrial equipment	1	1	0.8	2.1	5.8
transport means	6	11.5	4.5	8.6	12.7
shops	1.7	3.1	1.4	0	4.3
other	1.5	1.8	1.5	0	2

Table 5: Savings spending by return migrants per country of last migration

the total amount of savings accumulated abroad, either in kind or monetary, as a proxy for individual wealth at the date of return.

## 4 What do they do after return?

Comparing activities of migrants to non migrants is not easy since the questions used in the survey are different for the two samples. While workers who have returned from migration are asked about their activities after return and about the last activity they had before migrating, workers who have never migrated are asked about their last activity and their activity in 1974<sup>13</sup>. Studying how temporary migration affects activities chosen by workers would require at least to have homogenous spells for the two groups, which is not the case in our data. However, the following description of the activities chosen by the two groups of workers suggests interesting features linked to temporary migration.

---

foreign currency per year.

<sup>13</sup>Therefore all non migrants report having a job, whereas, in the initial sample, a few migrants report to be unemployed or retired but we chose to drop them out of the sample, for comparison.

## 4.1 In which sector do they work?

Do migrants work after return in the same sectors as before migration? Table (6) shows that, on average, migrants are less likely to work in the building sector after return than before they left, and are significantly more likely to work in the trade and transport sectors. Table (7) shows that these changes correspond to a general trend in economic activity of Tunisia. However, we cannot push too far our comparison between the two samples, since the period of analysis varies for migrants and, in most of the case, is much shorter than for non migrants (they migrated, on average, 8.3 years before the survey and returned 4.2 years before the survey). This might also explain why migrants are much more frequently employed in the building sector before migrating than non migrants, and less employed in the agriculture sector.

Interestingly the proportion of migrants working in the trade sector is twice as high after return compared to before migrating. This may not be surprising since 70% of workers in this sector are self-employed, as compared to 25% of workers in other sectors. Moreover, although the proportion of non migrants working in industry increased between 1974 and 1986, return migrants were still less often employed in this sector, as compared to before they migrated.

sector of activity	before migration	at the date of survey
agriculture	30,7	29,5
industry	11	10,5
mines	1	1,4
building sector	37,2	30
trade	4,4	9,8
transport	15,7	18,8
total	100	100

Table 6: Repartition of migrants per sector

sector of activity	in1974	last activity before the survey
agriculture	35	30,5
industry	12,2	15,4
mines	2,5	2,6
building industry	15,4	13
trade	8,5	9,3
transport	26,4	29,2
total	100	100

Table 7: Repartition of non migrants per sector

## 4.2 Which type of work do migrants choose upon return?

Return migrants seem to have chosen more often to work in sectors characterised by a large number of small enterprises like trade and transport. The survey gives further details on the projects realised after return : 37% of these projects are in agriculture, 27% in trade, 18% in transport, 9% in industry and 9% in building sector. Also, types of projects differ across sectors : 86% of projects in agriculture are of family type, versus 9% of projects in other activities, which are dominated by individual enterprises. Whatever their type, most of these enterprises are small, employing less than 5 (10) employees for 92% (98%) of them. Unfortunately we cannot observe how these “informal projects”, as being defined by their small size (OCDE, 1992), have developed over time and we have no further details on their realisation apart from their financing. Indeed, workers mainly use their own capital for investment after return: 87% of projects are realised with savings accumulated during migration and only 13% of migrants receive complementary funds from special programs. But none of the self-employed return-migrants rely on bank credit<sup>14</sup>. Furthermore, when surveyed about the main obstacles workers had to face in starting up their projects, they explicitly mentioned

---

<sup>14</sup>Nevertheless we cannot rule out that migrants have access to other funds to invest after returning, e.g., informal credit sources but we have no information on transfers or borrowing relationships between the migrant and other family members after return and the only proxy given on transfers during migration is of bad quality, as previously described.

their difficulties in getting access to credit markets.

We may then ask whether temporary migration has increased self-employment in Tunisia. Although the proportion of self-employed workers among return migrants (26.3%) is not significantly different from the proportion of self-employed workers among non migrants (23.8%), self-employment has increased among return migrants, since only 15.6% of them were self-employed before migrating.<sup>15</sup> This increase could be due to an age effect. However, comparing self-employment rates before migration and after return for individuals in same age cells, the differences remain important.

Hence we would like to understand which factors determine the decision to start up a business after return for workers who were not self-employed before migration. After selecting these workers, we compare workers who started up a project at return to salaried workers. As shown in Table (10), only a couple of characteristics appear significantly different between these two groups. Strikingly, workers who are self-employed after return, have accumulated much larger amounts of savings during migration (more than twice as much). Even after controlling for other individual characteristics, the amount of savings repatriated by those who enter self-employment is significantly higher than that brought back by salaried return-migrants. Also, workers who start a business after return have stayed abroad, on average, for 6.3 years, whereas salaried workers returned after 3.9 years spent abroad. Finally, migrants who invest into projects after return come more often from European countries and less frequently from Arabic countries than salaried return migrants. All these descriptives suggest a story where migrants choose their migration duration, migration destination and effort of saving abroad according to the occupation they intend to have after return, as developed in Mesnard (2004). It appears likely that credit constrained workers migrated to high wages countries until they accumulated enough savings in order to invest in their origin country. However, we cannot push too far the interpretation of these correlations, since, very likely, workers with different abilities have chosen different destination countries, different occupations and different migration durations, and these heterogeneous abilities cannot be observed. Therefore, in the following section, we propose an econometric test of whether savings accumulated abroad determine occupational choice

---

<sup>15</sup>For comparison, 26.8% of non migrants were self-employed in 1974, which is not significantly different from the proportion in 1986.

at return, once controlling for potential endogeneity problems and other determinants of self-employment.

### 4.3 Does savings accumulated abroad increase self-employment at return?

Following Mesnard and Ravallion (2001), we use savings accumulated abroad as a proxy for workers' wealth at the date of return and test to which extent this variable increases the probability to start up projects at return for workers who were not self-employed before migration. As compared to the traditional literature on liquidity constraints and self-employment, an obvious advantage is that our savings variable is predetermined at the date of occupational choice. Hence, from this viewpoint, it is less likely to be endogenous than any variable capturing individual wealth at the date of survey<sup>16</sup>. A second advantage is that we built this variable by adding up all types of goods repatriated at return, and thus obtained much fewer missing answers, compared to using any self-reported measure of individual wealth or income in Tunisia.

Yet, being predetermined does not guarantee exogeneity of the savings variable. Indeed there are several potential sources of endogeneity that could cloud the savings effect, if not properly tackled empirically. In particular, temporary migrants may be selected on their wealth level and abilities to accumulate wealth abroad, if migration is a way to overcome liquidity constraints in the origin country. Hence, we replicated for our selected sample of return migrants the test for exogeneity of savings developed in Mesnard (2004) and could not reject that savings are statistically exogenous<sup>17</sup>. Hence we can straightforwardly discuss the effect of savings accumulated abroad on the probability to start up a project at return.

The survey provides us with information on a number of factors, which are likely to affect the occupation chosen at return. Among control variables,

---

<sup>16</sup>This is also the reason why we could not perform similar regressions for the sample of non migrants for whom we only have a proxy of their savings at the date of survey.

<sup>17</sup>Table 11 shows that the coefficients associated to the residuals of the two instrumental regressions for savings and savings squared are individually not significant. They are also not jointly significant. For more details on the two step instrumental variable test *a la* Rivers and Vuong (1988), and a discussion of our instruments and results, see Mesnard (2004).

we entered variables on education levels and age, which are likely to affect the returns of self versus wage employment, as well as variables on family composition (marital status and family size), which might operate through several channels (for example, through providing migrants with cheap labour, or better access to informal sources of credit, or offering different job opportunities in family type enterprises.) Even though proximity to markets is likely to play an important role in determining occupation at return, we could not enter variables characterising the area where migrants live at the date of survey, since they are likely to be endogenous. Instead, we entered the area of birth. Similarly, we could not control for important factors, like the country of destination, migration duration or wages abroad, since all these variables are likely to be endogenous in a setting where migrants determine their future occupation simultaneously with all migration outcomes.

Results presented in Table (11) show that, apart from the amount of savings accumulated abroad, few factors play a role in explaining business start-ups at return. Married respondents are less likely to be self-employed at return<sup>18</sup> and individuals leaving in the Center-East of Tunisia are more likely to start up small projects, probably due to the particular dynamism of the whole area around Sousse in trade and tourism activities. Our main result is that savings at return increases significantly the probability to start up a project, but at a decreasing rate. To estimate the magnitude of this effect, we simulated the increase in the probability of being self-employment that would follow an increase of savings of one standard deviation for an individual having the mean characteristics of the sample. The estimated subsequent effect of 27.25% would more than double the observed percentage of self-employment among return migrants.

## 5 Conclusion

Based on statistics from the Central bank of Tunisia and on a survey describing Tunisian workers who have returned from migration, this paper shows that temporary migration has potentially important consequences for sending countries like Tunisia, that are playing through the flows of physical capital linked to labour migration. Even though we found very little evidence of human capital accumulation in Tunisia through temporary migration, as

---

<sup>18</sup>This is difficult to interpret, however, since several effects are captured by this variable.



could be explained by the peculiarity of these migration flows responding mainly to labour shortages of unskilled labour in receiving countries, and even though the effects from selective migration are very difficult to assess given the limited data we have, the paper concludes that temporary migration has contributed to economic development of Tunisia through at least two channels.

On one hand, transfers sent by migrants to their origin country represent a sizeable source of foreign currency and income for developing countries. This may be crucial for highly indebted countries and has often been recognised through policy measures aimed at attracting remittances<sup>19</sup>. On the other hand, savings repatriated upon return under different types of goods allow poor workers to overcome credit constraints for investment into small projects.

## References

- [1] Banerjee, A.V. and Newman, A.F. (1993), “Occupational Choice and the Process of Development”, *Journal of Political Economy*, 101, 274-98.
- [2] Beine, M., F. Docquier and H. Rapoport (2001): “Brain drain and economic growth: theory and evidence”, *Journal of Development Economics*, 64, 1: 275-89.
- [3] Blanchflower D.G. and Oswald A.J. (1998): “What Makes an Entrepreneur? Evidence on Inheritance and Capital Constraints”, *Journal of Labor Economics* 16(1): 26-60.
- [4] Borjas, G.J. (1987): “Self-selection and the earnings of immigrants”, *American Economic Review*, 77, 531-53.
- [5] Durand, J., W. Kandel, E.A. Parrado and D.S. Massey (1996): International migration and development in Mexican communities, *Demography*, 33, 2: 249-64.
- [6] Evans, D. and Jovanovic, B. (1989): “An estimated model of entrepreneurial choice under liquidity constraints”. *Journal of Political Economy*, 97, 808-27.

---

<sup>19</sup>For more details on these measures, see Mesnard (1999).

- [7] Evans,D.S. and Leighton,L.S. (1989): “Some Empirical Aspects of Entrepreneurship”, *American Economic Review*, 79, 519-35.
- [8] Galor O., Zeira J. (1993): “Income distribution and macroeconomics”, *Review of Economic Studies*, 60, 35-62.
- [9] Griffin, K. (1976): On the emigration of the peasantry, *World Development*, 4, 5:, 353-61.
- [10] Haque N.U. and Kim S. (1995): “Human capital flight: impact of migration on income and growth” *IMF Staff Papers*, 42(3), 577-607.
- [11] Holtz-Eakin, D. Joulfaian,D. and Rosen H.S. (1994): “Entrepreneurial decisions and liquidity constraints” *RAND Journal of Economics*, 25, 334-47.
- [12] Ilahi, N. (1999): “Return Migration and Occupational change” *Review of Development Economics*, 3, 170-86.
- [13] Magnac, T. and Robin, J.M. (1996): “Occupational choice and liquidity constraints” *Ricerche Economiche* 50, 105-133.
- [14] McCornick, B. and Wahba, J. (2000): Overseas work experience, savings and entrepreneurship amongst return migrants to LDCs, *Scottish Journal of Political Economy*, Special Conference Issue, 48: 164-78.
- [15] Mesnard A. (1999): “Migration internationale, accumulation d’épargne et retour des travailleurs” PhD. dissertation, Ecole des Hautes Etudes en Sciences Sociales, Paris, 380p.
- [16] Mesnard A. (2001): “Temporary migration and intergenerational mobility” *Louvain Economic Review*, vol 67, 59-88.
- [17] Mesnard, A. and Ravallion, M.(2001): “Wealth distribution and self-employment in a developing country”, *CEPR Discussion Paper DP3026*.
- [18] Mesnard (2004): “Temporary migration and Capital Market Imperfections”, forthcoming in *Oxford Economic Review*.

- [19] Ramos F.A. (1991): “Out-migration and return migration of Puerto-Ricans” in Abowd and Freeman *Immigration, trade and the labor market* University of Chicago Press.
- [20] Rempel, H. and R. Lobdell (1978): “The role of urban-rural remittances in rural development”, *Journal of Development Studies*, 14: 324-41.
- [21] Rivers D., and Vuong Q.H. (1988): “Limited information estimators and exogeneity tests for simultaneous probit models”, *Journal of Econometrics*, 39, 347-86.
- [22] Stark, O. (1978): “Economic-demographic interaction in agricultural development: the case of rural-to-urban migration”, Rome: UN Food and Agriculture Organization.
- [23] Stark, O. (1991): *The migration of labor*, Oxford and Cambridge, MA: Basil Blackwell.
- [24] Stark, O, Helmenstein C. and Prskawetz A. (1997): “A brain gain with a brain drain”, *Economics Letters*, 55, 227-234.
- [25] Vidal, J.P. (1998): “The effect of emigration on human capital formation” *Journal of Population Economics*, 11, 589-600.
- [26] Zaiem (1993): “Rapport sur l’enquête OTTE”, mimeo, Office des Travailleurs Tunisiens à l’Etranger, Tunis.
- [27] Woodruff, C. and Zenteno R. (2002): “Remittances and Microenterprises in Mexico” UCSD working paper.

## 6 Appendix : Reasons for returning

The main reason to return was given as family motives, reported by 22% of the surveyed workers. Other frequently reported motive is the legal situation of the migrant abroad, either because migrants were not able to normalise their legal situation or because their tourist visa or job contract expired. Other frequently cited motives involve working conditions abroad (eg, the end of a job contract, unemployment problems, insufficient income abroad), or related to working conditions in origin country (eg, realisation of a project,

	all	Arabic countries	Europ.countries
sufficient amount of savings	5.62	5.70	5.33
end of job contract	8.56	8.16	10.22
unemployment	3.93	3.58	5.33
illegal situation	11.42	11.40	11.56
retirement	1.16	1.45	0
illness	4.19	4.47	3.11
insufficient income abroad	2.41	2.57	1.78
difficulties to transfer savings	7.23	6.70	9.33
end of a touristic period	4.91	5.03	4.44
racial dicrimination	0.89	0.89	0.85
special policy schemes	0.45	0.56	0
realisation of a project	3.21	3.24	3.11
job offer in Tunisia	0.89	0.89	0.89
family reasons	21.86	22.12	20.89
homesickness	7.14	7.15	7.11
end of leave for absence	1.16	1.34	0.44

Table 8: Reasons for returning home

job offer, end of a leave for absence, retirement). Interestingly very few respondents mention the special policy schemes aimed at encouraging return migration that were offered after 1974 by host countries like France or Germany to migrants, conditionally on their returning to Tunisia (on these measures, see Mesnard, (1999)).

Reasons related to accumulation of savings also appear important since 5.62% of workers report to have returned to Tunisia once they had accumulated enough savings, and 7.23% of them because they had difficulties to transfer money through banks.

the motives of migrants coming back from European or Arabic countries are slightly different in emphasis. Unemployment problems, non renewal of job contracts or difficulties to transfer money explain more frequently the decision to return from European countries than from Arabic countries. On the other hand, migrants in Arabic countries have more often returned because of insufficient income than migrants in European countries. Indeed workers migrating to different destination countries correspond to different

waves of migrants and different working conditions abroad.

## **7 Tables**

<b>characteristics</b>	<b>migrants 1168</b>		<b>non migrants 944</b>	
	mean	s.d.		s.d.
age at survey date	37.3	10.2	35.9	12.8
no education(%)	36		32	
primary school level(%)	48		41	
short secondary school level(%)	4		7	
long sec.sch. level or more(%)	12		20	
number of dependents	4.9	3	3.6	3.2
married (%)	81		59	
age at return	32.8	9.7		
migrated to:				
France (%)	16			
Libya (%)	77			
other Arab countries(%)	3			
other European countr.(%)	4			
duration since return	4.17	3.37		
migration duration	4.1	4.7		
self-employment(%)	26.3		23.8	
born in area of Tunis(%)	5		9	
born in Center East(%)	21		20	
born in Center West(%)	24		19	
born in Northern East(%)	6		8	
born in Northern West(%)	14		15	
born in South East(%)	20		19	
born in South West(%)	10		10	
accumulated savings	586*	1111	510**	940
income	5693	6908	172	269
migrated before 1974(%)	20.8			

Table 9: Sample characteristics

\*For return migrants, savings are accumulated during migration and this variable measures the stock of savings brought back at return.

\*\*For non-migrants savings variable measures the stock of savings at the date of survey.

Figure 1:

Figure 2: