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**MIGRATION PATTERNS
AND LABOR MARKET OUTCOMES IN TUNISIA**

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Abstract

This paper focuses on the emigration's effects on non-migrants and particularly on the interactions with labor market outcomes in Tunisia before and after the revolution. We conduct an in-depth analysis of the structure and dynamics of migration including the migrants' profile and their origin households, mainly in terms of skills and spatial composition. Our analysis confirms the role of emigration as a security valve for the Tunisian labor market. It also tends to confirm the effects of remittances on non-migrants' labor supply, which can have a negative impact on Tunisia's unemployment rate when a crisis in destination countries lowers remittances.

JEL Classification: J1

Keywords: Migration; Labor market outcome; Tunisia

ملخص

تركز هذه الورقة على آثار الهجرة على غير المهاجرين وخاصة على التفاعل مع نتائج سوق العمل في تونس قبل وبعد الثورة. ونجري تحليلاً متعمقاً لهيكل وديناميات الهجرة بما في ذلك صورة المهاجرين وأسرهم الأصلية، ولا سيما من حيث المهارات والتكوين المكاني. ويؤكد تحليلنا دور الهجرة كصمام أمان لسوق العمل التونسي. كما أنها تميل إلى تأكيد آثار التحويلات على إمدادات العمالة من غير المهاجرين، مما قد يؤثر سلباً على معدل البطالة في تونس عندما تؤدي أزمة في بلدان المقصد إلى خفض التحويلات.

1. Introduction

From anecdotal stories to macroeconomic analyses, migration shapes the socioeconomic environment in Tunisia. Natter (2015) sketches a historical fresco of Tunisian migration from French colonization to the Revolution focusing on the Tunisian policies towards emigration and the Diaspora. Since Independence these policies were mainly encouraging migration to secure an “economic safety valve”. The Ben Ali regime pursued this policy, reinforced the political control on the diaspora and adopted a cooperative approach with destination countries, mainly EU countries, to consolidate and legitimize the authoritarian nature of the regime. In his proposed research agenda on migration, Clemens (2011) proposes to focus on the external effects of emigration on non-migrants. We propose to deal mainly with this issue in this paper, and particularly on the interactions with labor market outcomes. David and Marouani (2015) have dealt with the interactions between migration and labor markets outcomes in Tunisia following a macroeconomic approach. One of their main findings is that migration matters significantly for labor market outcomes, especially during crisis time. The main link variable is the evolution of the level of remittances.

The second issue tackled here is the evolution of migrants’ profile, mainly in terms of skills. Although there is no agreement on the net effect of skilled migration as the literature review of Clemens (2011) shows, there is no doubt that the skill composition of migration is central in the debate on migration external effects on origin countries. Similarly, the spatial composition of migration has certainly a significant impact, particularly in a country where regional inequality are one of the main characteristics and have been highlighted as one of the main concerns since the 2011 revolution.

Microeconomic research on migration in Tunisia is still limited due to the scarcity of data. The new Tunisia Labor Market Panel Survey (TLMPS) allows an in-depth analysis of the structure and dynamics of migration in Tunisia and allows us to sketch the profile of migrants and their origin households.

This profile would allow a better knowledge of the evolution of migration in terms of geographical origin, destination countries, age, marital and educational statuses and labor market characteristics. We also investigate transition matrices, employment status and income abroad by education level, how migration occurred and the socio-economic background of migrants’ families. The characteristics of returnees are also analyzed and compared to those of non-migrants. Finally, we analyze the evolution of remittances levels, country of origin, channels and the characteristics of its recipient households.

Previous research on the issues linked to migration in Tunisia mainly use administrative data or specific small-scale surveys. Kriaa et al. (2013) draws a profile of labor migration from Tunisia over the period 2002-2012 using data from various administrative sources¹. They conclude on the absence of a unique and coherent information database on emigration from Tunisia and the need of a better information system. Looking specifically at migration to OECD countries, Gubert and Nordman (2009) use macro level data from the OECD, the World Bank and CARIM and highlight the match between excess labor supply in MENA countries and the labor shortages in Europe. Boubakri (2010) describes the weaknesses and strengths of the Tunisian labor market, linking it with migration and stresses the country’s experience in managing the exports of its professional labor force through specialized agencies. In a more recent paper, he focuses on international migration and the Tunisian revolution and offers an in-depth analysis on the links between the two (Boubakri, 2013).

¹ The National Statistics Institute (INS), the Office for Tunisians Abroad (OTE), the Agency for Cooperation and Technical Assistance (ATCT), the Ministry of Labor, the Ministry of Interior etc.

Another strand of the microeconomic literature on the Tunisian migration focuses on returnees. Menard (2004) uses a survey conducted by the OTE in 1986 on return migrants and data from the Central Bank and analyzes the drivers of self-employment for returnees and non-migrants. She finds little evidence of human capital accumulation through temporary migration, but strong evidence that the repatriation of savings from migration allows poor workers to overcome credit constraints for investment into small projects. David and Nordman (2014) use data from a survey conducted by the European Training Foundation and the World Bank on returnees and non-migrants and study the skills that migrants acquire before and during migration and the way these skills are used upon return. They find evidence of skill mismatch in Tunisia, where the under-education phenomenon is more prevalent among return migrants.

The TLMPS study offers a new and complete perspective on Tunisian migration and allows a comparison between the migrant cohorts before and after the revolution. The survey is nationally representative and covers 16200 individuals, in over 4600 households. However, there are several limitations to using TLMPS in order to study migration. First of all, due to the fact that information on the current migrants is reported by their origin households, this only gives a limited and biased view of the diaspora and our results should be read with this observation in mind. Also, while there are specific questions allowing capturing the emigration of entire households, we do not have specific information about the characteristics of those households, such as education for instance.

The rest of the paper is organized as follows: section 2 deals with emigration trends and patterns, section 3 is focused on return migration, section 4 briefly analyzes immigration, section 5 deals with remittances' characteristics and section 6 concludes.

10.2. International Migration Trends and Patterns

The total stock of Tunisian migrants abroad was estimated at around 1 223 000 according to the National Statistical Institute (INS) from registrations in Tunisian consulates abroad. Figure 1 retraces the evolution of the Tunisian diaspora since 1995² and we notice that the significant increase over the last decades is mainly due the rise in the stock of Tunisians living in Europe, while the diaspora living in the other regions remained relatively constant.

Using the recent TLMPS survey, we see that migrants represent slightly more than 2% of the total population and we observe that 4% of households have at least one migrant, with a high degree of heterogeneity in terms of migration rates across governorates (Figure A.20 in the Appendix).

Natter (2015) retraces the main historical patterns of Tunisian migration so we focus here on the information that is given by the TLMPS 2014. In Figure 2 we plot the distribution of the current migrants by year of departure. If we exclude those for whom the households answered that they did not know in which year they migrated³, we notice that almost 42% of the sample has left the country between 2011 and 2013. The analysis of current migrants gives us thus mainly information on recent migrants, while the analysis of the profile of returned migrants gives us a better picture on earlier migrants.

This boost in migration just after the Tunisian uprising is due to the absence of border controls entailed by the security void in the aftermath of the revolution. According to Frontex data, between January and March 2011, 20 258 Tunisians arrived in Lampedusa. Boubakri (2013) describes the intensity of migrations in the aftermath of the events of January 2011, highlighting the factors that facilitated and spurred the outflows. Although it is expected to be a temporary hike in outflows, in our analysis we distinguish between those who have migrated before and after the Tunisian revolution. This choice is not straightforward as the revolution

² We would like to thank Prof. Mongi Boughzala for having facilitated the access to the data.

³ For 23% of the migrant sample, the households answered that they did not know in which year the individuals had migrated.

will not necessarily entail a structural break in the profile of Tunisian migrants. A robust assessment of this hypothesis could only be done after a few years. However, given that the economic situation has been stagnating in Tunisia since 2011, migration patterns can be affected. Given that the signs of recovery are not visible yet, it is useful to distinguish the new features of Tunisian migrants (if any) that appear from the survey analysis.

In terms of destination countries, Tunisians mainly emigrate to Europe (70%) and, more precisely to France (38%) (see Figure 3). Germany and Italy come second and third as European destinations. Although Libya was already a major destination for Tunisians before the uprising (due to the high labor demand in oil-related activities), we notice a spike in emigration to this specific destination in the aftermath of the revolution, mainly in 2013.

In terms of origin, Tunisian migrants mainly come from urban areas, although we observe a shift after the revolution (Table 1)⁴. Before the revolution, only slightly more than 20% of Tunisian migrants were coming from rural areas, while after the revolution, the percentage went up to almost 50%. This confirms further our assumption that pattern of the recent migration is different from the one before the revolution.

At a closer look, we see that even the distribution of governorates of origin has changed after the revolution (Figure 4). If before the uprising, most Tunisian emigrants originated from Ariana, Ben Arous and Medenine, after 2011 the outflows mainly consisted of Tunisians from Mahdia, Ben Arous and Sidi Bouzid (the latter is the governorate where uprisings started).

In Table 2 we compute some descriptive statistics on the current migrants and distinguish between those that have migrated before and after the revolution, indicating in the last column whether the difference between the two subsamples is statistically significant and at which level. We see that while the average age at the time of migration of Tunisians is of 25 years old, those that have migrated after the revolution were slightly older when they left the country compared to those that have migrated before. This is probably due to a decrease of the share of tertiary educated workers who generally migrate younger for their studies. As expected, the migrants are predominantly males (85%), although a slight decrease in this proportion is observed in the very recent outflows. More than half of the emigrants are married, but this proportion is lower if we restrict the sample to those that have migrated recently (38.6%). Despite this change in the distribution of migrants according to their marital status, the differences between the two subsamples do not appear to be significant. In terms of education, almost a quarter of Tunisian emigrants are highly educated, with those having migrated before the revolution being slightly more educated.

Despite the drop-in education levels in the very recent emigration flows, Figure 5 shows an increase in the education levels over the last decades, with the share of migrants holding a tertiary education level diplomas increasing considerably. When we compare the acquired education levels of emigrants to those of returnees and of non-migrants (Figure 6) we find that emigrants are more educated than the non-migrants and returnees, suggesting a positive selection into migration, often pointed out in the literature (Wahba, 2015a, McKenzie et al. 2010). Indeed, a higher expected return to human capital is one of the key drivers of emigration as shown by Gibson and McKenzie (2011), but education also impact the migration decision through the aspirations channel as highlighted by Docquier et al. (2014), who argue that less educated (poorer) people are only somewhat less likely to want to be migrants than more educated individuals. Although we do not have information about the reasons of migration, we see that almost 35% of the tertiary educated emigrants have entered the destination countries with a student visa, indicating the importance of student migration in the case of Tunisia.

⁴ In 2014, the urban share is 66% of the total population in 2014 according to the World Bank.

Using the MIREM⁵ database, Boughzala and Kouni (2010) argue that the more migrants acquire skills, the lower their probability of return to Tunisia. In the case of students, scholarships are usually granted to those who get the best ranks in the country. This raises a serious concern about the risks of losing “talents”. According to the TLMPS2014 database, only 6.5% of returnees had emigrated from Tunisia with a student visa, while the share of current migrants having emigrated with a student visa is of 13%, suggesting low return rates of Tunisian students abroad. But these students with high capacities may not reach their maximal potential if they stay at home. The policy issue then is how to use these talents through cooperation with the highly skilled members of the diaspora or by attracting them back when their skills are needed at home⁶.

In terms of labor market outcomes, we notice that more than half of migrants (56%) were unemployed before leaving Tunisia and close to a third were working (Table 3). This tends to suggest that emigration can alleviate part of the pressure on the labor market created by job seekers. Indeed, as shown by David and Marouani (2015) in a general equilibrium framework, the outflow of Tunisian labor force can contribute to unemployment reduction through the decline in the active population⁷.

Furthermore, among those who were working, 71% were irregular workers, suggesting that migration is seen as an alternative to an ill-functioning labor market. The vulnerability of migrants on the domestic labor market prior to emigration is even more striking when we look at the subsample of those who have left after the revolution, of which almost 91% were irregular workers before having migrated. One must bear in mind that the term “irregular” here refers to stability of the work activity and its continuity in time and not to its formal or informal character.

In terms of informality, we see that almost 69% of the migrants were not covered by social security (a proxy for being in an informal worker) before their departure and there is no significant difference between those that have left before and after the Tunisian uprising. Once abroad, almost 71% of migrants are working and 14% are unemployed. Even though the percentage of unemployed is higher for those that have migrated after the revolution, this is likely to be a temporary situation since, on the one hand, migrants need a certain time laps in order to adjust and integrate the host country’s labor market, and, on the other hand, the recent economic downturn in Europe limits job opportunities for new incomers. We notice nevertheless that once individuals migrate, they experience a positive transition, for most of them, with 65% of the unemployed in the origin country becoming employed in the destination country (Table 4). To sum up, what precedes confirms the safety valve emigration has played for the Tunisian labor market and for emigrants themselves.

The migrants’ situation abroad also affects the origin country’s labor market. Having a stable and well-paying employment status abroad does not only entail higher remittances, but also more significant financial and human capital accumulation if the migrant returns (Dustmann and Görlach, 2016). Unfortunately, we do not have sufficient data to analyze the implications for the Tunisian case, but the outcomes of Tunisian migrants can give us a glimpse of the possible fallouts on the home country.

⁵ MIREM stands for Migration de REtour au Maghreb and it was collective research programme was launched in December 2005 and ended in December 2008. For more details about the project and the database see <http://rsc.eui.eu/RDP/research-projects/mirem/#sthash.doE8hf3V.dpuf>

⁶ Malaysia for example created an institution in charge of attracting talent (Talentcorp).

⁷ However, this implies that downturns in destination countries can result in massive returns that can create temporary disequilibria in the local labor market, as was the case with the return of Tunisian migrants in the aftermath of the Libyan uprising (AfDB, 2012).

As expected, the TLMPS2014 data shows a correlation between the education level and the employment status abroad, with the share of regular wage workers increasing with the education level (Figure 7). Thus, more educated migrants have better outcomes in destination labor markets, but since their return rates are lower as we previously observed, their positive impact on the origin country might be limited.

When looking at the incomes abroad, we observe that migrants with secondary level education gain more than those with higher education. This might indicate educational downgrading for tertiary educated migrants abroad, but, given that the more recent cohorts are also more educated, the mismatch can also be due to a time needed to integrate the host labor markets and fully benefit from the migration experience.

Most migrants found a job abroad through family and friends (Figure 8), stressing the importance of networks in the success of the migration experience. However, if we disaggregate by level of education (Table 13 in the Appendix), more than half of the highly educated migrants indicated that they found their jobs through other means or no one helped them and the share of those that found their job through family or friends goes down to 22.5%.

The survey also gives information about whether the individual migrated alone or with family and we see that the share of individuals that migrate alone increased over time (Figure 9). This can be due either to more and more migrants joining family already abroad, or to growingly restrictive immigration policies that lead to more risk-taking behavior.

Finally, we can take a glimpse at the impact that migration has on the origin country by looking at the welfare of remaining households. If we look at the situation of the origin households of migrants in the TLMPS2014 data, we notice that they have a significantly higher wealth index (Table 6). However, we do not have enough elements that could indicate whether the households with migrants are richer because they have migrants abroad that send them remittances or whether the wealthier households were the ones that could afford to send migrants abroad.

However, if we look at the education level of the head of households differentiating between households with and without, the distributions are relatively similar (Figure 10).

3. Return Migration

Return migrants represent slightly more than 1.2% of the Tunisian population according to the TLMPS2014 survey, which is the only nationally representative source of data on returnees to date. By analyzing this population, we can better understand the impact of migration on the local labor market through the return of human capital.

The impact of return migration depends on the timing and the conditions of the return as highlighted by Wahba (2015b). Thus we start by looking at the distribution of return migrants by year of emigration and return. While when we plot the year of the first migration (Figure 11), no striking pattern appears, the distribution of migrants by year of final return (Figure 12) shows a spike in 2013-2014. This is due to the massive return of Tunisian emigrants from Libya when the civil war broke. As highlighted by Natter (2015), this unexpected inflow of returnees resulted in significant challenges in terms of accommodation, health care and food provision. This also had a negative impact on the Tunisian labor market, aggravating the already very high unemployment rate. A specific study of the African Development Bank and the International Organization for Migration (AfDB, 2012) draws the attention on the difficulties faced by the Tunisians returning from Libya and their eagerness to go back to their jobs when faced with a lacking framework of return assistance in their home country.

On average, returnees are 53 years old, thus marking a significant difference with the non-migrants, understandably due the different life-cycle at which they are observed (Table 7).

They are also more likely to live in urban areas and this is in line with the results from the previous section showing that the earlier migration cohorts were mainly urban, insofar we make the assumption that they returned to the same area from which they have left. Interestingly, a simple means test shows that returnees have significantly higher wealth scores compared to non-migrants. Nevertheless, just like for the interpretation of a similar result for current migrants, we cannot exclude that the higher levels of wealth are due to higher welfare levels prior to migration that enabled them to go abroad.

As an illustrative exercise, we can also compare the characteristics of our sample of returnees to the characteristics of the returnees from two other surveys on return migration in Tunisia, MIREM⁸ (conducted in 2006-2007) and CRIS⁹ (conducted in 2012). However, given that these last two surveys were conducted using snowball sampling, they suffer from an important selection bias that limits the generalization of the results and, consequently the validity of the comparison. In terms of age, Table 14 in the Appendix shows that returnees in MIREM and CRIS are younger than the ones in TLMPS and slightly more urban.

Since we only have information about the year of the first migration and the year for the final return, we cannot compute with precision the average migration duration, especially when, as Table 8 shows, we do not have information about the number of migration episode for more than half of the sample of returnees. For those who declared having migrated only once (38.6% of the sample), we observe an average migration duration of 10 years. While two European countries rank first as destinations of current migrants, Libya appears as the main destination for the first migration of returnees. Again, a striking difference appears with regards to the existing data on return migration with the previously mentioned surveys ranking France and Italy as main destination countries for returnees (see Table 14 in the Appendix) and Libya ranking third only in the 2012 CRIS survey. This could confirm that the return migration from Libya is a relatively recent phenomenon linked to the deteriorating security conditions and the civil war. Nevertheless, we need to mention that, given that re-emigration to France is more difficult than to Libya, it is reasonable to think that there is a selection bias into return, with individuals being more prone to return after having migrated to Libya. Nevertheless, we cannot draw any conclusion because we only have the information about the country of the first migration and we do not know where migrants return from.

Labor market factors such as unemployment and low-quality jobs are the main reasons that caused individuals to emigrate, with slightly more than 80% having declared that they went abroad because they were unemployed or because they had found better jobs. Interestingly, the reasons related to having emigrated in order to pursue education are not very frequent in the answers of the returnees interviewed in 2014, while this was one of the main three reasons mentioned by returnees in previous surveys (and even the first one in CRIS 2012 according to Table 14). This supports the hypothesis that student-migrants might increasingly chose to stay abroad, creating a potential loss of skills. Nevertheless, for more than half of the sample (63%), the financial situation prior to migration was sufficient or more than sufficient to cover basic needs, in line with the theory according to which migrants do not come from the poorest segment of the population. In order to be able to cover the costs of migration, families need to be relatively well off. This could increase inequality and the gap between the socioeconomic segments.

⁸ MIREM stands for Migration de REtour au Maghreb and it was collective research programme was launched in December 2005 and ended in December 2008. For more details about the project and the database see <http://rsc.eui.eu/RDP/research-projects/mirem/#sthash.doE8hf3V.dpuf>

⁹ The Cross-Regional Information System on the Reintegration of Migrants in their Countries of Origin (CRIS) was launched in 2012. For more details about the project and the database see <http://rsc.eui.eu/RDP/research-projects/cris/#sthash.xnFaFAsy.dpuf>

In terms of reasons to return, one fifth of the sample declared having returned after the end of a contract (either expected or a sudden termination), while 14% returned after retirement. Although 10% of returnees declared returning to start a business in the home country, a significantly higher share of returnees is self-employed or employer on the domestic labor market compared to non-migrants. As pointed out by Wahba (2015b), a differentiation should be made between the status of “employer” and that of “self-employed”, with the latter being often a default choice when individuals have difficulties integrating the labor market and thus entailing a higher level of vulnerability. The considerable percentage of business owners and investors among returnees is also confirmed in the MIREM and CRIS surveys (Table 14), revealing the high job-creation potential of return migration in Tunisia.

When comparing the monthly income abroad for returnees, we observe that the differences between education levels are more marked for the last migration compared to the first migration. Interestingly, just as for current migrants, individuals with secondary education earn slightly more than those with tertiary education in the last migration (Figure 14), but the difference is not statistically significant.

In terms of remitting behavior, close to half of the sample of returnees (47%) declared that they were not sending any remittances to their family while they were abroad (Table 9). Interestingly, this percentage does not significantly fall if we distinguish between those that have migrated alone or with family or between those that had saved while abroad or not.

Although we do not observe a straight correlation between remitting behavior and saving or having migrated alone, Figure 15 shows that almost 38% of migrants that had the intention of staying permanently abroad answered not having remitted.

Finally, a simple comparison of the wages of returnees and non-migrants shows that returnees have significantly higher wages than non-migrants (Table 10). However, a more in-depth analysis needs to be done before concluding to a wage premium for returnees, especially in the lights of the recent results of Wahba (2015a), showing the importance of the double selection for Egyptian returnees.

4. Immigration

In terms of immigration, Tunisia is far from being a major receiving country like some of its neighbors, who witness large inflows of transit migration. Although the recent unfolding events have significantly changed the intra-regional migration patterns, the survey does not allow us to capture the dynamics in full, especially when it comes to the massive inflow of Libyans due to the civil war. Thus, even though the impact of immigrants on the Tunisian labor market is likely to be very limited we will briefly look at the immigrants’ characteristics.

According to TLMPS, in 2014, there were 47062 immigrants residing in Tunisia (Table 11), accounting for 0.5% of the total population. Slightly more than half of them come from neighboring countries (Algeria for 31.1% and Libya for 20.9%) and around a fifth come from France. It is worth noting that some of them could be second generation immigrants, but we cannot know that with certainty. Furthermore, we notice that they are mainly low educated, with only 16.9% having completed tertiary education¹⁰. Finally, close to a third of them migrated to Tunisia for marriage and close to a quarter of them came for work reasons.

5. Remittances

Remittances play a significant role for the Tunisian economy accounting for around 4% of GDP over the last decades (Figure 16) and having considerably increased in volume over the last years.

¹⁰ However, we do not know exactly where they acquired their education.

Therefore, it is expected that remittances also play a significant role in determining household labor market behavior, as also highlighted in David and Marouani (2015).

According to the TLMPS survey, around 2.5% of Tunisian households have received remittances from abroad over the last year. For the households receiving remittances, they represent up to 82% of their non-labor income, highlighting their importance for the Tunisian economy.

In terms of origin of remittances received from current migrants, we see that almost half of them come from France and Libya (Figure 17). Interestingly, although the other Arab countries rank 5th in terms of destination country of current migrants, they rank third in terms of origin of remittances. This further confirms that migration to Arab countries is mainly labor migration, as migrants might tend to remit their incomes than invest in the host country.

The most used means to send remittances is through mail, followed by friends or relatives (Figure 18). The large share of migrants who declared bringing themselves the money or sending it through friends or relatives suggests that a significant part of remittances arrive to Tunisia through informal channels. Interestingly, despite the Government's initiative of allowing expatriates to open bank accounts in convertible Tunisian dinars in order to attract investments, only 5% of remittances are sent through the banking system.

With 78% of remittances being sent to a specific member within a household, the main recipients are mainly the sons and daughters of the donor (Figure 19).

Although only 20% of remittances are sent specifically to the spouses, we observe a significantly higher incidence of female-headed households among the remittance receiving households compared to non-receiving ones (Table 12). We also find that the heads of households that receive remittances are slightly less educated, with only 3.2% of them having tertiary education, while this percentage is of 7.7% for the heads of households who do not receive remittances. Interestingly, we also find a significant difference in terms of labor market participation, with the heads of households receiving remittances being more often inactive than those receiving remittances. This result was also highlighted from macroeconomic perspective by David and Marouani (2015) who find a significant increase in labor participation due to the decrease of remittances in the aftermath of the economic crisis in Europe.

6. Conclusion and Policy Insights

Tunisia has witnessed a boost in migration just after the Tunisian uprising due to the absence of border controls entailed by the security void in the aftermath of the revolution. In terms of origin, we observe a shift after the revolution with a significant increase of rural migrants and those from some regions such as Sidi Bouzid.

In terms of education, almost a quarter of Tunisian emigrants are highly educated, with those having migrated before the revolution being more educated and having left the country at a younger age. On the long run, the share of migrants holding a tertiary education level diploma increased considerably over time. Moreover, emigrants are more educated than the non-migrants and returnees, suggesting a positive selection into migration. This raises the issue of the impact of migration on the country's productivity as the probability of return of the highly skilled is low and there are no mechanisms ensuring their contribution to the country's development as is the case in other countries such as India. A higher degree of engagement with the high skilled diaspora should be one of government's priorities in terms of migration policy. Forums, mentoring programs or broad knowledge exchange programs would be relevant policy option for enhancing the benefits in a country where migration is more often permanent and the probability of return of the high skilled is low. In terms of labor market outcomes, unemployed, irregular and informal workers constitute the bulk of the migrant population. The vulnerability of migrants on the domestic labor market prior to emigration is

even more striking when we look at the subsample of those who have left after the revolution. Once individuals migrate, they experience a positive transition, for most of them. As expected we find a correlation between the education level and the employment status abroad, with the share of regular wage workers increasing with the education level. This confirms the role of emigration as a security valve for the Tunisian labor market.

If we look at the situation of the origin households of migrants, we notice that they have a significantly higher wealth index, but we cannot make any assumption whether this is a cause or a consequence.

Similarly, we observe that returnees have significantly higher wealth scores compared to non-migrants. They are mainly self-employed or employers on the domestic labor market compared to non-migrants. They also have significantly higher wages than non-migrants. Nevertheless, we cannot exclude that the higher levels of wealth are due to higher welfare levels prior to migration that enabled them to go abroad. The financial situation prior to migration for two thirds of them was sufficient or more than sufficient to cover basic needs. This supports the theory according to which migrants do not come from the poorest segment of the population and that, in order to be able to cover the costs of migration, families need to be relatively well off.

Remittances play a significant role for the Tunisian economy accounting for around 4% of GDP over the last decades. At the household level, they represent also up to 82% of their non-labor income of remittances recipient families. In terms of remitting behavior, a significant share of migrants that had the intention of staying permanently abroad answered not having remitted. Given that migration to Arab countries is mainly labor migration, migrants to these countries tend to remit their income rather than invest it in the host country.

The large share of migrants who declared bringing themselves the money or sending it through friends or relatives suggests that a significant part of remittances arrive to Tunisia through informal channels. The Government's initiative to increase remittances through the banking system seems to have largely failed.

Moreover, we observe a significantly higher incidence of female-headed households among the remittance receiving households compared to non-receiving ones. We also find that the heads of households that receive remittances are slightly less educated. Interestingly, we observe a significant difference in terms of labor market participation, with the heads of households receiving remittances being more often inactive than those receiving remittances. This would tend to confirm the effects of remittances on labor supply of non-migrants which can have a negative impact on Tunisia's unemployment rate when a crisis in destination countries affects negatively the remittance rate, but, again, we cannot infer any causality at this stage of the analysis.

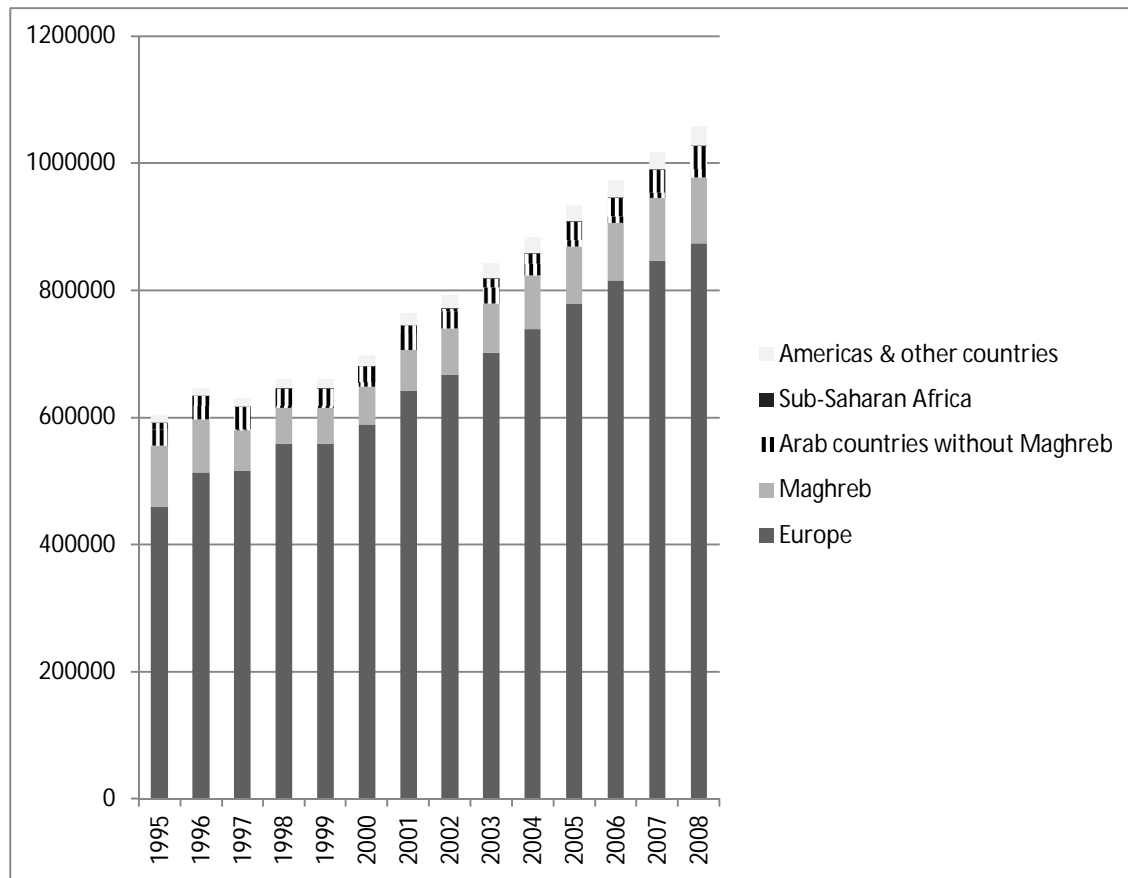
At the Mediterranean level, negotiations could be set to take into account the economic situation of both sending and host countries. Moreover, labor mobility through trade in services should be promoted within the region and in the negotiations with European countries as this has positive effect on skilled jobs and could be a partial substitute to migration.

A future research agenda on the impact of emigration on Tunisia could address more specifically some pending issues highlighted in this paper such as the causal relationship between remittances recipient families' incomes and emigration. A survey on the Tunisian high skilled diaspora could also be useful to understand better its aspirations and how it could contribute to raising productivity, growth and jobs creations in the country.

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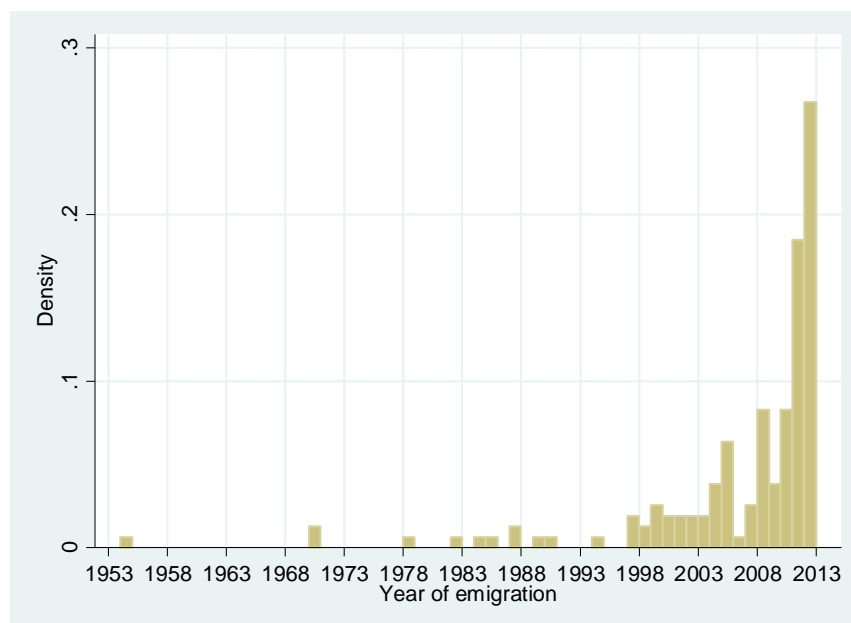
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Figure 1: Evolution of the Tunisian Diáspora by Region of Current Residence



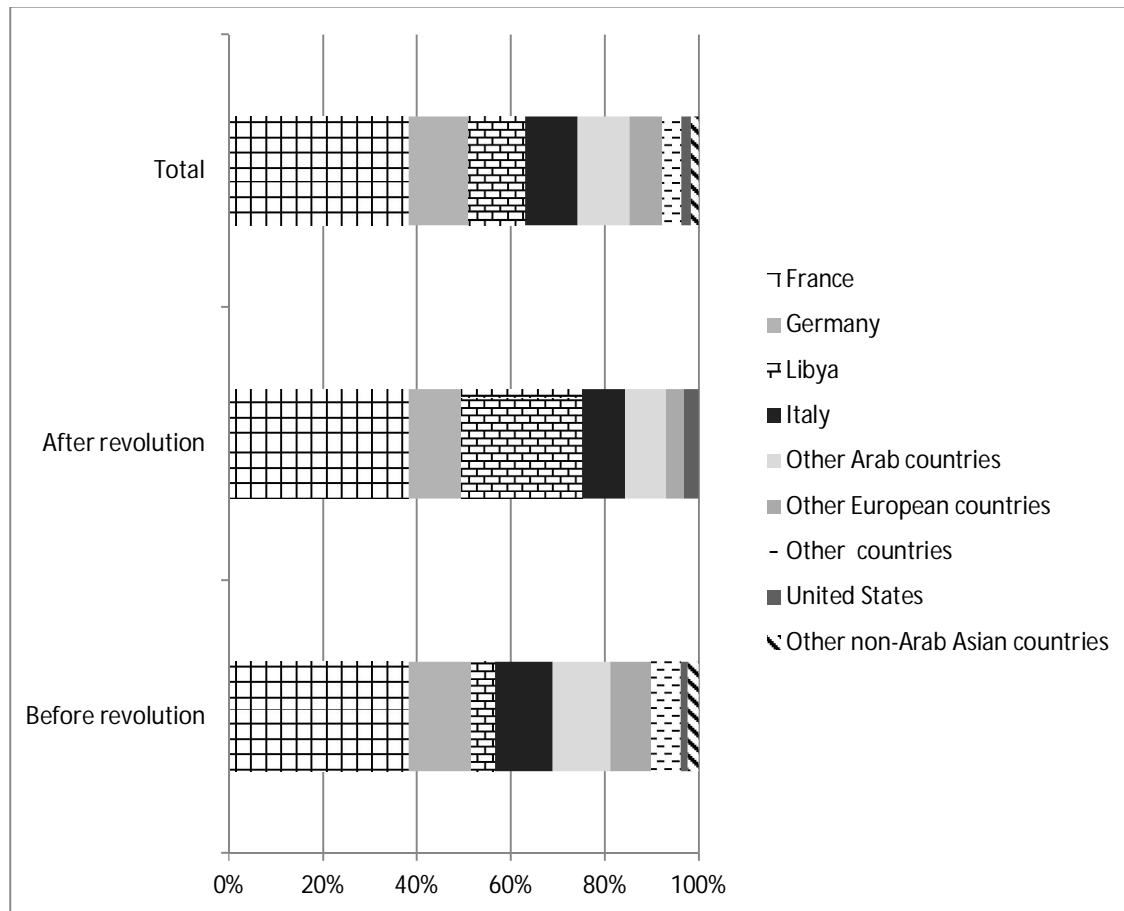
Source: Tunisian Ministry of Foreign Affairs.

Figure 2: Distribution of Current Migrants by Year of Migration



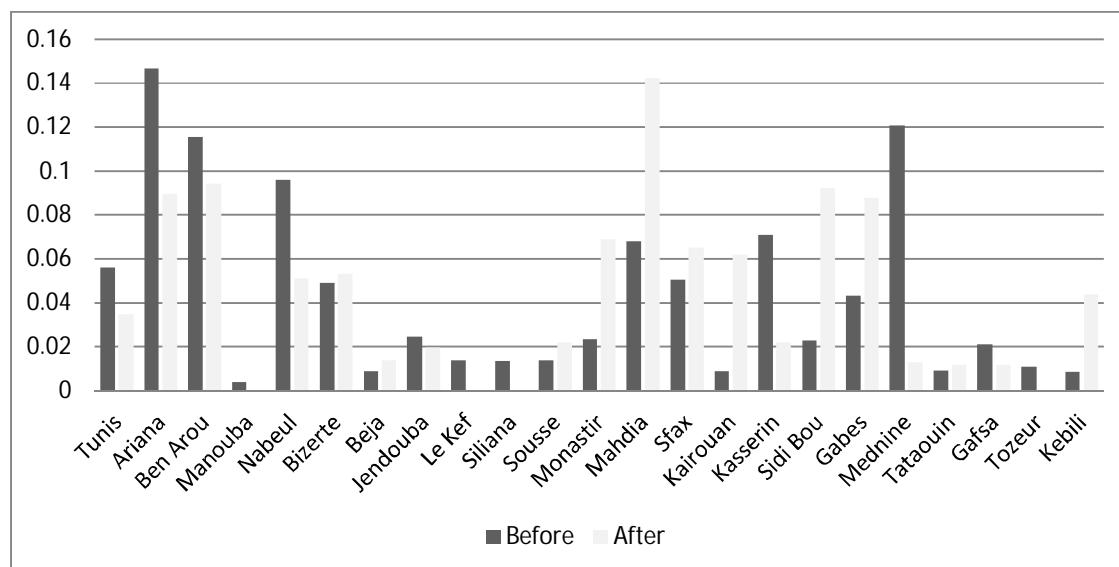
Source: Authors' computation using TLMPS 2014

Figure 3: Distribution of Migrants According to Destination Countries, As A Whole and According to Whether They Have Migrated Before or After the Revolution



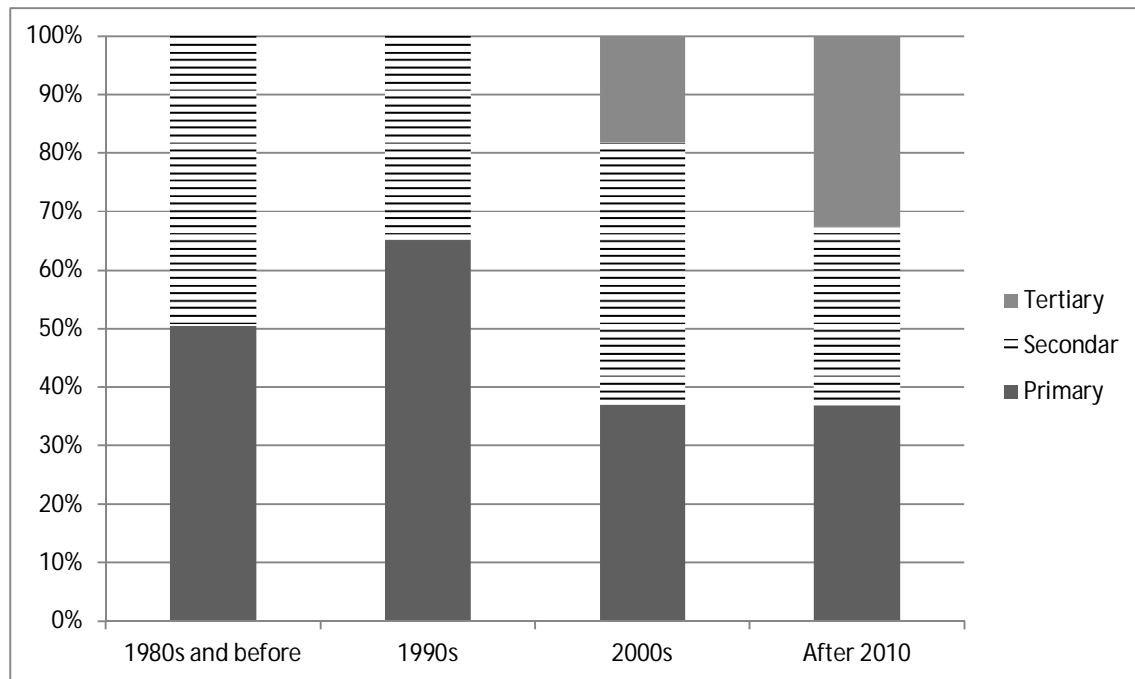
Source: Authors' computation using TLMPS 2014.

Figure 4: Migrants Distribution Before and After the Revolution



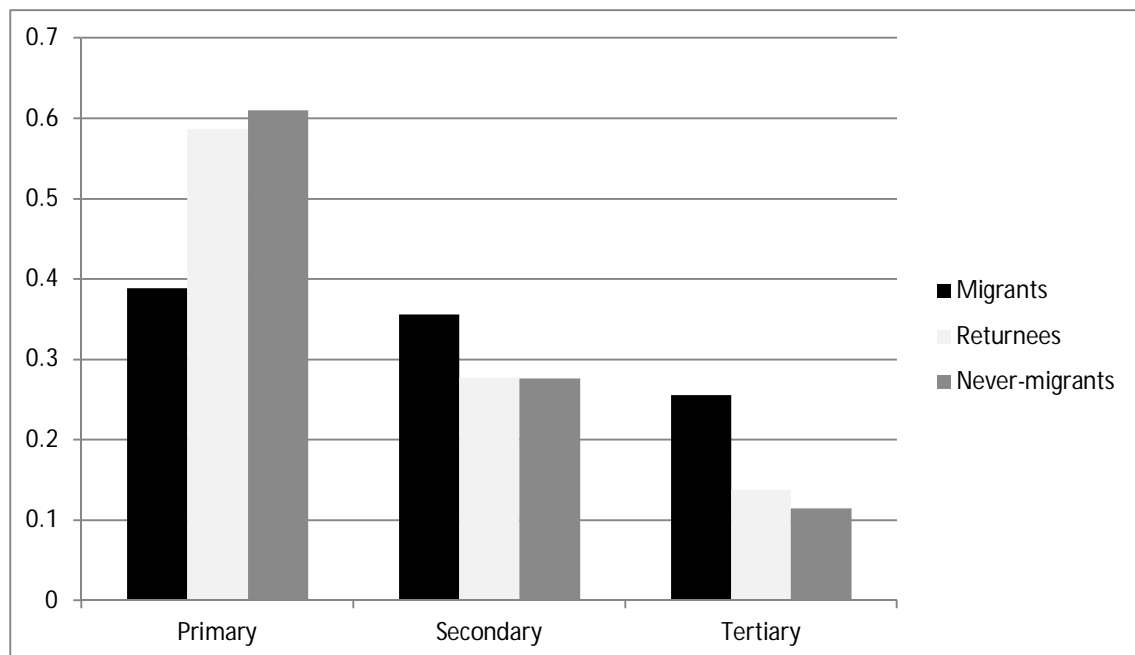
Source: Authors' computation using TLMPS 2014.

Figure 5: Educational Level of Current Migrants Over Time, 15+



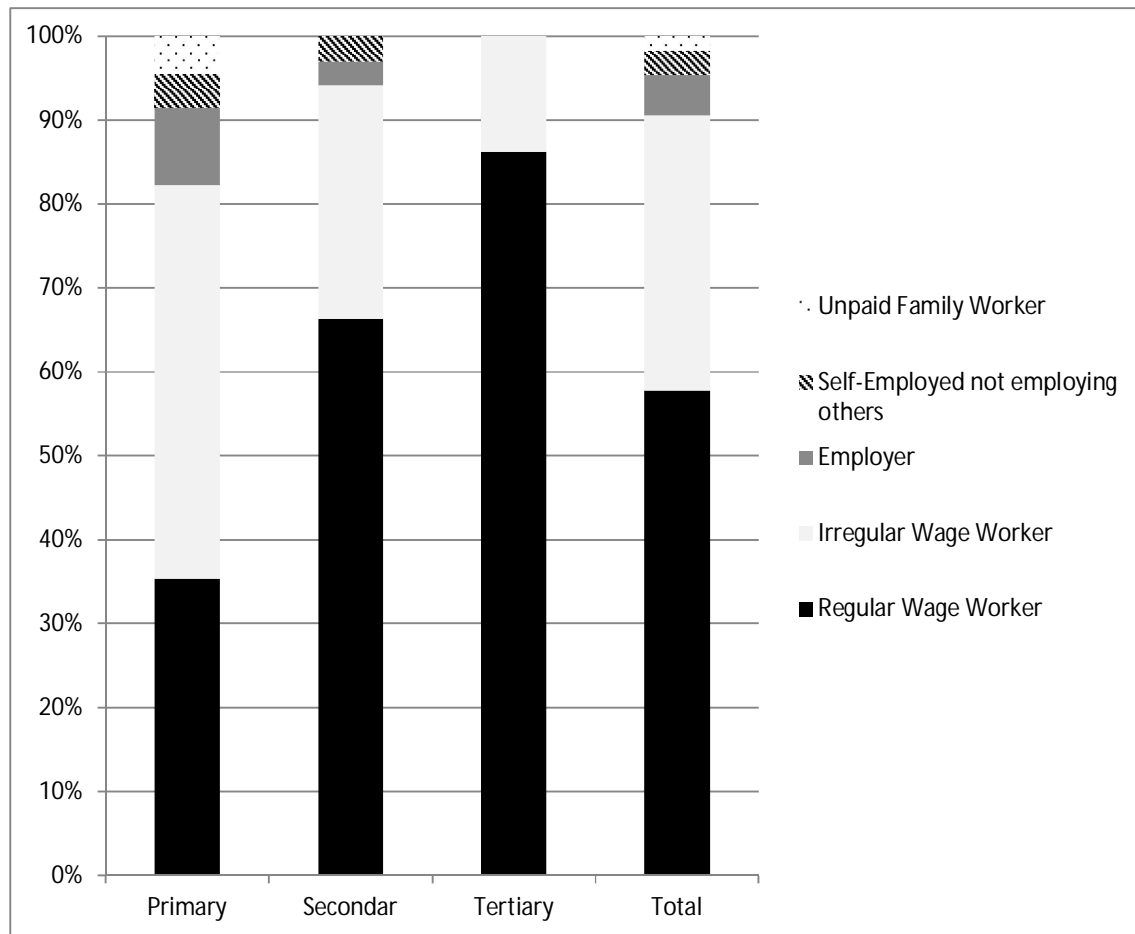
Source: Authors' computation using TLMPS 2014

Figure 6: Educational Level of Migrants, Returnees and Non-Migrants



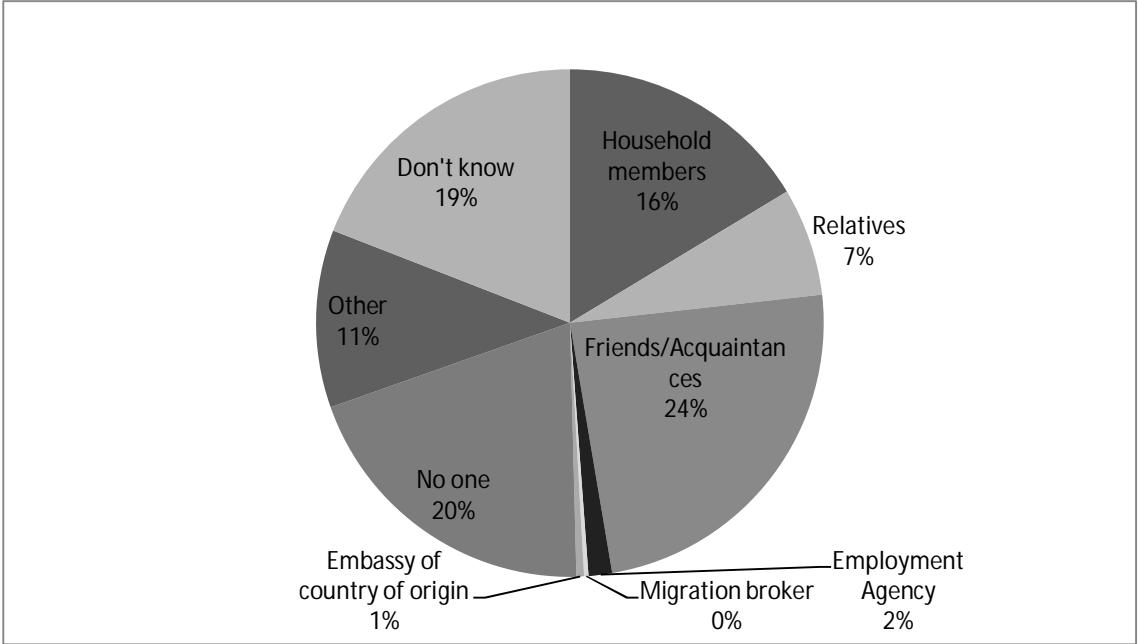
Source: Authors' computation using TLMPS 2014.

Figure 7: Employment Status Abroad by Education Level, Current Migrants



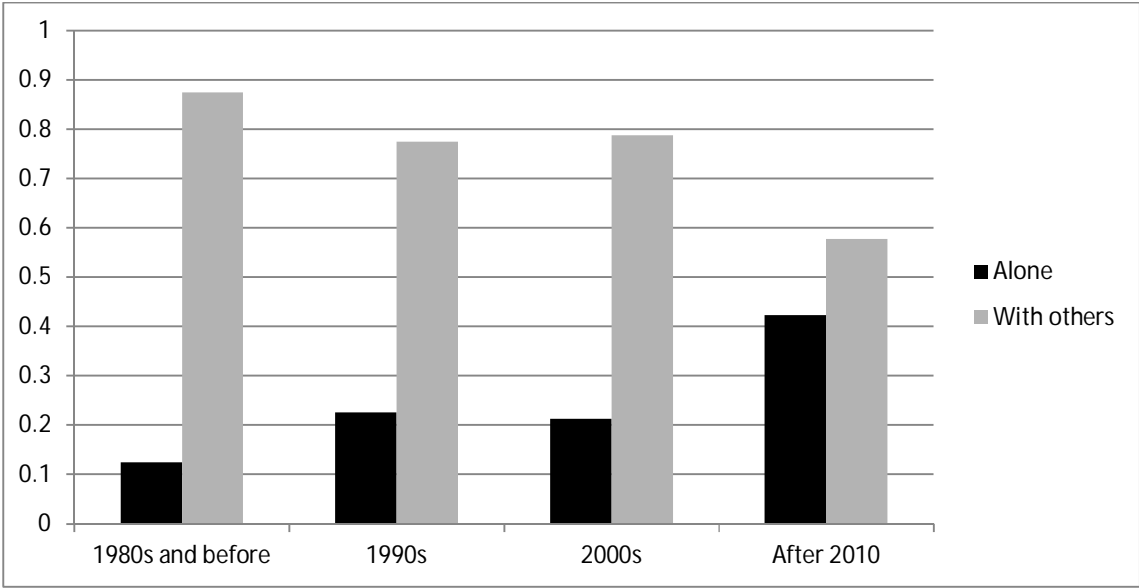
Source: Authors' computation using TLMPS 2014.

Figure 8: Origin of Help in Getting A Job Abroad, Current Migrants



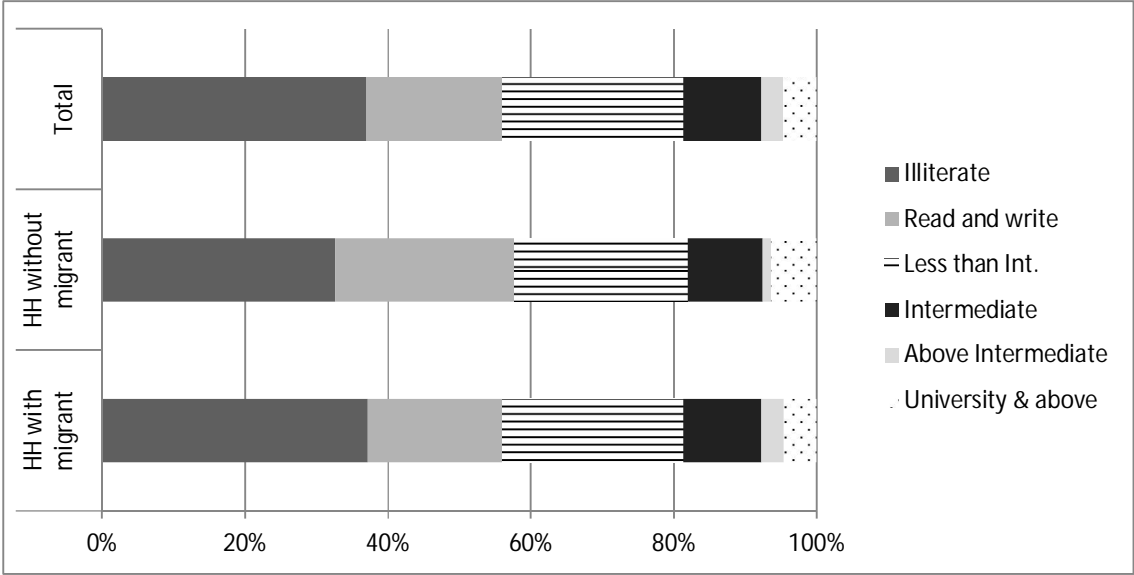
Source: Authors' computation using TLMPS 2014.

Figure 9: Type of Migration Across Decades



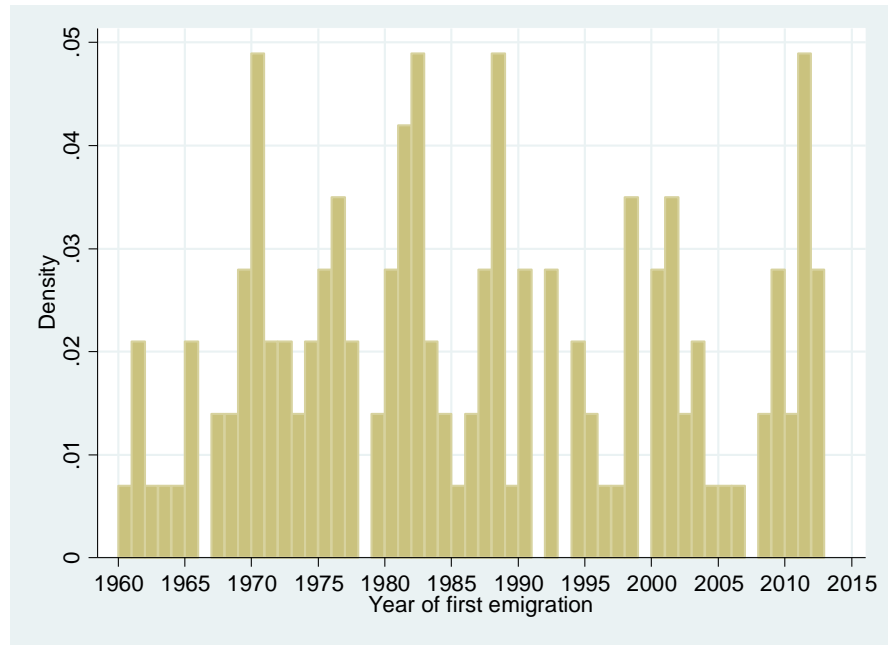
Source: Authors' computation using TLMPS 2014.

Figure 10: Education of the Head of Household



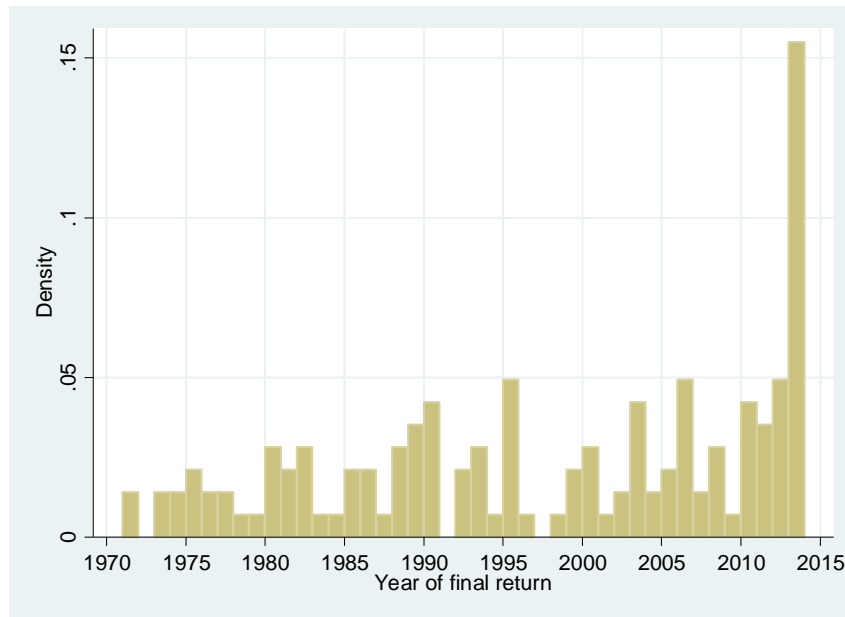
Source: Authors' computation using TLMPS 2014.

Figure 11: Distribution of Return Migrants by Year of First Emigration



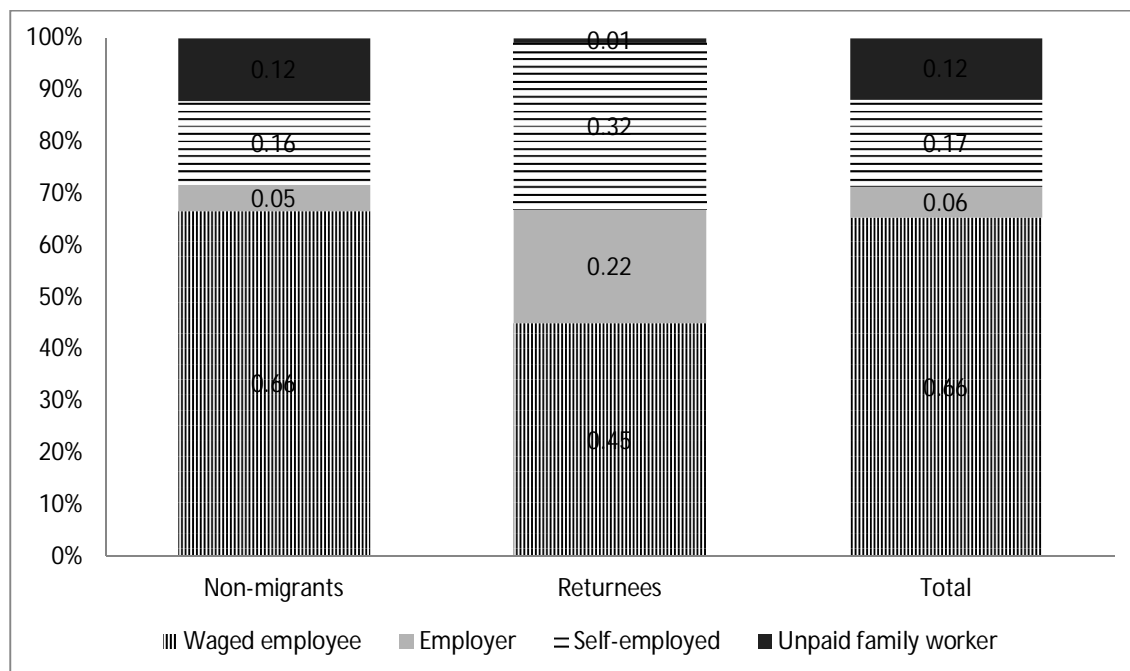
Source: Authors' computation using TLMPS 2014

Figure 12: Distribution of Return Migrants by Year of Final Return



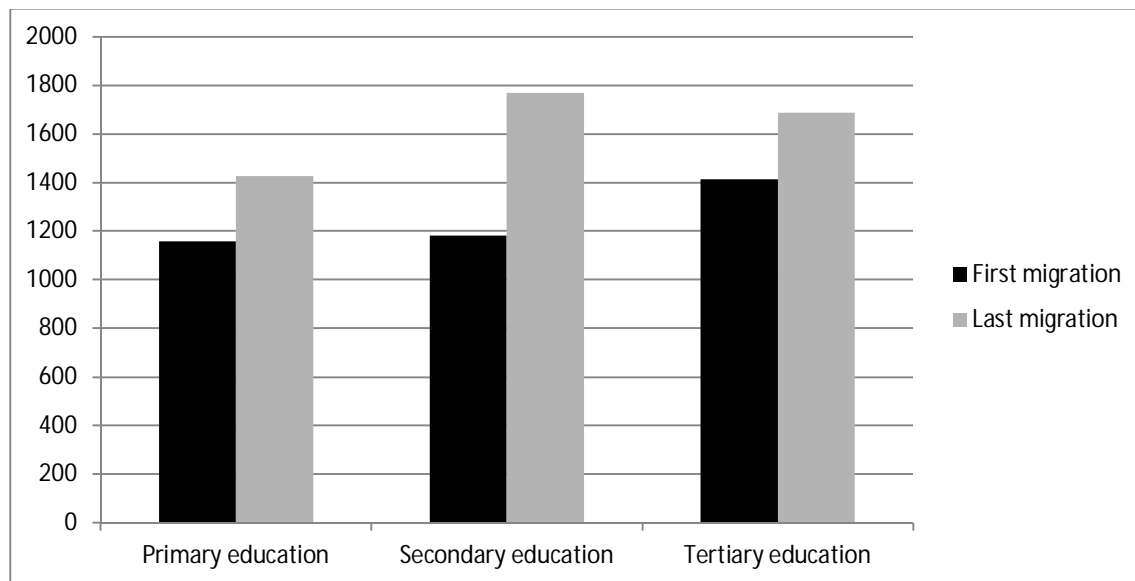
Source: Authors' computation using TLMPS 2014.

Figure 13: Current Employment Status in Primary Job (Ref. 1 Week) for Non-Migrants And Returnees



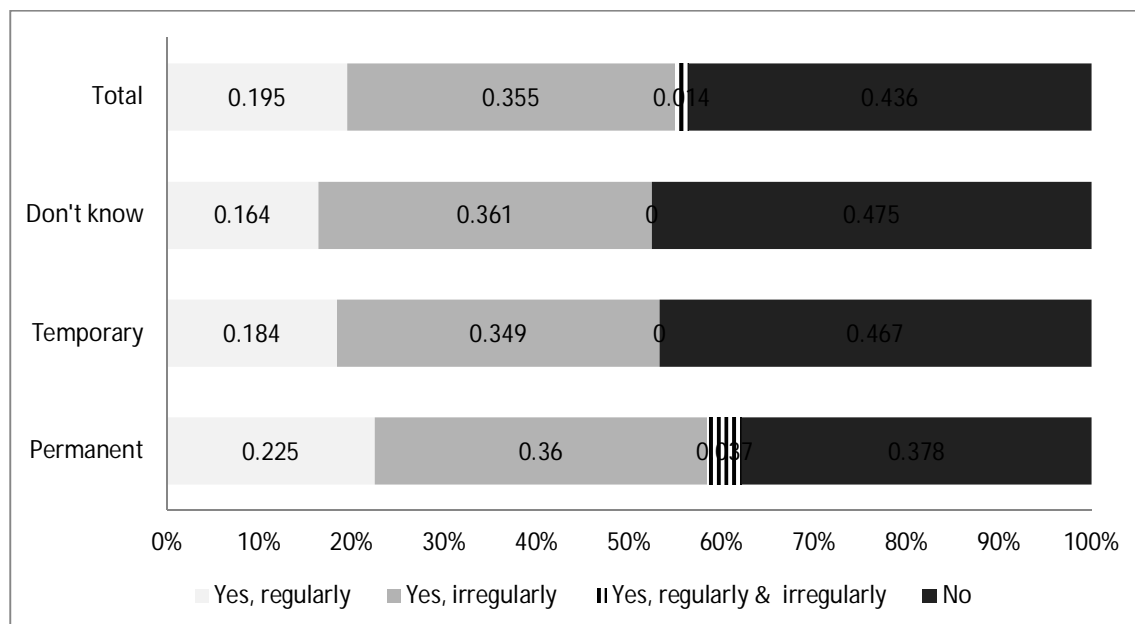
Source: Authors' computation using TLMPS 2014.

Figure 14: Average Monthly Income for the First and The Last Migration, by Education Level, in Tunisian Dinars



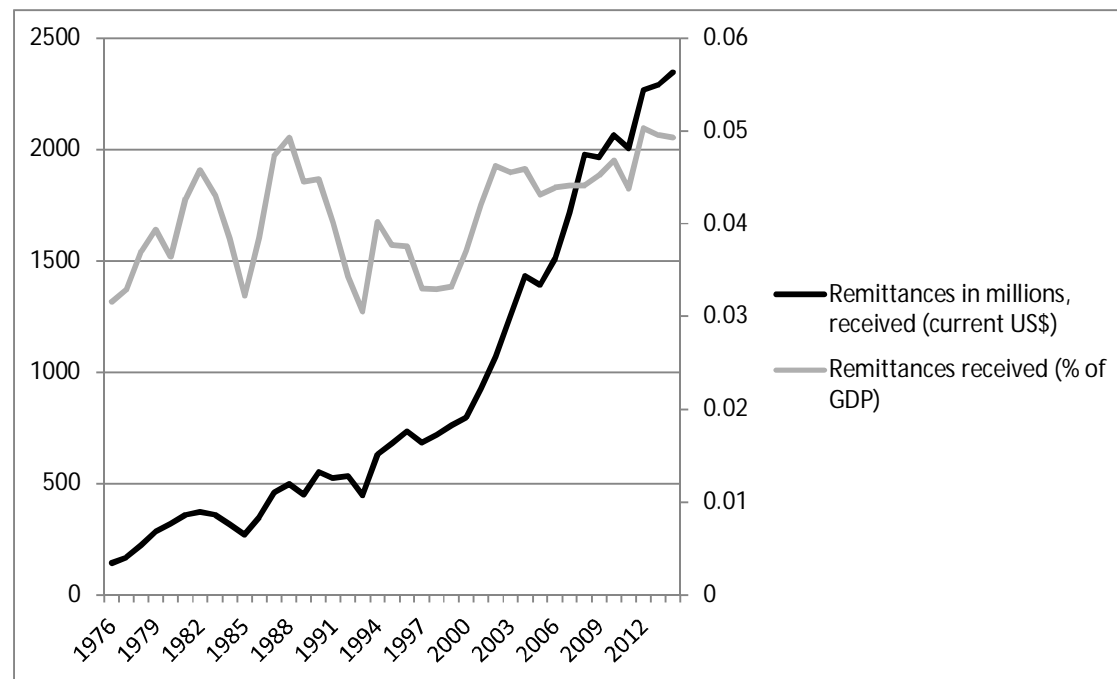
Source: Authors' computation using TLMPS 2014.

Figure 15: Distribution of the Frequency of Remitting According to The Migration Intentions, Returnees



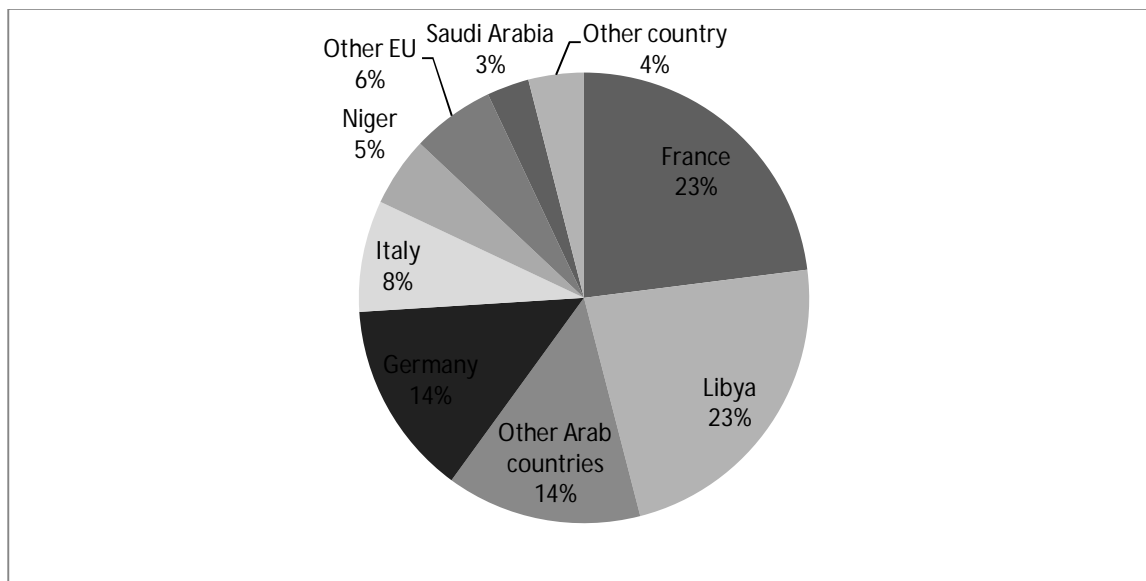
Source: Authors' computation using TLMPS 2014.

Figure 16: Official Remittances Received in Tunisia, 1976-2014



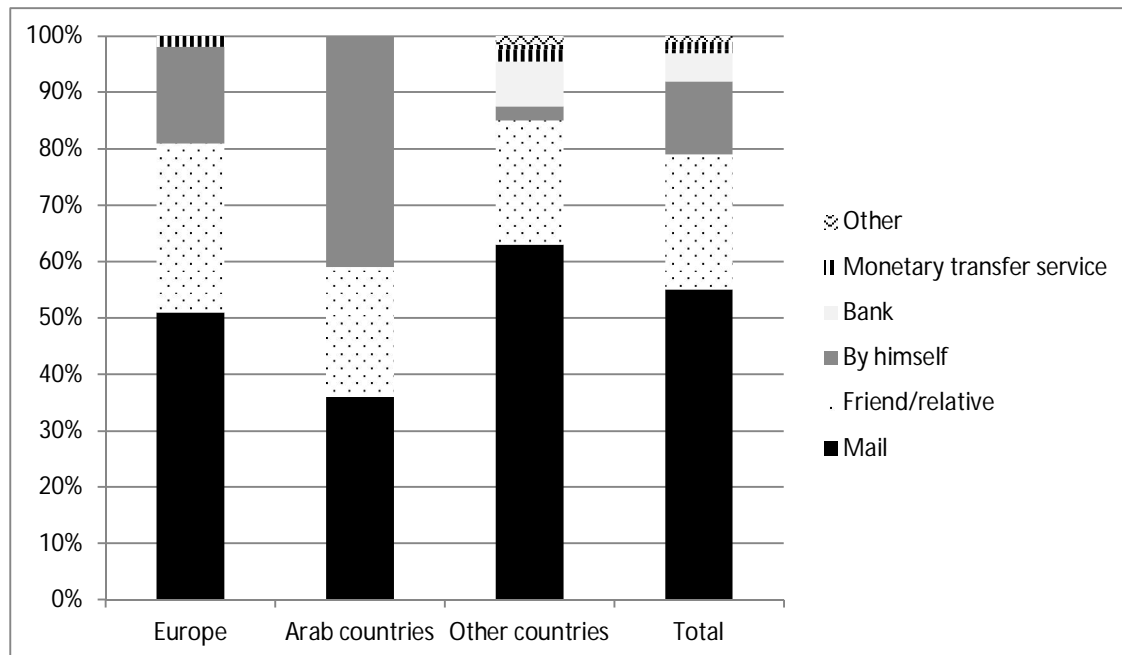
Source: World Bank, "World Development Indicators," accessed February 4, 2016, <http://databank.worldbank.org/data/views/variableSelection/selectvariables.aspx?source=world-development-indicators#>

Figure 17: Origin of Remittances sent by Current Migrants



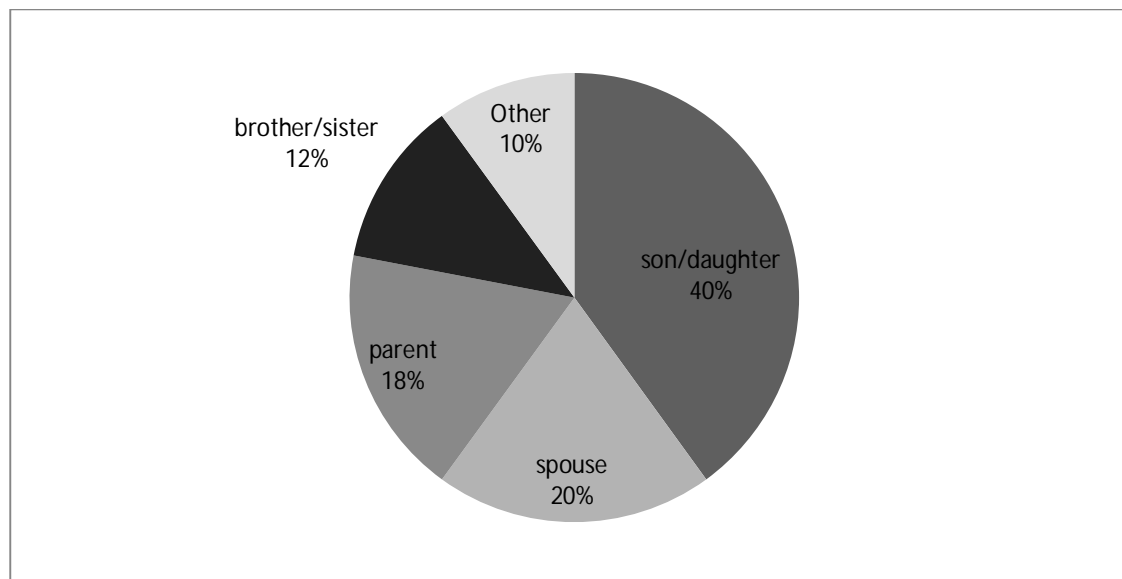
Source: Authors' computation using TLMPS 2014.

Figure 18: Channel used for Remitting, by Main Region of Origin



Source: Authors' computation using TLMPS 2014

Figure 19: Recipient of Remittances, with Respect to the Donor



Source: Authors' computation using TLMPS 2014.

Table 1: Origin of Migrants

	Before revolution	After revolution	Total
Urban	79,2%	50,8%	70,3%
Rural	20,8%	49,2%	29,7%

Source: Authors' computation using TLMPS 2014

Table 2: Current Migrants' Basic Characteristics

	Before revolution	After revolution	Total	Significant difference
Age at the time of migration	24.4	27.0	25.5	*
Male	87.9%	79.5%	85.0%	
Married	59.3%	41.7%	53.7%	
Single	38.6%	58.3%	44.8%	
Education				
Primary	39.4%	44.5%	41.0%	
Secondary	34.7%	33.8%	34.4%	
Tertiary	26.0%	21.8%	24.6%	*

Source: Authors' computation using TLMPS 2014

Table 3: Labor Market Characteristics of Current Migrants

	Before revolution	After revolution	Total	Significant difference
Labor status prior to migration				
Working	31.3%	27.6%	30.1%	
Unemployed	57.6%	53.3%	56.2%	
Inactive	11.1%	19.2%	13.7%	
Employment status prior to migration				
Regular worker	30.5%	9.4%	23.6%	***
Irregular worker	61.3%	90.7%	71.0%	***
Employer	3.9%		2.6%	***
Self-employed	4.3%		2.9%	***
No social security	68.3%	69.7%	68.8%	
Working status abroad				
Working	75.2%	62.6%	70.9%	***
Unemployed	10.6%	20.8%	14.0%	***
Inactive	9.1%	14.0%	10.8%	***
Unknown	5.1%	2.6%	4.3%	***

Source: Authors' computation using TLMPS 2014

Table 4: Transition Matrix for The Work Status Before and During Migration¹¹

		Work status before migration		
Work status during migration	Working	Working	Unemployed	Not working and not seeking
	Working	92.4%	65.2%	28.7%
	Unemployed	7.6%	20.8%	6.1%
	Not working and not seeking	0.0%	6.7%	62.6%
	Don't know	0.0%	7.4%	2.6%

Source: Authors' computation using TLMPS 2014

Table 5: Average Yearly Income Abroad by Education Level (Tunisian dinars)

	Average yearly income	95% Confidence Interval		Population size
Primary education	61 311,4	44 631,8	77 991,0	30 239
Secondary education	76 047,6	60 856,1	91 239,1	27 414
Tertiary education	67 127,4	36 654,6	97 600,2	14 515

Source: Authors' computation using TLMPS 2014

¹¹ Households were asked which is the “current work status abroad” of the migrant and this is the information used for the “work status during migration”.

Table 6: Households' Wealth Score

	HH with migrants	HH without migrants	Difference	Significance level
Wealth score	0,4007	0,1016	-0,2992	***

Source: Authors' computation using TLMPS 2014

Table 7: Basic Characteristics of Return Migrants

	Returnees	Non-migrants	Significance
Age	52,7	33,7	***
Urban	73,6%	68,0%	**
Wealth score	0,52	0,14	***

Source: Authors' computation using TLMPS 2014.

Table 8: Characteristics of Return Migrants

Number of migration episodes		Country of first destination	
1	38,60%	Libya	34,30%
2	6,20%	France	27,10%
3	0,90%	Italy	20,10%
4 to 10	3,20%	Other Arab countries	7,70%
More than 10	0,60%	Saudi Arabia	5,70%
Does not know	50,60%	Other countries	2,70%
Main reason for migration		Germany	2,40%
Unemployed and seeking work	39,30%	Reason to return	
Found a better job	41,10%	Contract ended	17,10%
Higher wages	4,90%	Sudden termination by employer	3,70%
To help the family	1,30%	Retired	14,40%
To accompany spouse	5,40%	Had health problems	1,50%
Other	8,00%	To get married	15,50%
Financial situation prior to migration		To start up business at home country	10,30%
More than sufficient to buy the basic needs	12,20%	To look after family business or farm	3,30%
Sufficient	51,10%	Left work due to poor working condition	11,50%
Not sufficient	35,97%	Other	22,80%

Source: Authors' computation using TLMPS 2014.

Table 9: Remitting Behavior, Returnees

Frequency of remitting	
Yes, regularly	18,5%
Yes, irregularly	33,2%
Yes, regularly & irregularly	1,3%
No	47,0%
Average amount per year	624,3

Source: Authors' computation using TLMPS 2014

Table 10: Monthly Average Wages for Returnees and Non-Migrants (in Tunisian Dinars)

	Average monthly wage	Significance level of the difference
Returnees	696,9	***
Non-migrants	526,0	

Source: Authors' computation using TLMPS 2014

Table 11: Characteristics of Immigrants

Number	47062	Education	
Origin		Primary	43,4%
Algeria	31,1%	Secondary	39,7%
France	21,2%	Tertiary	16,9%
Libya	20,9%	Reasons for migration	
Other Arab country	9,4%	Work	24,0%
Germany	5,6%	Education	6,0%
Morocco	5,3%	Marriage	29,9%
Italy	3,9%	Accompany spouse or other family member	22,5%
Saudi Arabia	2,0%	Housing related reasons	9,0%
Niger	0,7%	Other	8,7%

Source: Authors' computation using TLMPS 2014

Table 12: Characteristics of the Head of Household, According to Whether the Household Receives Remittances

	HH with remittances	HH without remittances	Significance level of the difference
Female HoH	34,4%	18,0%	***
Education			
Primary	79,3%	71,4%	*
Secondary	17,4%	20,9%	
Tertiary	3,2%	7,7%	**
Urban	67,2%	69,4%	
In labor force (ref. 3 months, extended definition)	56,5%	77,8%	***

Source: Authors' computation using TLMPS 2014

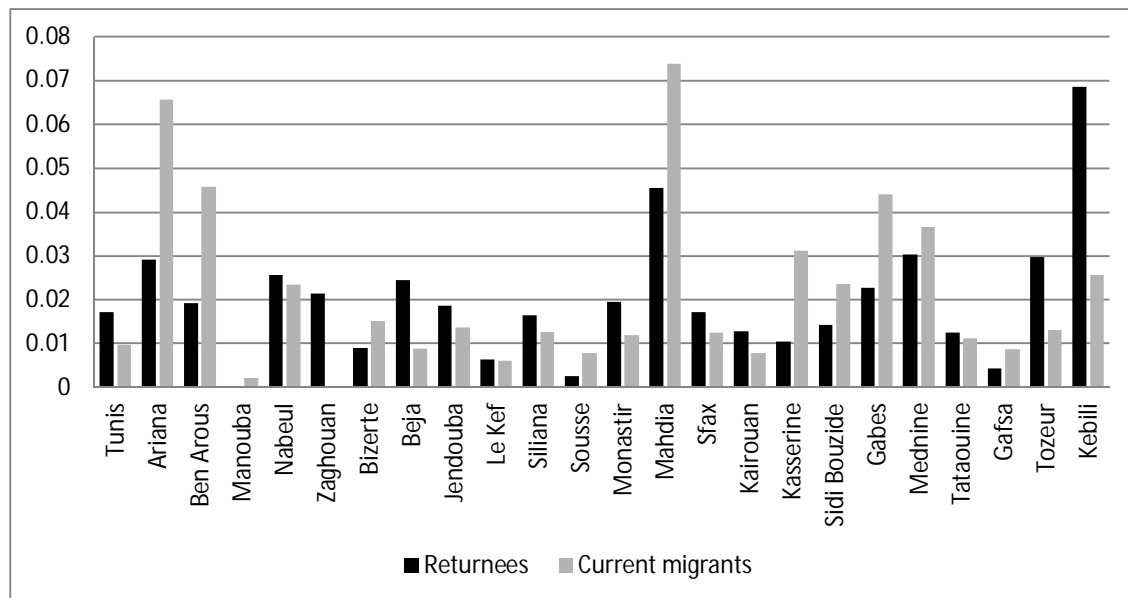
Table 13: Distribution of Current Migrants According to Their Education Level and Who Helped Them Find a Job Abroad

	Primary	Secondary	Tertiary	Total
Household members	13,7%	17,3%	16,1%	15,7%
Relatives	9,3%	6,5%	3,2%	7,0%
Friends/acquaintances	31,0%	27,5%	3,1%	24,5%
Employment agency	0,0%	0,0%	8,7%	1,5%
Migration broker	0,7%	0,0%	0,0%	0,3%
Embassy	0,0%	0,0%	2,8%	0,5%
No one	25,4%	13,9%	25,3%	20,4%
Other	2,5%	12,5%	29,3%	11,6%
Don't know	17,4%	22,4%	11,4%	18,5%

Source: Authors' computation using TLMPS 2014

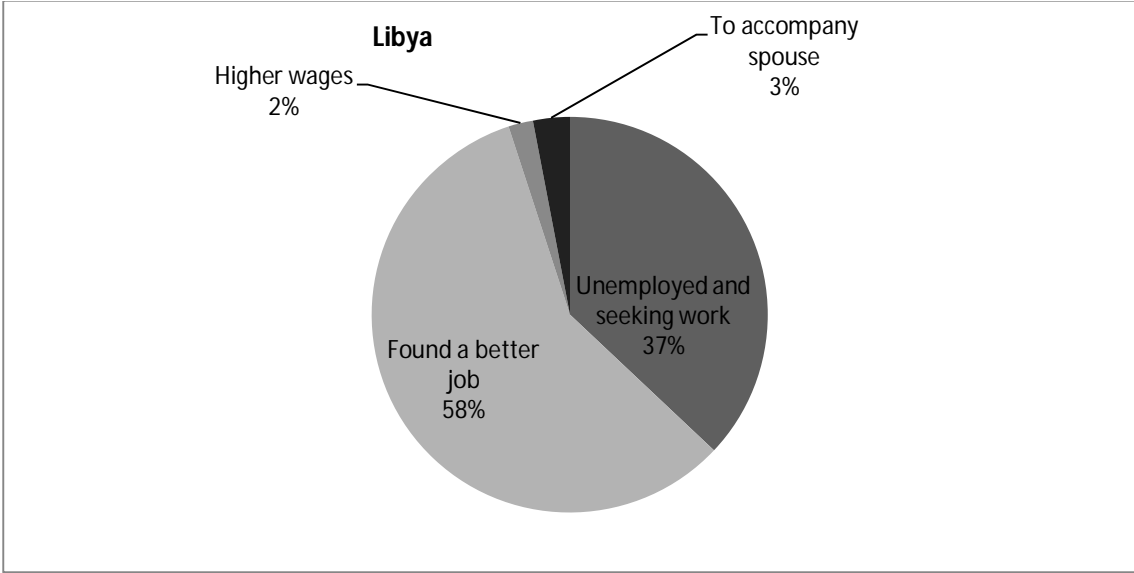
Appendix

Figure A.20: Migration Rates at the Governorate Level

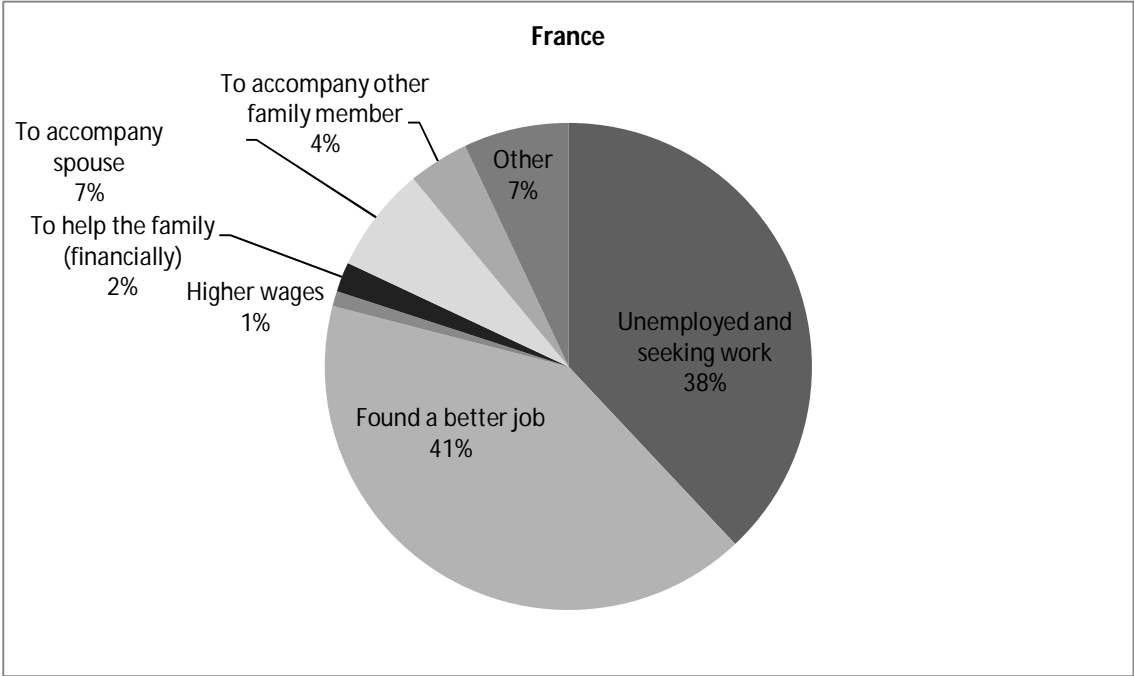


Source: Authors' computation using TLMPS 2014

Figure A.21: Distribution of Reasons to Migrate For Returnees That Had Chosen Libya or France As Main Destination



Source: Authors' computation using TLMPS 2014.



Source: Authors' computation using TLMPS 2014