Upward or Downward:
Occupational Mobility and Return Migration

Nelly El-Mallakh[a,b] and Jackline Wahba[c1]

July 2015

Abstract

We study the extent to which temporary overseas migration enables returnees to climb the occupational ladder. Using data from Egypt, we estimate the occupational mobility of different labor market entrants' cohorts, returnees relative to non-migrants, controlling for the non-randomness nature of migration. We rely on instrumental variable approach and also employ a Difference-in-Differences, as well as Difference-in-Differences matching techniques to control for the endogeneity and selection into migration. We find evidence that return migration increases the probability of upward occupational mobility. Conditioning on the destination country, the impact of migration experience in non-oil countries is about two times greater than the estimated coefficient for oil countries. The findings underscore the role played by temporary overseas work experience in enhancing human capital accumulation of skilled migrants.

Keywords: return migration, occupational mobility, Egypt.

JEL codes: F22, J62.

[1] ''a'' : Université Paris 1 Panthéon-Sorbonne, Centre d'Economie de la Sorbonne ; ''b'' : Faculty of Economics and Political Science, Cairo University ; ''c'' : University of Southampton.

1. Introduction

There is a growing recognition that a substantial proportion of international migration is temporary in nature and is characterized by frequent return migration. Migration experience provides an opportunity for migrants to acquire physical capital, to accumulate savings and assets and most importantly to acquire new skills and knowledge.[2] Upon return to their home country, migrants represent an inflow of both human capital and financial capital. The return of emigrants can be a potential source of economic growth (see, for example Djajic (2014) and Dos Santos and Postel-Vinay (2003)). A few studies have examined the impact of international migration on the human capital accumulation of returnees focusing on estimating the wage premium of return migrants compared to non-migrants. Overall the evidence suggest a positive wage premium associated with overseas migration for returnees in developing countries, see for example Lacuesta (2010), De Vreyer et al. (2010), Reinhold and Thom (2013), and Wahba (2015).

Another measure of the acquisition of human capital of migrants is their skill upgrading or occupational mobility. However, there are hardly any studies that have examined the occupational mobility of returnees to developing countries- exceptions are Carletto and Kilic (2011) and Masso et al. (2014) who have studied Albania and Estonia and found mixed results. Whether migrants acquire human capital whilst overseas is an important question for the economic development of the home country since the public debates tend to underscore the negative impact of emigration resulting in a brain drain for home developing countries. This paper contributes to this literature by providing evidence on the impact of temporary migration experience on human capital accumulation of returnees by examining occupational mobility, a less studied issue, of return migrants vis-à-vis working-age individuals who have never migrated, controlling for the potential endogeneity and selection of migration. Unlike the studies on wage premiums where wages of returnees are only observed at the time of survey, we are able to construct individual occupational mobility based on the first job and the current occupation. Furthermore, we adopt a novel approach in order to identify the impact of overseas migration by constructing cohort groups who entered the labor market in the same decade to control for the initial labor market conditions and examine current occupational mobility relative to their first job.

The relevance of this research question is twofold. On the one hand, the answer to this question is not straightforward. Temporary migrants might acquire additional human capital due to their work experience abroad and hence, the human capital accumulated abroad might help those temporary migrants to find occupations higher in the skill and remuneration ladder upon return. Conversely, it might be the case that temporary migration experience is motivated by the shortage of unskilled labor in destination countries and subsequently, the positive effects of temporary migration on human capital and occupational mobility might be contested. On the other hand, the

---

[2] See Wahba (2014) for a survey on return migration.

brain drain literature often views international migration as a curse to developing countries due to the permanent exodus of human capital. Hence, it's interesting to examine whether return migration can provide a leeway to promote the economic development of sending countries and compensate for the loss of human capital due to outward migration, through the returnees' higher human capital.

In this context, understanding the development effects of return migration is crucial. We use data from Egypt, a country with substantial temporary migration. The literature on return migration in Egypt focuses primarily on the impact of temporary migration experience on self-employment, entrepreneurial activities, wage premiums of temporary migrants or fertility choices. For example, Wahba and Zenou (2012) the impact of temporary migration on entrepreneurial activities of returnees in Egypt. Bertoli and Marchetta (2015) have examined how the prevailing social norms in the countries of destination of Egyptian migrants affect their fertility choices upon return. More recently, Wahba (2015) has examined the returns to returning by estimating the wage premium incurred by Egyptian returnees. We extend this literature by investigating the extent to which return migrants move up the occupational ladder relative to non-migrants.

The existing literature on the impact of return on upward mobility is very sparse. Carletto and Kilic (2011) estimate the impact of international migration experience on the occupational mobility of returnees compared to stayers in Albania. Relying on an instrumental variable approach to control for the non-random nature of international migration and return, they find that past migration experience increases the probability of upward occupational mobility. They also explore the heterogeneity of the effect by host country and find that their results are mainly driven by past migration experience in Italy and countries further afield, whereas, they don't find any significant impact for migration experience in Greece. Using the online job search portal of Estonia, Masso, Eamets and Motsmees (2014) also investigate the effect of temporary migration experience on the upward occupational mobility. However, they find that temporary migration experience does not exhibit any significant effect on upward occupational movement and in the case of females, they find a negative effect. However, it is not clear from their analysis to what extent their results are driven by the selectivity of their online job search data.

In this paper, we estimate occupational mobility of returnees relative to non-migrants taking into account the selection into emigration, using the Egypt Labor Market Panel Survey (ELMPS), a nationally representative household survey with very rich information on labor market characteristics and dynamics, including retrospective data on international migration and individual experiences before, during and after migration. We rely on cohorts' study by focusing on various cohorts, individuals who had their first job in the same decade and examine occupational mobility between the first job and their job in 2010, before the Egyptian Revolution of the 25th of January 2011, to ensure that our results can be generalized and are not affected by momentous events in the aftermath of the Egyptian Uprising. Estimating the impact of temporary migration on occupational mobility poses the challenge of addressing the non-random selection of who migrates and who returns. To control for the non-randomness nature of migration, we rely

on an instrumental variable approach, following Wahba and Zenou (2012). Hence, to obtain an exogenous source of variation in the probability of migration, we use the historical inflation-adjusted oil prices. We also employ a Difference-in-Differences technique that differences out all unobserved time-invariant differences between the treatment and control groups, as well as Difference-in-Differences matching technique that controls for the observable characteristics as well as the unobserved time-invariant heterogeneity of returnees relative to stayers.

Unconditional on the country of destination of Egyptian migrants, we find that return migration increases the probability of upward occupational mobility. Interestingly, conditioning on the destination country during the last migration episode, we find that the impact of return migration on upward occupational mobility is greater for migration experience in non-oil countries compared to oil countries. Controlling for the potential non-randomness of migration and selection bias using historic oil prices as an instrument for return migration, results in coefficient estimates that are greater than the standard Probit model. Our results are robust to different specifications using Difference-in-differences and Difference-in-differences matching techniques and also using different cohorts of entry in the labor market. Our results seem to be driven by returnees who had their first job abroad, who seem to be more likely to climb the occupational ladder upon return in Egypt. This subgroup of return migrants also seem to be more educated on average and are better off both in terms of their first occupation as well as their occupation upon return in Egypt.

The rest of this paper is organized as follows. Section 2 provides a description of the data. Section 3 describes the empirical strategy. Section 4 presents the results, mechanisms and robustness checks. Section 5 briefly concludes.

2. Data

The empirical analysis relies on data from the Egypt Labor Market Panel Survey 2012 (ELMPS 12). The ELMPS is a nationally representative panel survey carried out by the Economic Research Forum (ERF) in cooperation with Egypt's Central Agency for Public Mobilization and Statistics (CAPMAS) since 1998. The ELMPS is a wide-ranging panel survey that covers topics such as employment, unemployment, job dynamics and earnings as in a typical labor force survey but also provides very rich information on education, residential mobility, migration and entrepreneurial activities (Assaad and Krafft, 2013).

The ELMPS has been administered to nationally representative samples in 1998, 2006 and 2012. We focus particularly on the third round, the ELMPS 2012. The total sample size is 12,060 households and 49,186 individuals. It tracks households and individuals that were previously interviewed in 2006, both those also interviewed in 1998 as well as individuals added in 2006. In 2012, the refresher sample of 2,000 households was selected from an additional 200 PSUs randomly selected from a new master sample prepared by CAPMAS. By design, the 2012

refresher sample over-sampled areas with high migration rates. (Assaad and Krafft, 2013). We exploit rich information derived from a supplementary module on return migration, surveying individuals aged between 15 and 59 years old who have worked abroad for more than six months. This module features return migrants' characteristics, incidences of migration, reason for migration, and financial situation before migration, year and country of first migration episode, year of final return, savings abroad, remittances, as well as other relevant information. We also rely on retrospective data from the job mobility module. This section traces job trajectories for all individuals aged 15 years old and above. Explicitly, it tracks the occupation, economic activity, sector of employment, job stability, incidence of work contract and social security for the first, second, third, fourth jobs and the job in 2011, if any changes in job status occurred after the 25th of January 2011 uprising. This module allows us to identify returnees, since there is available information regarding each job location.

In our analysis, we focus mainly on the 1980s cohort, individuals who had their first job in the 1980s aged at least 15 years old at first job and less than 64 years old, but also use different cohorts to check for the robustness of the results.[3] Throughout the analysis, we consider the year 2010 for the current occupation instead of 2012, before the Egyptian Revolution of the 25th of January 2011, to ensure that our results can be generalized and are not affected by momentous events in the aftermath of the Egyptian Uprising. We only focus on males as we only have 3.6% of female returnees among those in the 1980s cohort, as Egyptian migration is mostly male-dominated. Our 1980s cohort is comprised of 956 stayers and 304 returnees.

Descriptive statistics on the sample of stayers versus returnees in the 1980s cohort are reported in Table 1. Returnees are slightly older than stayers both in 1980 and at first job. Regarding their educational attainment, returnees are on average more educated compared to stayers. Explicitly, 83% of return migrants have either secondary education or above secondary education compared to 68% of stayers, and hence, the least educated category among the stayers, no educational degree, primary or preparatory education, is two times greater compared to the returnees and the difference is statistically significant. Returnees in the 1980s cohort are also found to be less likely to live in Greater Cairo, Alexandria and the Canal cities, whereas, they are found to be more likely to live in Urban and Rural Lower Egypt in 1980. With respect to their parental background, there isn't any significant difference between the two groups in terms of their mother and father's highest level of educational attainment.

In Table 2, we also explore the first and current job characteristics for stayers and returnees in the 1980s cohort. For their first job, returnees were more likely to be employed in the private sector compared to stayers and also less likely to be employed in the governmental sector. Returnees were also more likely to work in economic activities, such as wholesale and retail trade, transportation and storage, accommodation and food services, as well as, professional, scientific, technical and administrative activities, for their first job compared to stayers. The incidence of

---

[3] The years considered for the 1980s cohort are from the 1980 to 1989, included.

social security for the first job is 18% lower among returnees compared to stayers. Interestingly, we find contrasted figures when we consider the current job characteristics for the two groups. In 2010, returnees were on average more likely to be employed in the governmental sector compared to stayers and less likely to be employed in the private sector. In addition, the incidence of social security for the current job in 2010 is 6% higher among returnees compared to stayers.

Table 3 sheds some light on individuals' first and current occupations and occupational indicators, for the sample of stayers and returnees respectively. For their first occupation, returnees were significantly more likely to have either high-skilled blue collar or low-skilled white collar occupations compared to stayers. In 2010, return migrants are significantly less likely to be employed in high-skilled blue collar occupations and more likely to be employed in high-skilled white collar occupations compared to stayers. When we consider the occupational mobility indicators, we find that the difference in means between the two groups is statistically significant. Returnees are found to be significantly more mobile compared to stayers and more likely to witness upward mobility, when we compare their first job in the 1980s and their current occupation in 2010.

In Table 4, we also construct employment transition matrices for stayers (Panel A) versus returnees (Panel B) in the 1980s cohort, to better understand the dynamics of occupational mobility. The diagonal cells represent the percentage of individuals who stayed in the same occupational category between the first job in the 1980s and the current job in 2010. The cells above the diagonal represent the percentage of individuals who witnessed upward mobility, whereas, the cells below the diagonal represent the percentage of individuals who witnessed downward mobility. Among the sample of returnees in the 1980s cohort, we find that 46%[4] of return migrants witnessed upward occupational mobility when we compare their first job in the 1980s and their current job in 2010. This figure drops to 25% when we consider the sample of stayers. Interestingly, we also find that 61% of the returnees who witnessed upward mobility had either high-skilled blue collar or low-skilled white collar occupations in 1980s and they moved up the occupational ladder to hold either white collar occupations in general for the former category or high-skilled white collar occupations for the latter. Whereas, 57% of the stayers who witnessed upward occupational mobility, had in the 1980s less qualified occupations to start, namely agricultural or low-skilled blue collar occupations.

---

[4] To compute the share of individuals witnessing upward mobility, we consider for each occupation category, the sum of the cells above the diagonal. For example, if the occupational category for the first job is agriculture, the share of individuals witnessing upward occupational mobility would be the sum of the shares of individuals employed in low-skilled blue collar, high-skilled blue collar, low-skilled white collar or high skilled white collar occupations in 2010.

3. Empirics

3.1 Regression Specification

We estimate the effect of return migration on occupational mobility for the 1980s cohort, focusing on males aged at least 15 years old at first job and 64 years old in 2010. For each individual, we compare his first occupation in the 1980s to his current occupation in 2010.[5] Occupational categories are split into six distinct categories according to the ISCO-88 one digit classification, and are the following: not working, agriculture, low-skilled blue collar, high-skilled blue collar, low skilled white collar and high skilled white collar occupations.[6] These six occupational categories are ranked one to six, respectively. We estimate the following specification, using Probit and Ordered Probit Models:

$$Y_i = \alpha_0 + \alpha_1 Returnee_i + \alpha_2 X_i + \alpha_3 Z_i + \varepsilon_i \qquad (1)$$

For the Probit Model, Y_i is a dummy variable for upward mobility that takes the value one if the individual's occupation in 2010 is ranked higher compared to his first job occupation in the 1980s and zero otherwise, either for individuals who witnessed downward mobility or stayed within the same occupational category. For the Ordered Probit Model, Y_i is an ordered categorical variable, the degree of occupational mobility, it is computed as the difference between individual's current occupation in 2010 and individual's first occupation in 1980s.[7] Returnee is a dummy variable equal one for males who had both worked abroad for more than 6 months and had his final return to Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility and equal zero for stayers who never had any migration experience abroad. X_i is a vector of individual and household characteristics. Individual-level characteristics are the following: age in 1980 and its squared term, three dummies for individual's educational attainment: primary and preparatory education, secondary education either general or vocational and above secondary education, either post-secondary institute or university education and above; the reference category is no educational degree either illiterate or literate without any diploma and five dummies for individual's geographical regions in 1980: Cairo, Alexandria and Canal Cities, Urban Lower Egypt, Urban Upper Egypt and Rural Lower Egypt; the reference category

---

[5] Since we rely on the ELMPS 2012, we use current job occupation in 2012 as individual's occupation in 2010 if the individual didn't witness any job status changes with the 25th of January 2011 Egyptian Revolution. Whereas, for those individuals who witnessed job status changes in 2011, we consider their employment status in 2010 and subsequently, we determine their job occupation in 2010.

[6] The six occupational dummies are the following: not working refers to returnees' first occupation in Egypt for those who had their first job abroad, agriculture refers to skilled agricultural, forestry and fishery workers, low-skilled blue collar refers to plant and machine operators, assemblers and elementary occupations, high-skilled blue collar refers to craft and related trades workers, low-skilled white collar refers to clerical support workers and service and sales workers and high-skilled white collar refers to managers, professionals, technician and associate professionals. Armed forces occupations are eliminated. These six occupational categories are ranked one to six, respectively.

[7] This variable ranges from -3 to 5. It is equal zero, if the individual stayed in the same occupational category between the first job in the 1980s and the current job in 2010, and it takes positive (negative) values if the individual witnessed upward (downward) mobility. The greater the value of the indicator in absolute term, the greater is the mobility. In the estimation sample, we don't have any individual who had a first job occupation as a high-skilled white collar and a current job in 2010 as agricultural occupation, hence, the variable's range is -3 to 5.

is Rural Upper Egypt. Household level characteristics include mother's and father's level of education, four dummies each: literate without any diploma (read and write), less than intermediate, intermediate and above intermediate, university and post-graduate; the reference category is illiterate. $Z_{i\,t_0}$ is a vector of first job characteristics in the 1980s[8] and includes: sectors of employment, economic activities and the incidence of work contract and social security in the 1980s. Sectors of employment are the following two dummies: government and public enterprises. The reference category is private enterprises and it includes private enterprises as well as investment/joint venture, international enterprises, non-profit or non-governmental organizations or other including co-operatives. Economic activities are defined according to ISIC-4 classification and include the following five dummies: a dummy variable for agriculture, forestry and fishing, a dummy variable for manufacturing, mining, quarrying and other manufacturing activities, a dummy variable for construction, a dummy variable for wholesale, retail, transportation and storage, accommodation and food services and a dummy variable for professional, scientific, technical, administrative and support service activities. The reference category is a dummy variable for other activities that include information and communication, finance and insurance services, real estate activities, public administration and defense, education, human health and social work. First job characteristics also include two dummies for having a work contract and social security.

3.2 IV approach and selection-corrected estimations

We face two methodological challenges when estimating the impact of occupational mobility of returnees versus stayers. Unobserved individual characteristics might simultaneously affect the probability of migration and the return decision to Egypt, on the one hand and occupational choices, on the other hand. Aware of the potential endogeneity problem inherent in this type of analysis, we rely on an instrumental variable approach, following the same identification strategy proposed by Wahba and Zenou (2012). Hence, to obtain an exogenous source of variation in the probability of migration, we use the historical inflation-adjusted oil prices when the individual was 26 years old.[9] The rationale behind using historic oil prices as a predictor of the migration probability, as argued by Wahba and Zenou (2012), is that other Arab countries constitute the most important destination for Egyptian countries, where oil prices played a crucial role in driving the demand for foreign labor both directly in the Gulf countries or indirectly, in other non-oil Arab countries.[10]

---

[8] In unreported regressions, we have only conditioned on individual and household characteristics, eliminating the vector of first job characteristics Z_i. We are likely to overestimate the effect of return migration on upward occupational mobility if we don't condition on the vector of first job characteristics.

[9] In our estimation sample, the average age for males at the time of migration for the last episode is 26 years old. We also performed some robustness checks by matching the historic oil prices data with the year when the individual was 25 years old or 27 years old and coefficient estimates remain robust.

[10] 98% of Egyptian migrants, in our estimation sample, migrated to other Arab countries during the last migration episode.

The second methodological issue is the non-random selection into temporary migration. We hence provide additional selection-corrected estimations. Since, unobserved differences between treatment and control groups, returnees and stayers, respectively, might be plaguing our standard Probit and Ordered Probit results; we also estimate the following Difference-in-Differences specification:

$$Y_{it} = \beta_0 + \beta_1 Returnee_i + \beta_2 2010_t + \beta_3 Returnee_i \times 2010_t + \varepsilon_{it} \quad (2)$$

Y_{it} is the individual's occupation at time t, split into six distinct occupational categories according to the one digit ISCO-88 classification, not working, agriculture, low-skilled blue collar, high-skilled blue collar, low-skilled white collar and high-skilled white collar. $Returnee_i$ is a dummy variable equal one for the sample returnees and zero, for the sample of stayers, it captures differences between the treatment and control groups, before the treatment. As we mentioned earlier, the treatment group is the sample of return migrants, all males who had both worked abroad for more than 6 months and had his final return is Egypt before 2010, or males who had a job abroad before 2010 considering retrospective data on job mobility. The control group is the sample of stayers, all males who never had any migration experience abroad. 2010_t is a dummy variable equal one for the second time period and equal zero for the 1980s. The time dummy captures aggregate factors that would cause changes in the individual's occupational choice even in the absence of the treatment. The coefficient of interest is β_3, it multiplies the interaction term between the treatment variable and the time period dummy. The difference-in-differences estimator is the difference in average occupational ranking among the returnees between the follow-up and baseline periods, minus the difference in occupational ranking among the stayers for the same periods. It differences out all unobserved time-invariant differences between the treatment and control groups.

$$\hat{\beta}_3 = (\bar{Y}^{returnees,t=1} - \bar{Y}^{returnees,t=0}) - (\bar{Y}^{stayers,t=1} - \bar{Y}^{stayers,t=0})$$

We also employ a Difference-in-Differences matching technique that controls for the observable characteristics as well as the unobserved time-invariant heterogeneity. First, we estimate the propensity score or the individual's probability of receiving the treatment, given the same set of covariates presented earlier, using a Logit model. It enables us to pair return migrants with stayers who have similar values of the propensity score. Hence, the two groups are similar, after the fact, in terms of observable characteristics, apart from the treatment. Second, we combine the Propensity score matching technique with a standard Difference-in-Differences specification, based on the matched sample of returnees and stayers.

4. Results
4.1 Estimating the effect of return migration on upward occupational mobility

In Table 5, we estimate Equation 1 using Probit and Ordered Probit models (Panel A) and IV-Probit and IV-ordered Probit models (Panel B), while conditioning on individual, household controls, as well as, the first job characteristics. We find a positive and statistically significant effect of return migration on upward occupational mobility for males who first entered the labor market in the 1980s, in both panels. In Panel A, being a return migrant increases the probability of upward occupational mobility by about 20 percentage points. Controlling for the potential non-randomness of migration and selection bias using historic oil prices as an instrument for return migration in Panel B, results in coefficient estimates about four times greater than the standard Probit Model. Results from the ordered Probit and the IV-ordered Probit models also support this finding. Standard Probit Model results present a lower bound of the selection-corrected estimates.

In Table 6, we also estimate the effect of return migration on occupational mobility, by disentangling the effect conditional on the country of destination of Egyptian returnees during the last migration episode, namely oil and non-oil countries. As we mentioned earlier, Egyptian migration is mostly towards Arab oil producing countries, hence, the sample size of Egyptians heading to non-oil countries is much smaller. Using a Probit model, return migration from oil countries or non-oil countries increases the probability of upward occupational mobility by 20 percentage points. Relying on the Ordered Probit model, the coefficient estimate of return migration from non-oil countries is greater than the coefficient estimate of return migration from oil countries.

In Table 7, we provide additional selection-corrected estimates. We estimate a Difference-in-differences specification, by considering return migration unconditional on the country of destination of Egyptian migrants (Panel A), return migration from oil countries during the last migration episode (Panel B) and return migration from non-oil countries during the last migration episode (Panel C). Difference-in-differences estimators are positive and statistically significant. Unconditional on the country of destination of Egyptian migrants, return migration increases the probability of upward occupational mobility. Interestingly, conditioning on the destination country during the last migration episode, the magnitude of the estimated coefficient for non-oil countries is greater than the estimated difference-in-differences estimator for oil countries. On average, returnees from the 1980s cohort are found to be more likely to climb the occupational ladder in Egypt, by about two categories. Results are qualitatively very similar in Table 8, when we use Difference-in-Differences matching estimator.

It is important, though, to note that since we are controlling for selection into temporary migration but not for the double selection of emigration and return, and based on Wahba (2015), if migrants are positively selected relative to non-migrants and return migrants are negatively selected amongst migrants, our estimates would be an over-estimate of the impact of migration

on occupational upgrade. Indeed, the OLS estimates provide a lower bound whilst the IV-Probit and Difference in differences estimators would provide an upper bound.

4.2 Mechanisms

Our results are driven by the subsample of Egyptian returnees who had their first job abroad in comparison with returnees who had their first job in Egypt. In Table 9 and Table 10, we construct transitional matrices for the two groups of returnees. In Table 9, we investigate the employment transition for returnees who had their first job Egypt by looking at the employment transition between the first occupation in the 1980s in Egypt and the occupation in the last migration episode and subsequently, the employment transition between the occupation in the last migration episode and the occupation in Egypt upon return in 2010. We find that 28% of the returnees witness an upward mobility between the first occupation in Egypt and the occupation during the last migration episode, whereas about 16% downgrade while being abroad compared to their first occupation in Egypt. Following the occupational mobility of the same subsample of returnees between the occupation during the last migration episode and the current occupation in Egypt, we find that 36% of the returnees witness an upward mobility upon return, whereas, about 12% witness some sort of downgrading.

By contrast, considering the subsample of returnees who had their first job abroad, we investigate in Table 10, the occupational mobility between the first occupation abroad and the current occupation upon return. Interestingly, on the one hand, we find that 65% of those returnees witness an upward mobility compared to their first occupation abroad. On the other hand, only 9% witness some sort of downgrading when we compare the first occupation abroad to the current occupation in Egypt in 2010. To further tackle differences between the two groups of returnees, those who had their first job in Egypt and those who had their first job abroad, in the 1980s cohort, we present descriptive statistics in Table A1, Table A2 and Table A3 in the Appendix. In Table A1, returnees who had their first job abroad are about 3 years older when they had their first job and they are also less likely to belong to the lowest two educational attainment categories: no educational degree or primary or preparatory degree. They are also found to be less likely to come from Cairo or Rural Upper Egypt, however, they are found to be more likely to come from Rural Lower Egypt. Regarding their first job characteristics, in Table A2, returnees in the 1980s cohort who had their first job abroad are found to be more likely to work in the private sector compared to the public sector. They are much less likely to work in agricultural activities compared to returnees who had their first job in Egypt, who are about 22 percentage points more likely to have an agricultural activity for their first job. Returnees who had their first job abroad were found to be more likely to work in activities such as manufacturing, mining and quarrying; and wholesale and retail trade compared to returnees who had their first job in Egypt. Returnees who had their first job abroad were also better off in terms

of having a work contract; however, they were less likely to have social insurance compared to returnees who had their first job in Egypt.

Upon return, we find that returnees who had their first job abroad are more likely to work in the government/public sector compared to the subsample of returnees who had their first job abroad. They are also found to be significantly different in terms of current job activity compared to the sample of returnees who had their first job in Egypt. The former are much less likely to work in agricultural activities and more likely to work in construction. Upon return, the incidence of work contract and social security is significantly greater among the returnees who had their first job in Egypt compared to returnees who had their first job abroad.

According to Table A3, returnees who had their first job abroad are better off in terms of their first occupation abroad compared to the other returnees who had their first job in Egypt and for their current occupation upon return. Regarding their first job, they are significantly less likely to work in the agricultural sector but more likely to have a white-collar occupation, both low and high skilled. Upon return, the same figures persist. In terms of mobility indicators, the degree of mobility is much greater, the incidence of upward mobility is 28 percentage points greater and the degree of immobility is also significantly less pronounced compared to the returnees who had their first job in Egypt.

We have also exploited the heterogeneity of the effects by educational attainment, for the 1980s cohort in Panel A and for the 1990s cohort in Panel B, unconditional on the country of destination of Egyptian migrants using a standard linear probability model for upward occupational mobility and IV regression to instrument for return migration from Arab countries (Table 16) and conditional on the country of destination of Egyptian migrants during the last migration episode using a linear probability model (Table 17). Our results suggest that only males who belong to the upper end of the educational distribution are likely to witness upward occupational mobility for both in the 1980s cohort and in the 1990s cohort. Those individuals have either secondary or above secondary education whereas our results are not significant for the subsample of individuals who have either no educational degree or primary and preparatory education. This is in line with our results presented earlier, as returnees who have their first job abroad are also found to be on average more educated compared to returnees who had their first job in Egypt.

4.3 Robustness checks

We also check the robustness of our results using the 1990s cohort.[11] In this section, we focus on males who had their first job in the 1990s[12], were aged at least 15 years old at first job and had a

---

[11] In Tables A4, A5 and A6 in the Appendix, we provide descriptive statistics for the 1990s cohort regarding individuals' characteristics, first and current job characteristics, occupations and occupational mobility indicators.
[12] The years considered for the 1990s cohort are from the 1990 to 1999, included.

current job in Egypt in 2010. In Table 11, we also estimate the effect of return migration on occupational mobility for the 1990s cohort. In Panel A, we employ a standard Probit and Ordered-Probit Models, whereas, in Panel B, we present IV-Probit and IV-ordered Probit models, using historical oil prices. In line with our previous findings, we find the return migration increases the probability of upward occupational mobility by 13 percentage points using a standard Probit Model. Relying on our IV specification, the magnitude of the estimated coefficient is more than two times greater. Disentangling the effect by country of destination, we find that migration experience in non-oil countries have a greater impact on upward occupational mobility. According to the standard Probit Model, returnees from non-oil countries are 22 percentage points more likely to witness upward mobility, compared to 9 percentage points for returnees from oil countries. Table 13 and Table 14 also provide additional robustness checks relying on a Difference-in-Differences and a Difference-in-Differences matching techniques. Our results are robust to the different specifications and we find suggestive evidence of a greater impact of migration experience in non-oil countries on upward occupational mobility.

In Tables A7, A8, A9 and A10 in the Appendix, we perform additional robustness checks for the 1980s cohort where we consider the occupational mobility between the first job (whether the first job is in Egypt or abroad) and the current job in Egypt. Our results are still robust and we find suggestive evidence of upward mobility for return migrants. In Table A7, we find that return migration increases the probability of upward occupational mobility by about 9 percentage points. Controlling for the potential non-randomness of migration and selection bias using historic oil prices as an instrument for return migration in Panel B, results in coefficient estimates about four times greater than the standard Probit Model. In Table A8, we also estimate the effect of return migration on occupational mobility conditional on the country of destination of Egyptian returnees during the last migration episode. Using a Probit model, return migration from oil countries increases the probability of upward occupational mobility by 9 percentage points. The coefficient estimate of return migration from non-oil countries is slightly greater, however, not significant. Relying on the Ordered Probit estimates, the positive effect of return migration on upward occupational mobility is mostly driven by return migration from non-oil countries.

In Table A9, we estimate a Difference-in-differences specification. The Difference-in-differences estimators are positive and statistically significant. The magnitude of the estimated coefficient is very similar to our IV-estimates presented in Table A7. Unconditional on the country of destination of Egyptian migrants, return migration increases the probability of upward occupational mobility. Interestingly, conditioning on the destination country during the last migration episode, the magnitude of the estimated coefficient for non-oil countries is about two times greater than the estimated difference-in-differences estimator for oil countries. Results are qualitatively very similar in Table A10, when we use Difference-in-Differences matching estimator.

We also employ a standard linear probability model for upward occupational mobility instead of a Probit model and a standard IV regression instead of IV-Probit model in Table A11 for the

1980s cohort (Panel A) and for the 1990s cohort (Panel B) unconditional on the country of destination and a standard linear probability model to estimate the effect of return migration on upward occupational mobility, conditional on the country of destination of Egyptian migrants during the last migration episode in Table A12 for the 1980s cohort (Panel A) and for the 1990s cohort (Panel B). Our results are robust and qualitatively very similar.

5. Conclusion

The impact of overseas migration experience on skill acquisition of migrants is very sparse. Previous studies have focused on measuring the wage premium of returnees versus stayers. This paper studies the extent to which temporary overseas migration enables returnees to climb the occupational ladder. We use the Egypt Labor Market Panel Survey 2012 (ELMPS 12), a nationally representative household survey with very rich information on labor market characteristics and dynamics, including retrospective data on international migration and individual experiences before, during and after migration. We estimate the occupational mobility of returnees relative to non-migrants focusing on cohort groups who entered the labor market in the same decade, to control for initial labor market conditions, and compare individual occupational mobility based on the first jobs relative to in 2010. We rely on both instrumental variable approach and a Difference-in-Differences, as well as Difference-in-Differences matching techniques to control for the endogeneity and selection into migration.

The findings suggest that return migration increases the probability of upward occupational mobility. Furthermore, the impact of migration experience in non-oil countries is about two times greater than the estimated coefficient for oil countries. Overall, the results highlight the role played by migration in human capital accumulation of migrants.

Table 1: Descriptive statistics on the sample of Stayers versus Returnees in the 1980s cohort

	Stayers			Returnees			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	N	Mean	Std. Dev.	N	Mean	Std. Dev.	Difference
Individual characteristics							
Age in 1980	956	15.040	4.937	304	16.420	4.354	-1.388***
Age at first job	956	19.981	3.929	304	20.655	3.474	-0.673***
Ever-married in 2010	956	0.976	0.153	304	0.987	0.114	-0.011
No educational degree	956	0.155	0.362	304	0.079	0.270	0.076***
Primary or preparatory education	956	0.169	0.375	304	0.092	0.290	0.077***
Secondary education	956	0.392	0.489	304	0.569	0.496	-0.177***
Above secondary education	956	0.283	0.451	304	0.260	0.439	0.023
Geographical region in 1980							
Cairo	956	0.111	0.314	304	0.063	0.242	0.048**
Alexandria and Canal cities	956	0.107	0.309	304	0.030	0.170	0.077***
Urban Lower Egypt	956	0.130	0.336	304	0.178	0.383	-0.048**
Urban Upper Egypt	956	0.199	0.399	304	0.148	0.356	0.051**
Rural Lower Egypt	956	0.244	0.430	304	0.375	0.485	-0.131***
Rural Upper Egypt	956	0.210	0.408	304	0.207	0.406	0.003
Parental background - Mother's level of education							
Illiterate	956	0.817	0.387	304	0.829	0.377	-0.012
Literate	956	0.101	0.302	304	0.122	0.327	-0.020
Less than intermediate	956	0.051	0.221	304	0.033	0.179	0.018
Intermediate and above	956	0.025	0.157	304	0.016	0.127	0.009
University and above	956	0.005	0.072	304	0.000	0.000	0.005
Parental background - Father's level of education							
Illiterate	956	0.558	0.497	304	0.539	0.499	0.018
Literate	956	0.199	0.399	304	0.257	0.437	-0.058
Less than intermediate	956	0.119	0.324	304	0.109	0.312	0.011
Intermediate and above	956	0.081	0.272	304	0.072	0.260	0.008
University and above	956	0.044	0.205	304	0.023	0.150	0.021

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Notes. All reported descriptive statistics refer to sample individuals' characteristics in the 1980s cohort. Individuals included in the sample are males, had a first job in the 1980s, are aged at least 15 years old at first job and are aged less than 65 years old in 2010. The number of observations, mean and standard deviation are reported for the subsamples of stayers and returnees, respectively. Difference in means between the two groups is reported. A t-test is performed to test whether the difference in means between the two groups is statistically significant. A stayer is defined as a male who never had any migration experience abroad, whereas, a returnee is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility. Males included in the estimation sample also have a current job in Egypt in 2010. Reported individual level characteristics are age in 1980, age at first job, a dummy for ever-married status in 2010 and four dummies for educational attainment: no education either illiterate or literate without any diploma, primary and preparatory education, secondary education either general or vocational and above secondary education, either post-secondary institute or university education and above. Descriptive statistics also include six dummies for individuals' geographical regions in 1980: Cairo, Alexandria and Canal Cities, Urban Lower Egypt, Urban Upper Egypt, Rural Lower Egypt and Rural Upper Egypt. Mother's and father's level of education are also reported, five dummies each: illiterate, literate without any diploma (read and write), less than intermediate, intermediate and above intermediate, university and post-graduate.

Table 2: First and current job characteristics for Stayers and Returnees in the 1980s cohort

	Stayers			Returnees		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	N	Mean	Std. Dev.	N	Mean	Std. Dev.	Difference
First job characteristics in the 1980s							
Sector of employment							
Government	956	0.279	0.449	304	0.151	0.359	0.128***
Public	956	0.04	0.195	304	0.0263	0.160	0.013
Private	956	0.681	0.466	304	0.822	0.383	-0.141***
Economic activity							
Agriculture, Forestry, Fishing	956	0.204	0.403	304	0.197	0.399	0.007
Manufacturing, Mining, Quarrying	956	0.166	0.373	304	0.145	0.352	0.022
Construction	956	0.134	0.341	304	0.247	0.432	-0.113***
Wholesale, retail trade, transportation and other activities	956	0.215	0.411	304	0.230	0.422	-0.015
Professional, scientific, technical and administrative activities	956	0.017	0.128	304	0.033	0.179	-0.016*
Other activities	956	0.264	0.441	304	0.148	0.356	0.116***
Incidence of work contract and social security							
Work contract	956	0.364	0.481	304	0.355	0.479	0.009
Indicator for missing work contract	956	0.315	0.465	304	0.234	0.424	0.081***
Social security	956	0.361	0.481	304	0.184	0.388	0.177***
Current job characteristics in 2010							
Sector of employment							
Government	956	0.408	0.492	304	0.500	0.501	-0.092***
Public	956	0.062	0.241	304	0.043	0.203	0.019
Private	956	0.531	0.499	304	0.457	0.499	0.074**
Economic activity							
Agriculture, Forestry, Fishing	956	0.111	0.314	304	0.095	0.294	0.015
Manufacturing, Mining, Quarrying	956	0.157	0.364	304	0.122	0.327	0.035
Construction	956	0.097	0.296	304	0.072	0.260	0.025
Wholesale, retail trade, transportation and other activities	956	0.229	0.420	304	0.214	0.411	0.015
Professional, scientific, technical and administrative activities	956	0.017	0.128	304	0.026	0.160	-0.010
Other activities	956	0.389	0.488	304	0.470	0.500	-0.081**
Incidence of work contract and social security							
Work contract	956	0.533	0.499	304	0.576	0.495	-0.042
Indicator for missing work contract	956	0.213	0.013	304	0.253	0.025	-0.040
Social security	956	0.601	0.490	304	0.658	0.475	-0.056*

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Notes. All reported descriptive statistics refer to sample individuals' characteristics in the 1980s cohort. Individuals included in the sample are males, had a first job in the 1980s, are aged at least 15 years old at first job and are aged less than 65 years old in 2010. The number of observations, mean and standard deviation are reported for the subsamples of stayers and returnees, respectively. Difference in means between the two groups is reported. A t-test is performed to test whether the difference in means between the two groups is statistically significant. A stayer is defined as a male who never had any migration experience abroad, whereas, a returnee is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility. Males included in the estimation sample also have a current job in Egypt in 2010. First and current job characteristics cover the following: sectors of employment, economic activities and the incidence of work contract and social security and refer to individual's first job in the 1980s and current job in 2010. Sectors of employment are the following three dummies: government, public enterprise and private enterprise. The latter category includes private enterprises, investment/joint venture, international enterprises, non-profit or non-governmental organizations or other including co-operatives. Economic activities are defined according to ISIC-4 classification and include the following dummies: a dummy variable for agriculture, forestry and fishing, a dummy variable for manufacturing, mining, quarrying and other manufacturing activities, a dummy variable for construction, a dummy variable for wholesale, retail, transportation and storage, accommodation and food services, a dummy variable for professional, scientific, technical, administrative and support service activities and a dummy variable for other activities that include information and communication, finance and insurance services, real estate activities, public administration and defense, education, human health and social work. Job characteristics also include two dummies for having a work contract and social security. Indicator for missing work contract is a dummy variable equal one for observations with missing values for work contract.

Table 3: First, current occupations and occupational mobility indicators for Stayers and Returnees in the 1980s cohort

	Stayers			Returnees			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	N	Mean	Std. Dev.	N	Mean	Std. Dev.	Difference
First occupation in the 1980s							
Agriculture	956	0.203	0.402	304	0.197	0.399	0.006
Low-skilled blue collar	956	0.122	0.328	304	0.095	0.294	0.027
High-skilled blue collar	956	0.204	0.403	304	0.313	0.464	-0.109***
Low-skilled white collar	956	0.129	0.335	304	0.194	0.396	-0.065***
High-skilled white collar	956	0.342	0.475	304	0.201	0.401	0.141
Current occupation in 2010							
Agriculture	956	0.107	0.309	304	0.0954	0.294	0.011
Low-skilled blue collar	956	0.165	0.372	304	0.132	0.339	0.034
High-skilled blue collar	956	0.143	0.351	304	0.105	0.307	0.038*
Low-skilled white collar	956	0.118	0.323	304	0.118	0.324	0.000
High-skilled white collar	956	0.467	0.499	304	0.549	0.498	-0.083**
Occupational mobility indicators							
Degree of mobility	956	0.388	1.173	304	0.789	1.467	-0.401***
Upward mobility	956	0.251	0.434	304	0.464	0.500	-0.213***
Downward mobility	956	0.080	0.271	304	0.109	0.312	-0.029
Immobility	956	0.669	0.471	304	0.428	0.496	0.242***

*** p<0.01, ** p<0.05, * p<0.1

Notes. All reported descriptive statistics refer to sample individuals' characteristics in the 1980s cohort. Individuals included in the sample are males, had a first job in the 1980s, are aged at least 15 years old at first job and are aged less than 65 years old in 2010. The number of observations, mean and standard deviation are reported for the subsamples of stayers and returnees, respectively. Difference in means between the two groups is reported. A t-test is performed to test whether the difference in means between the two groups is statistically significant. A stayer is defined as a male who never had any migration experience abroad, whereas, a returnee is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility. Males included in the estimation sample also have a current job in Egypt in 2010. First and current jobs' occupations refer to individual's first occupation in the 1980s and current occupation in 2010. Occupations are defined according to ISCO-88, one digit classification. The five occupational dummies are the following: agriculture refers to skilled agricultural, forestry and fishery workers, low-skilled blue collar refers to plant and machine operators, assemblers and elementary occupations, high-skilled blue collar refers to craft and related trades workers, low-skilled white collar refers to clerical support workers and service and sales workers and high-skilled white collar refers to managers, professionals, technician and associate professionals. Armed forces occupations are eliminated. These five occupational categories are ranked one to five, respectively. Degree of mobility is an ordered categorical variable that ranges between -3 and 4 and is computed as the difference between individual's current occupation in 2010 and individual's first occupation in 1980s. Upward mobility is a dummy variable that takes the value one if the individual's occupation in 2010 is ranked higher compared to his first job occupation in the 1980s and zero otherwise, either for individuals who witnessed downward mobility or stayed within the same occupational category. Downward mobility is a dummy variable that takes the value one if the individual's occupation in 2010 is ranked lower compared to his first job in the 1980s and zero otherwise, either for individuals who witness upward mobility or stayed within the same occupational category. Immobility is a dummy variable equal to one if the individual stayed within the same occupational category in the two years considered and zero otherwise, if the individual either witnessed upward or downward mobility.

Table 4: Employment transition Matrices for Stayers versus Returnees in the 1980s cohort

First occupation	Current occupation					
	Agriculture	Low skilled blue collar	High skilled blue collar	Low skilled white collar	High skilled white collar	Total
Panel A: Stayers (N=956)						
Agriculture	9.937	3.138	1.883	2.197	3.138	20.293
Low skilled blue collar	0.314	7.950	0.941	0.628	2.406	12.238
High skilled blue collar	0.314	3.347	10.146	1.883	4.707	20.397
Low skilled white collar	0.105	1.569	0.314	6.695	4.184	12.866
High skilled white collar	0.000	0.523	1.046	0.418	32.218	34.205
Total	10.669	16.527	14.331	11.820	46.653	100.000
Panel B: Returnees (N=304)						
Agriculture	8.224	2.303	0.329	1.974	6.908	19.737
Low skilled blue collar	0.000	2.961	0.329	1.645	4.605	9.539
High skilled blue collar	0.658	5.592	8.882	3.289	12.829	31.250
Low skilled white collar	0.658	1.316	0.987	4.276	12.171	19.408
High skilled white collar	0.000	0.987	0.658	0.000	18.421	20.066
Total	9.539	13.158	11.184	11.184	54.934	100.000

Notes. Individuals included in the sample are males, had a first job in the 1980s, are aged at least 15 years old at first job and are aged less than 65 years old in 2010. The table represents employment transition matrices for stayers (Panel A) and returnees (Panel B) and is reported in percentage terms. A stayer is defined as a male who never had any migration experience abroad, whereas, a returnee is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility. Males included in the estimation sample also have a current job in Egypt in 2010. First and current jobs' occupations refer to individual's first occupation in the 1980s and current occupation in 2010. Occupations are defined according to ISCO-88, one digit classification. The five occupational dummies are the following: agriculture refers to skilled agricultural, forestry and fishery workers, low-skilled blue collar refers to plant and machine operators, assemblers and elementary occupations, high-skilled blue collar refers to craft and related trades workers, low-skilled white collar refers to clerical support workers and service and sales workers and high-skilled white collar refers to managers, professionals, technician and associate professionals. Armed forces occupations are eliminated. These five occupational categories are ranked one to five, respectively. The diagonal cells represent the percentage of individuals who stayed in the same occupational category between the first job in the 1980s and the current job in the 1990s. The cells above the diagonal represent the percentage of individuals who witnessed upward mobility, whereas, the cells below the diagonal represent the percentage of individuals who witnessed downward mobility.

Table 5: Estimating the effect of return migration on occupational mobility for the 1980s cohort

Panel A: Return migration unconditional on the country of destination

	Probit Model	Ordered Probit Model								
VARIABLES	Upward mobility	(-3)	(-2)	(-1)	(0)	(1)	(2)	(3)	(4)	(5)
Return Migrant	0.196***	-0.005***	-0.014***	-0.028***	-0.200***	0.042***	0.058***	0.049***	0.053***	0.045***
	(0.038)	(0.002)	(0.003)	(0.005)	(0.032)	(0.006)	(0.009)	(0.009)	(0.010)	(0.011)
Observations	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260

Panel B: IV approach using historical oil prices

Return Migrant	0.799***	-0.025***	-0.035***	-0.047***	-0.122***	0.038***	0.044***	0.038***	0.045***	0.063***
	(0.113)	(0.006)	(0.007)	(0.008)	(0.014)	(0.005)	(0.006)	(0.006)	(0.007)	(0.009)
Observations	1,239	1,239	1,239	1,239	1,239	1,239	1,239	1,239	1,239	1,239
Individual Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Household Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
First job characteristics	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Notes. Marginal effects are reported for Probit and ordered probit models (Panel A) and for IV-Probit and IV-ordered Probit (Panel B), where inflation adjusted historical oil prices (in US dollars) are used to instrument return migration from Arab countries. The average age for males at the time of migration for the last episode is 26 years old, for the estimation sample. The inflation adjusted oil prices are matched with the year when each individual was aged 26 years old. Individuals included in the sample are males, had a first job in the 1980s, are aged at least 15 years old at first job and are aged less than 65 years old in 2010. A return migrant is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility, whereas, a stayer is defined as a male who never had any migration experience abroad. Males included in the estimation sample also have a current job in Egypt in 2010. Upward mobility is a dummy variable that takes the value one if the individual's occupation in 2010 is ranked higher compared to his first job occupation in the 1980s and zero otherwise, either for individuals who witnessed downward mobility or stayed within the same occupational category. For the ordered Probit model, the dependent variable is an ordered categorical variable that ranges between -3 and 5 and is computed as the difference between individual's current occupation in 2010 and individual's first occupation in 1980s. Regressions include individual, household controls and first job characteristics. Individual controls include the following: age in 1980 and its squared term, three dummies for individual's level of educational attainment: primary and preparatory education, secondary education either general or vocational and above secondary education, either post-secondary institute or university education and above; the reference category is no educational degree either illiterate or literate without any diploma and five dummies for individual's geographical regions in 1980: Cairo, Alexandria and Canal Cities, Urban Lower Egypt, Urban Upper Egypt and Rural Lower Egypt; the reference category is Rural Upper Egypt. Household level characteristics include mother's and father's level of education, four dummies each: literate without any diploma (read and write), less than intermediate, intermediate and above intermediate, university and post-graduate; the reference category is illiterate. First job characteristics include: sectors of employment, economic activities and the incidence of work contract and social security in the 1980s. Sectors of employment are the following two dummies: government and public enterprises. The reference category is private enterprises and it includes private enterprises, investment/joint venture, international enterprises, non-profit or non-governmental organizations or other including co-operatives. Economic activities are defined according to ISIC-4 classification and include the following five dummies: a dummy variable for agriculture, forestry and fishing, a dummy variable for manufacturing, mining, quarrying and other manufacturing activities, a dummy variable for construction, a dummy variable for wholesale, retail, transportation and storage, accommodation and food services and a dummy variable for professional, scientific, technical, administrative and support service activities. The reference category is a dummy variable for other activities that include information and communication, finance and insurance services, real estate activities, public administration and defense, education, human health and social work. First job characteristics also include a dummy variable for having a work contract, a dummy variable for having social security and dummy variable indicator for missing observations in work contract.

Table 6: Estimating the effect of return migration on occupational mobility, conditional on the country of destination of returnees for the 1980s cohort

	Probit Model	Ordered Probit Model								
VARIABLES	Upward mobility	(-3)	(-2)	(-1)	(0)	(1)	(2)	(3)	(4)	(5)
Return migrant (oil country)	0.203***	-0.005***	-0.013***	-0.027***	-0.212***	0.041***	0.058***	0.052***	0.056***	0.049***
	(0.041)	(0.002)	(0.003)	(0.004)	(0.036)	(0.005)	(0.009)	(0.010)	(0.012)	(0.012)
Return migrant (non-oil country)	0.203**	-0.004**	-0.011***	-0.025***	-0.294***	0.031***	0.064***	0.067***	0.083***	0.089**
	(0.088)	(0.001)	(0.003)	(0.004)	(0.071)	(0.007)	(0.009)	(0.015)	(0.024)	(0.036)
Observations	1,246	1,246	1,246	1,246	1,246	1,246	1,246	1,246	1,246	1,246
Individual Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Household Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
First job characteristics	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Notes. Marginal effects are reported for Probit and ordered probit models. Individuals included in the sample are males, had a first job in the 1980s, are aged at least 15 years old at first job and are aged less than 65 years old in 2010. A return migrant is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility, whereas, a stayer is defined as a male who never had any migration experience abroad. Males included in the estimation sample also have a current job in Egypt in 2010. Return migration experience is split into return migration from Oil countries versus Non-Oil countries, considering returnees' destination during the last migration episode. Upward mobility is a dummy variable that takes the value one if the individual's occupation in 2010 is ranked higher compared to his first job occupation in the 1980s and zero otherwise, either for individuals who witnessed downward mobility or stayed within the same occupational category. For the ordered Probit model, the dependent variable is an ordered categorical variable that ranges between -3 and 5 and is computed as the difference between individual's current occupation in 2010 and individual's first occupation in 1980s. Regressions include individual, household controls and first job characteristics. Individual controls include the following: age in 1980 and its squared term, three dummies for individual's level of educational attainment: primary and preparatory education, secondary education either general or vocational and above secondary education, either post-secondary institute or university education and above; the reference category is no educational degree either illiterate or literate without any diploma and five dummies for individual's geographical regions in 1980: Cairo, Alexandria and Canal Cities, Urban Lower Egypt, Urban Upper Egypt and Rural Lower Egypt; the reference category is Rural Upper Egypt. Household level characteristics include mother's and father's level of education, four dummies each: literate without any diploma (read and write), less than intermediate, intermediate and above intermediate, university and post-graduate; the reference category is illiterate. First job characteristics include: sectors of employment, economic activities and the incidence of work contract and social security in the 1980s. Sectors of employment are the following two dummies: government and public enterprises. The reference category is private enterprises and it includes private enterprises, investment/joint venture, international enterprises, non-profit or non-governmental organizations or other including co-operatives. Economic activities are defined according to ISIC-4 classification and include the following five dummies: a dummy variable for agriculture, forestry and fishing, a dummy variable for manufacturing, mining, quarrying and other manufacturing activities, a dummy variable for construction, a dummy variable for wholesale, retail, transportation and storage, accommodation and food services and a dummy variable for professional, scientific, technical, administrative and support service activities. The reference category is a dummy variable for other activities that include information and communication, finance and insurance services, real estate activities, public administration and defense, education, human health and social work. First job characteristics also include a dummy variable for having a work contract, a dummy variable for having social security and dummy variable indicator for missing observations in work contract.

Table 7: Difference-in-Differences Approach for the 1980s cohort

Panel A: Treatment is return migration

Sample of Returnees=304, Sample of Stayers=956

	Before the treatment (t=0)	After the treatment (t=1)	Difference
Returnees	2.888	4.895	2.007***
(Treatment group)	(0.106)	(0.082)	(0.134)
Stayers	4.285	4.673	0.388***
(Control group)	(0.050)	(0.047)	(0.068)
Difference	-1.396***	0.222**	1.619***
	(0.106)	(0.096)	(0.143)

Panel B: Treatment is return migration (Oil Countries)

Sample of Returnees=248, Sample of Stayers=956

	Before the treatment (t=0)	After the treatment (t=1)	Difference
Returnees	2.867	4.895	2.028***
(Treatment group)	(0.119)	(0.090)	(0.149)
Stayers	4.285	4.673	0.388***
(Control group)	(0.050)	(0.047)	(0.068)
Difference	-1.418***	0.223**	1.640***
	(0.115)	(0.103)	(0.154)

Panel C: Treatment is return migration (Non-Oil Countries)

Sample of Returnees=42, Sample of Stayers=956

	Before the treatment (t=0)	After the treatment (t=1)	Difference
Returnees	2.571	4.976	2.405***
(Treatment group)	(0.266)	(0.227)	(0.305)
Stayers	4.285	4.673	0.388***
(Control group)	(0.050)	(0.047)	(0.068)
Difference	-1.713***	0.304	2.017***
	(0.243)	(0.230)	(0.335)

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Difference-in-Differences specification is estimated. Individuals included in the sample are males, had a first job in the 1980s, are aged at least 15 years old at first job and are aged less than 65 years old in 2010. A return migrant is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility, whereas, a stayer is defined as a male who never had any migration experience abroad. Males included in the estimation sample also have a current job in Egypt in 2010. In Panel A, treatment is considered as return migration unconditional on the destination country. In Panel B and C, treatment is considered as return migration from Oil countries versus Non-Oil countries, respectively, considering returnees' destination during the last migration episode. Before the treatment refers to the first job in the 1980s and after the treatment refers to the current occupation in 2010. The dependent variable is the individual's occupation. It takes values from 1 to 6 for the following categories respectively: not working, agriculture, low-skilled blue collar, high-skilled blue collar, low-skilled white collar and high-skilled white collar. Agriculture refers to skilled agricultural, forestry and fishery workers, low-skilled blue collar refers to plant and machine operators, assemblers and elementary occupations, high-skilled blue collar refers to craft and related trades workers, low-skilled white collar refers to clerical support workers and service and sales workers and high-skilled white collar refers to managers, professionals, technicians and associate professionals. Armed forces occupations are eliminated.

Table 8: Propensity Score Matching combined with Difference-in-Differences Approach for the 1980s cohort

Panel A: Treatment is return migration

Sample of Returnees=292, Sample of Stayers=951

	Before the treatment (t=0)	After the treatment (t=1)	Difference
Returnees	2.966	4.880	1.914***
(Treatment group)	(0.108)	(0.084)	(0.137)
Stayers	4.284	4.668	0.384***
(Control group)	(0.050)	(0.047)	(0.069)
Difference	-1.318***	0.212**	1.531***
	(0.108)	(0.097)	(0.145)

Panel B: Treatment is return migration (Oil Countries)

Sample of Returnees=237, Sample of Stayers=951

	Before the treatment (t=0)	After the treatment (t=1)	Difference
Returnees	2.954	4.865	1.911***
(Treatment group)	(0.122)	(0.092)	(0.153)
Stayers	4.284	4.668	0.384***
(Control group)	(0.050)	(0.047)	(0.069)
Difference	-1.330***	0.197*	1.526***
	(0.117)	(0.105)	(0.157)

Panel C: Treatment is return migration (Non-Oil Countries)

Sample of Returnees=40, Sample of Stayers=913

	Before the treatment (t=0)	After the treatment (t=1)	Difference
Returnees	2.650	5.000	2.350***
(Treatment group)	(0.274)	(0.232)	(0.359)
Stayers	4.234	4.628	0.393***
(Control group)	(0.051)	(0.048)	(0.070)
Difference	-1.584***	0.372	1.957***
	(0.249)	(0.237)	(0.344)

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Propensity score matching, using the nearest neighbor estimator combined with a Difference-in-Differences Specification is estimated. Individuals included in the sample are males, had a first job in the 1980s, are aged at least 15 years old at first job and are aged less than 65 years old in 2010. A return migrant is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility, whereas, a stayer is defined as a male who never had any migration experience abroad. Males included in the estimation sample also have a current job in Egypt in 2010. In Panel A, treatment is considered as return migration unconditional on the destination country. In Panel B and C, treatment is considered as return migration from Oil countries versus Non-Oil countries, respectively, considering returnees' destination during the last migration episode. Before the treatment refers to the first job in the 1980s and after the treatment refers to the current occupation in 2010. The dependent variable is the individual's occupation. It takes values from 1 to 6 for the following categories respectively: not working, agriculture, low-skilled blue collar, high-skilled blue collar, low-skilled white collar and high-skilled white collar. Agriculture refers to skilled agricultural, forestry and fishery workers, low-skilled blue collar refers to plant and machine operators, assemblers and elementary occupations, high-skilled blue collar refers to craft and related trades workers, low-skilled white collar refers to clerical support workers and service and sales workers and high-skilled white collar refers to managers, professionals, technicians and associate professionals. Armed forces occupations are eliminated.

Table 9: Employment transition Matrices for Returnees who had their first job in Egypt in the 1980s cohort

Panel A: Transition between the first occupation in Egypt and the occupation in the last migration episode (N=180)

| | Occupation in the last migration episode | | | | | |
Initial occupation	Agriculture	Low skilled blue collar	High skilled blue collar	Low skilled white collar	High skilled white collar	Total
Agriculture	9,444	1,111	13,889	3,889	0,000	28,333
Low skilled blue collar	0,000	3,889	1,111	2,222	0,556	7,778
High skilled blue collar	0,556	2,778	22,222	2,222	1,111	28,889
Low skilled white collar	0,556	1,111	3,889	4,444	1,667	11,667
High skilled white collar	0,556	1,667	1,667	2,778	16,667	23,333
Total	11,111	10,556	42,778	15,556	20,000	100,000

Panel B: Transition between the occupation in the last migration episode and current occupation in Egypt in 2010 (N=180)

| | Current occupation | | | | | |
Occupation abroad	Agriculture	Low skilled blue collar	High skilled blue collar	Low skilled white collar	High skilled white collar	Total
Agriculture	12,778	3,889	0,556	2,778	8,333	11,111
Low skilled blue collar	0,000	3,333	0,556	1,111	2,778	10,556
High skilled blue collar	0,556	6,111	12,222	3,333	6,667	42,778
Low skilled white collar	0,556	0,000	1,667	3,333	6,111	15,556
High skilled white collar	0,556	1,667	0,000	0,556	21,111	20,000
Total	14,444	15,000	15,000	11,111	45,000	100,000

Notes. Individuals included in the sample are male returnees, who had their first job in Egypt in the 1980s. They are aged at least 15 years old at first job and are aged less than 65 years old in 2010. The table represents employment transition matrices between the first occupation in Egypt and the occupation during the last migration episode (Panel A) and between the occupation during the last migration episode and the current occupation in Egypt in 2010 (Panel B) and is reported in percentage terms. A returnee is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility. Males included in the estimation sample also have a current job in Egypt in 2010. First and current jobs' occupations refer to individual's first occupation in the 1980s and current occupation in 2010. Occupations are defined according to ISCO-88, one digit classification. The five occupational dummies are the following: agriculture refers to skilled agricultural, forestry and fishery workers, low-skilled blue collar refers to plant and machine operators, assemblers and elementary occupations, high-skilled blue collar refers to craft and related trades workers, low-skilled white collar refers to clerical support workers and service and sales workers and high-skilled white collar refers to managers, professionals, technician and associate professionals. Armed forces occupations are eliminated. These five occupational categories are ranked one to five, respectively. The diagonal cells represent the percentage of individuals who stayed in the same occupational category between the first job in the 1980s and the current job in the 1990s. The cells above the diagonal represent the percentage of individuals who witnessed upward mobility, whereas, the cells below the diagonal represent the percentage of individuals who witnessed downward mobility.

Table 10: Employment transition Matrices for Returnees who had their first job abroad in the 1980s cohort

Initial occupation abroad	Current occupation					
	Agriculture	Low skilled blue collar	High skilled blue collar	Low skilled white collar	High skilled white collar	Total
Agriculture	0,909	0,000	0,000	0,909	4,545	6,364
Low skilled blue collar	0,000	1,818	0,000	2,727	8,182	12,727
High skilled blue collar	0,000	3,636	4,545	2,727	22,727	33,636
Low skilled white collar	0,909	3,636	0,000	5,455	22,727	32,727
High skilled white collar	0,000	0,000	0,000	0,909	13,636	14,545
Total	1,818	9,091	4,545	12,727	71,818	100,000

Notes. Individuals included in the sample are male returnees, who had their first job abroad in the 1980s. They are aged at least 15 years old at first job and are aged less than 65 years old in 2010. The table represents employment transition matrices between the first occupation abroad and the current occupation in Egypt in 2010 and is reported in percentage terms. A returnee is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility. Males included in the estimation sample also have a current job in Egypt in 2010. First and current jobs' occupations refer to individual's first occupation in the 1980s and current occupation in 2010. Occupations are defined according to ISCO-88, one digit classification. The five occupational dummies are the following: agriculture refers to skilled agricultural, forestry and fishery workers, low-skilled blue collar refers to plant and machine operators, assemblers and elementary occupations, high-skilled blue collar refers to craft and related trades workers, low-skilled white collar refers to clerical support workers and service and sales workers and high-skilled white collar refers to managers, professionals, technician and associate professionals. Armed forces occupations are eliminated. These five occupational categories are ranked one to five, respectively. The diagonal cells represent the percentage of individuals who stayed in the same occupational category between the first job in the 1980s and the current job in the 1990s. The cells above the diagonal represent the percentage of individuals who witnessed upward mobility, whereas, the cells below the diagonal represent the percentage of individuals who witnessed downward mobility.

Table 11: Estimating the effect of return migration on occupational mobility for the 1990s cohort

Panel A: Return migration unconditional on the country of destination

	Probit Model				Ordered Probit Model					
VARIABLES	Upward mobility	(-3)	(-2)	(-1)	(0)	(1)	(2)	(3)	(4)	(5)
Return Migrant	0.131***	-0.004***	-0.020***	-0.031***	-0.147***	0.051***	0.058***	0.048***	0.032***	0.014**
	(0.035)	(0.001)	(0.003)	(0.005)	(0.034)	(0.007)	(0.011)	(0.011)	(0.009)	(0.005)
Observations	2,276	2,276	2,276	2,276	2,276	2,276	2,276	2,276	2,276	2,276

Panel B: IV approach using historical oil prices

Return Migrant	0.304***	-0.008***	-0.026***	-0.032***	-0.060***	0.036***	0.036***	0.028***	0.019***	0.008***
	(0.111)	(0.003)	(0.006)	(0.007)	(0.013)	(0.008)	(0.008)	(0.006)	(0.005)	(0.002)
Observations	2,263	2,263	2,263	2,263	2,263	2,263	2,263	2,263	2,263	2,263
Individual Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Household Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
First job characteristics	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Notes. Marginal effects are reported for Probit and ordered probit models (Panel A) and for IV-Probit and IV-ordered Probit (Panel B), where inflation adjusted historical oil prices (in US dollars) are used to instrument return migration from Arab countries. The average age for males at the time of migration for the last episode is 24 years old, for the estimation sample. The inflation adjusted oil prices are matched with the year when each individual was aged 24 years old. Individuals included in the sample are males, had a first job in the 1990s, are aged at least 15 years old at first job and are aged less than 65 years old in 2010. A return migrant is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility, whereas, a stayer is defined as a male who never had any migration experience abroad. Males included in the estimation sample also have a current job in Egypt in 2010. Upward mobility is a dummy variable that takes the value one if the individual's occupation in 2010 is ranked higher compared to his first job occupation in the 1990s and zero otherwise, either for individuals who witnessed downward mobility or stayed within the same occupational category. For the ordered Probit model, the dependent variable is an ordered categorical variable that ranges between -3 and 5 and is computed as the difference between individual's current occupation in 2010 and individual's first occupation in 1990s. Regressions include individual, household controls and first job characteristics. Individual controls include the following: age in 1990 and its squared term, three dummies for individual's level of educational attainment: primary and preparatory education, secondary education either general or vocational and above secondary education, either post-secondary institute or university education and above; the reference category is no educational degree either illiterate or literate without any diploma and five dummies for individual's geographical regions in 1990: Cairo, Alexandria and Canal Cities, Urban Lower Egypt, Urban Upper Egypt and Rural Lower Egypt; the reference category is Rural Upper Egypt. Household level characteristics include mother's and father's level of education, four dummies each: literate without any diploma (read and write), less than intermediate, intermediate and above intermediate, university and post-graduate; the reference category is illiterate. First job characteristics include: sectors of employment, economic activities and the incidence of work contract and social security in the 1990s. Sectors of employment are the following two dummies: government and public enterprises. The reference category is private enterprises and it includes private enterprises, investment/joint venture, international enterprises, non-profit or non-governmental organizations or other including co-operatives. Economic activities are defined according to ISIC-4 classification and include the following five dummies: a dummy variable for agriculture, forestry and fishing, a dummy variable for manufacturing, mining, quarrying and other manufacturing activities, a dummy variable for construction, a dummy variable for wholesale, retail, transportation and storage, accommodation and food services and a dummy variable for professional, scientific, technical, administrative and support service activities. The reference category is a dummy variable for other activities that include information and communication, finance and insurance services, real estate activities, public administration and defense, education, human health and social work. First job characteristics also include a dummy variable for having a work contract, a dummy variable for having social security and dummy variable indicator for missing observations in work contract.

Table 12 : Estimating the effect of return migration on occupational mobility, conditional on the country of destination of returnees for the 1990s cohort

VARIABLES	Probit Model	Ordered Probit Model								
	Upward mobility	(-3)	(-2)	(-1)	(0)	(1)	(2)	(3)	(4)	(5)
Return Migrant (oil country)	0.089**	-0.004***	-0.016***	-0.025***	-0.107***	0.041***	0.044***	0.035***	0.023**	0.009*
	(0.039)	(0.001)	(0.003)	(0.006)	(0.038)	(0.010)	(0.013)	(0.012)	(0.009)	(0.005)
Return Migrant (non-oil country)	0.225***	-0.005***	-0.023***	-0.039***	-0.294***	0.061***	0.092***	0.093***	0.075***	0.041**
	(0.073)	(0.001)	(0.003)	(0.005)	(0.067)	(0.005)	(0.014)	(0.021)	(0.024)	(0.019)
Observations	2,271	2,271	2,271	2,271	2,271	2,271	2,271	2,271	2,271	2,271
Individual Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Household Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
First job characteristics	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Notes. Marginal effects are reported for Probit and ordered probit models. Individuals included in the sample are males, had a first job in the 1990s, are aged at least 15 years old at first job and are aged less than 65 years old in 2010. A return migrant is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility, whereas, a stayer is defined as a male who never had any migration experience abroad. Males included in the estimation sample also have a current job in Egypt in 2010. Return migration experience is split into return migration from Oil countries versus Non-Oil countries, considering returnees' destination during the last migration episode. Upward mobility is a dummy variable that takes the value one if the individual's occupation in 2010 is ranked higher compared to his first job occupation in the 1990s and zero otherwise, either for individuals who witnessed downward mobility or stayed within the same occupational category. For the ordered Probit model, the dependent variable is an ordered categorical variable that ranges between -3 and 5 and is computed as the difference between individual's current occupation in 2010 and individual's first occupation in 1990s. Regressions include individual, household controls and first job characteristics. Individual controls include the following: age in 1990 and its squared term, three dummies for individual's level of educational attainment: primary and preparatory education, secondary education either general or vocational and above secondary education, either post-secondary institute or university education and above; the reference category is no educational degree either illiterate or literate without any diploma and five dummies for individual's geographical regions in 1990: Cairo, Alexandria and Canal Cities, Urban Lower Egypt, Urban Upper Egypt and Rural Lower Egypt; the reference category is Rural Upper Egypt. Household level characteristics include mother's and father's level of education, four dummies each: literate without any diploma (read and write), less than intermediate, intermediate and above intermediate, university and post-graduate; the reference category is illiterate. First job characteristics include: sectors of employment, economic activities and the incidence of work contract and social security in the 1990s. Sectors of employment are the following two dummies: government and public enterprises. The reference category is private enterprises and it includes private enterprises, investment/joint venture, international enterprises, non-profit or non-governmental organizations or other including co-operatives. Economic activities are defined according to ISIC-4 classification and include the following five dummies: a dummy variable for agriculture, forestry and fishing, a dummy variable for manufacturing, mining, quarrying and other manufacturing activities, a dummy variable for construction, a dummy variable for wholesale, retail, transportation and storage, accommodation and food services and a dummy variable for professional, scientific, technical, administrative and support service activities. The reference category is a dummy variable for other activities that include information and communication, finance and insurance services, real estate activities, public administration and defense, education, human health and social work. First job characteristics also include a dummy variable for having a work contract, a dummy variable for having social security and dummy variable indicator for missing observations in work contract.

Table 13: Difference-in-Differences Approach for the 1990s cohort

Panel A: Treatment is return migration

Sample of Returnees=220, Sample of Stayers=2056

	Before the treatment (t=0)	After the treatment (t=1)	Difference
Returnees	3.100	4.300	1.200***
(Treatment group)	(0.115)	(0.098)	(0.151)
Stayers	4.139	4.461	0.321***
(Control group)	(0.031)	(0.031)	(0.044)
Difference	-1.039***	-0.161	0.879***
	(0.103)	(0.099)	(0.143)

Panel B: Treatment is return migration (Oil Countries)

Sample of Returnees=157, Sample of Stayers=2056

	Before the treatment (t=0)	After the treatment (t=1)	Difference
Returnees	3.318	4.312	0.994***
(Treatment group)	(0.135)	(0.113)	(0.176)
Stayers	4.139	4.461	0.321***
(Control group)	(0.031)	(0.031)	(0.044)
Difference	-0.821***	-0.149	0.672***
	(0.120)	(0.115)	(0.166)

Panel C: Treatment is return migration (Non-Oil Countries)

Sample of Returnees=58, Sample of Stayers=2056

	Before the treatment (t=0)	After the treatment (t=1)	Difference
Returnees	2.431	4.241	1.810***
(Treatment group)	(0.206)	(0.205)	(0.290)
Stayers	4.139	4.461	0.321***
(Control group)	(0.031)	(0.031)	(0.044)
Difference	-1.708***	-0.219	1.489***
	(0.190)	(0.186)	(0.031)

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Difference-in-Differences specification is estimated. Individuals included in the sample are males, had a first job in the 1990s, are aged at least 15 years old at first job and are aged less than 65 years old in 2010. A return migrant is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility, whereas, a stayer is defined as a male who never had any migration experience abroad. Males included in the estimation sample also have a current job in Egypt in 2010. In Panel A, treatment is considered as return migration unconditional on the destination country. In Panel B and C, treatment is considered as return migration from Oil countries versus Non-Oil countries, respectively, considering returnees' destination during the last migration episode. Before the treatment refers to the first job in the 1990s and after the treatment refers to the current occupation in 2010. The dependent variable is the individual's occupation. It takes values from 1 to 6 for the following categories respectively: not working, agriculture, low-skilled blue collar, high-skilled blue collar, low-skilled white collar and high-skilled white collar. Agriculture refers to skilled agricultural, forestry and fishery workers, low-skilled blue collar refers to plant and machine operators, assemblers and elementary occupations, high-skilled blue collar refers to craft and related trades workers, low-skilled white collar refers to clerical support workers and service and sales workers and high-skilled white collar refers to managers, professionals, technicians and associate professionals. Armed forces occupations are eliminated.

Table 14: Propensity Score Matching combined with Difference-in-Differences Approach for the 1990s cohort

Panel A: Treatment is return migration

Sample of Returnees=215, Sample of Stayers=2056

	Before the treatment (t=0)	After the treatment (t=1)	Difference
Returnees	3.149	4.316	1.167***
(Treatment group)	(0.115)	(0.099)	(0.152)
Stayers	4.139	4.461	0.321***
(Control group)	(0.031)	(0.031)	(0.044)
Difference	-0.990***	-0.144	0.846***
	(0.104)	(0.100)	(0.144)

Panel B: Treatment is return migration (Oil Countries)

Sample of Returnees=154, Sample of Stayers=2021

	Before the treatment (t=0)	After the treatment (t=1)	Difference
Returnees	3.364	4.312	0.948***
(Treatment group)	(0.135)	(0.114)	(0.177)
Stayers	4.120	4.444	0.324***
(Control group)	(0.032)	(0.031)	(0.044)
Difference	-0.757***	-0.133	0.624***
	(0.120)	(0.116)	0.167

Panel C: Treatment is return migration (Non-Oil Countries)

Sample of Returnees=54, Sample of Stayers=1921

	Before the treatment (t=0)	After the treatment (t=1)	Difference
Returnees	2.537	4.222	1.685***
(Treatment group)	(0.214)	(0.216)	(0.304)
Stayers	4.082	4.413	0.331***
(Control group)	(0.032)	(0.032)	(0.045)
Difference	-1.545***	-0.191	1.355***
	(0.196)	(0.192)	(0.275)

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Propensity score matching, using the nearest neighbor estimator combined with a Difference-in-Differences Specification is estimated. Individuals included in the sample are males, had a first job in the 1990s, are aged at least 15 years old at first job and are aged less than 65 years old in 2010. A return migrant is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility, whereas, a stayer is defined as a male who never had any migration experience abroad. Males included in the estimation sample also have a current job in Egypt in 2010. In Panel A, treatment is considered as return migration unconditional on the destination country. In Panel B and C, treatment is considered as return migration from Oil countries versus Non-Oil countries, respectively, considering returnees' destination during the last migration episode. Before the treatment refers to the first job in the 1990s and after the treatment refers to the current occupation in 2010. The dependent variable is the individual's occupation. It takes values from 1 to 6 for the following categories respectively: not working, agriculture, low-skilled blue collar, high-skilled blue collar, low-skilled white collar and high-skilled white collar. Agriculture refers to skilled agricultural, forestry and fishery workers, low-skilled blue collar refers to plant and machine operators, assemblers and elementary occupations, high-skilled blue collar refers to craft and related trades workers, low-skilled white collar refers to clerical support workers and service and sales workers and high-skilled white collar refers to managers, professionals, technicians and associate professionals. Armed forces occupations are eliminated.

Table 15: Heterogeneity of the effect of return migration on upward occupational mobility by educational attainment, unconditional on the country of destination

	Panel A: 1880s cohort			
	Less educated		More educated	
VARIABLES	Linear Probability model Upward mobility	IV Regression Upward mobility	Linear Probability model Upward mobility	IV Regression Upward mobility
Return migrant	0.114	0.164*	0.181***	0.223***
	(0.074)	(0.089)	(0.036)	(0.035)
Observations	362	358	898	881
R-squared	0.109	0.114	0.389	0.383
	Panel B: 1990s cohort			
	Less educated		More educated	
VARIABLES	Linear Probability model Upward mobility	IV Regression Upward mobility	Linear Probability model Upward mobility	IV Regression Upward mobility
Return migrant	0.053	0.009	0.152***	0.129***
	(0.084)	(0.085)	(0.037)	(0.042)
Observations	475	473	1,801	1,790
R-squared	0.137	0.139	0.176	0.171
Individual Controls	YES	YES	YES	YES
Household Controls	YES	YES	YES	YES
First job characteristics	YES	YES	YES	YES

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Notes. Coefficient estimates using a linear probability model and IV-regression, where inflation adjusted historical oil prices (in US dollars) are used to instrument return migration from Arab countries for the 1980s cohort (Panel A) and for the 1990s cohort (Panel B). The average age for males at the time of migration for the last episode is 26 years old, for the 1980s cohort and 24 years old, for the 1990s cohort. The inflation adjusted oil prices are matched with the year when each individual was aged 26 years old and 24 years old for each cohort, respectively. The less educated individuals are those who have no education (either illiterate or literate without any diploma) or those who have primary and preparatory education. The more educated individuals are those who have secondary education either general or vocational or those who have above secondary education, either post-secondary institute or university education and above. Individuals included in the sample are males, had a first job in the 1980s (Panel A) or in the 1990s (Panel B), are aged at least 15 years old at first job and are aged less than 65 years old in 2010. A return migrant is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility, whereas, a stayer is defined as a male who never had any migration experience abroad. Males included in the estimation sample also have a current job in Egypt in 2010. Upward mobility is a dummy variable that takes the value one if the individual's occupation in 2010 is ranked higher compared to his first job occupation in the 1980s (Panel A) or 1990s (Panel B) and zero otherwise, either for individuals who witnessed downward mobility or stayed within the same occupational category. Regressions include individual, household controls and first job characteristics. Individual controls include the following: age in 1980 (Panel A) or in 1990 (Panel B) and its squared term, three dummies for individual's level of educational attainment: and five dummies for individual's geographical regions in 1980 (Panel A) and 1990 (Panel B): Cairo, Alexandria and Canal Cities, Urban Lower Egypt, Urban Upper Egypt and Rural Lower Egypt; the reference category is Rural Upper Egypt. Household level characteristics include mother's and father's level of education, four dummies each: literate without any diploma (read and write), less than intermediate, intermediate and above intermediate, university and post-graduate; the reference category is illiterate. First job characteristics include: sectors of employment, economic activities and the incidence of work contract and social security in the 1980s (Panel A) or in the 1990s (Panel B). Sectors of employment are the following two dummies: government and public enterprises. The reference category is private enterprises and it includes private enterprises, investment/joint venture, international enterprises, non-profit or non-governmental organizations or other including co-operatives. Economic activities are defined according to ISIC-4 classification and include the following five dummies: a dummy variable for agriculture, forestry and fishing, a dummy variable for manufacturing, mining, quarrying and other manufacturing activities, a dummy variable for construction, a dummy variable for wholesale, retail, transportation and storage, accommodation and food services and a dummy variable for professional, scientific, technical, administrative and support service activities. The reference category is a dummy variable for other activities that include information and communication, finance and insurance services, real estate activities, public administration and defense, education, human health and social work. First job characteristics also include a dummy variable for having a work contract, a dummy variable for having social security and dummy variable indicator for missing observations in work contract.

Table 16: Heterogeneity of the effect of return migration on upward occupational mobility by educational attainment, conditional on the country of destination

	Panel A: 1980s cohort	
	Less educated	More educated
	Linear Probability Model	Linear Probability Model
VARIABLES	Upward mobility	Upward mobility
Return migrant (oil countries)	0.139*	0.180***
	(0.083)	(0.038)
Return migrant (non-oil countries)	0.012	0.212***
	(0.169)	(0.076)
Observations	358	888
R-squared	0.116	0.389
	Panel B: 1990s cohort	
	Less educated	More educated
	Linear Probability Model	Linear Probability Model
VARIABLES	Upward mobility	Upward mobility
Return migrant (oil countries)	-0.014	0.110***
	(0.092)	(0.041)
Return migrant (non-oil countries)	0.137	0.249***
	(0.168)	(0.072)
Observations	473	1,798
R-squared	0.140	0.177
Individual Controls	YES	YES
Household Controls	YES	YES
First job characteristics	YES	YES

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Notes. Coefficient estimates using a linear probability model for the 1980s cohort (Panel A) and for the 1990s cohort (Panel B). The less educated individuals are those who have no education (either illiterate or literate without any diploma) or those who have primary and preparatory education. The more educated individuals are those who have secondary education either general or vocational or those who have above secondary education, either post-secondary institute or university education and above. Individuals included in the sample are males, had a first job in the 1980s (Panel A) or in the 1990s (Panel B), are aged at least 15 years old at first job and are aged less than 65 years old in 2010. A return migrant is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility, whereas, a stayer is defined as a male who never had any migration experience abroad. Males included in the estimation sample also have a current job in Egypt in 2010. Upward mobility is a dummy variable that takes the value one if the individual's occupation in 2010 is ranked higher compared to his first job occupation in the 1980s (Panel A) or 1990s (Panel B) and zero otherwise, either for individuals who witnessed downward mobility or stayed within the same occupational category. Regressions include individual, household controls and first job characteristics. Individual controls include the following: age in 1980 (Panel A) or in 1990 (Panel B) and its squared term, three dummies for individual's level of educational attainment: primary and preparatory education, secondary education either general or vocational and above secondary education, either post-secondary institute or university education and above; the reference category is no educational degree either illiterate or literate without any diploma and five dummies for individual's geographical regions in 1980 (Panel A) and 1990 (Panel B): Cairo, Alexandria and Canal Cities, Urban Lower Egypt, Urban Upper Egypt and Rural Lower Egypt; the reference category is Rural Upper Egypt. Household level characteristics include mother's and father's level of education, four dummies each: literate without any diploma (read and write), less than intermediate, intermediate and above intermediate, university and post-graduate; the reference category is illiterate. First job characteristics include: sectors of employment, economic activities and the incidence of work contract and social security in the 1980s (Panel A) or in the 1990s (Panel B). Sectors of employment are the following two dummies: government and public enterprises. The reference category is private enterprises and it includes private enterprises, investment/joint venture, international enterprises, non-profit or non-governmental organizations or other including co-operatives. Economic activities are defined according to ISIC-4 classification and include the following five dummies: a dummy variable for agriculture, forestry and fishing, a dummy variable for manufacturing, mining, quarrying and other manufacturing activities, a dummy variable for construction, a dummy variable for wholesale, retail, transportation and storage, accommodation and food services and a dummy variable for professional, scientific, technical, administrative and support service activities. The reference category is a dummy variable for other activities that include information and communication, finance and insurance services, real estate activities, public administration and defense, education, human health and social work. First job characteristics also include a dummy variable for having a work contract, a dummy variable for having social security and dummy variable indicator for missing observations in work contract.

Appendix

Table A1: Descriptive Statistics on the sample of Returnees who had their first job in Egypt versus those who had their first job abroad in the 1980s cohort

	Returnees (first job in Egypt)			Returnees (first job abroad)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	N	mean	sd	N	mean	sd	Difference
Individual characteristics							
Age in 1980	180	15.290	4.442	110	18.300	3.560	-3.006***
Age at first job	180	19.510	3.499	110	22.670	2.389	-3.161***
Ever-married in 2010	180	0.983	0.128	110	0.991	0.095	-0.008
No educational degree	180	0.094	0.293	110	0.036	0.188	0.058*
Primary or preparatory education	180	0.128	0.335	110	0.036	0.188	0.091***
Secondary education	180	0.544	0.499	110	0.618	0.488	-0.074
Above secondary education	180	0.233	0.424	110	0.309	0.464	-0.076
Geographical region in 1980							
Cairo	180	0.089	0.285	110	0.027	0.164	0.062**
Alexandria- Suez Canal	180	0.028	0.165	110	0.027	0.164	0.001
Urban Lower Egypt	180	0.178	0.383	110	0.173	0.380	0.005
Urban Upper Egypt	180	0.133	0.341	110	0.164	0.372	-0.030
Rural Lower Egypt	180	0.311	0.464	110	0.500	0.502	-0.189***
Rural Upper Egypt	180	0.261	0.440	110	0.109	0.313	0.152***
Parental background - Mother's level of education							
Illiterate	180	0.833	0.374	110	0.827	0.380	0.006
Literate	180	0.128	0.335	110	0.109	0.313	0.019
Less than intermediate	180	0.017	0.128	110	0.055	0.228	-0.038*
Intermediate and above	180	0.022	0.148	110	0.009	0.095	0.013
University and above	180	0.000	0.000	110	0.000	0.000	0.000
Parental background - Father's level of education							
Illiterate	180	0.544	0.499	110	0.545	0.500	-0.001
Literate	180	0.256	0.437	110	0.236	0.427	0.019
Less than intermediate	180	0.117	0.322	110	0.109	0.313	0.008
Intermediate and above	180	0.072	0.260	110	0.064	0.245	0.009
University and above	180	0.011	0.105	110	0.046	0.209	-0.034*

*** p<0.01, ** p<0.05, * p<0.1

Notes. All reported descriptive statistics refer to sample returnees' characteristics in the 1980s cohort. Male returnees had a first job in the 1980s, are aged at least 15 years old at first job and are aged less than 65 years old in 2010. The number of observations, mean and standard deviation are reported for the subsamples of returnees who had their first job in Egypt and returnees who had their first job abroad, respectively. Difference in means between the two groups is reported. A t-test is performed to test whether the difference in means between the two groups is statistically significant. A returnee is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility. Males included in the estimation sample also have a current job in Egypt in 2010. Reported individual level characteristics are age in 1980, age at first job, a dummy for ever-married status in 2010 and four dummies for educational attainment: no education either illiterate or literate without any diploma, primary and preparatory education, secondary education either general or vocational and above secondary education, either post-secondary institute or university education and above. Descriptive statistics also include six dummies for individuals' geographical regions in 1980: Cairo, Alexandria and Canal Cities, Urban Lower Egypt, Urban Upper Egypt, Rural Lower Egypt and Rural Upper Egypt. Mother's and father's level of education are also reported, five dummies each: illiterate, literate without any diploma (read and write), less than intermediate, intermediate and above intermediate, university and post-graduate.

Table A2: First and current job characteristics for Returnees who had their first job in Egypt first vs. those who had their first job abroad in the 1980s cohort

VARIABLES	Returnees (first job in Egypt)			Returnees (first job abroad)			
	(1) N	(2) mean	(3) sd	(4) N	(5) mean	(6) sd	(7) Difference
First job characteristics in the 1980s							
Sector of employment							
Government	180	0.178	0.383	110	0.082	0.275	0.096**
Public	180	0.039	0.194	110	0.009	0.095	0.030
Private	180	0.783	0.413	110	0.909	0.289	-0.126***
Economic activity							
Agriculture, Forestry, Fishing	180	0.283	0.452	110	0.064	0.245	0.220***
Manufacturing, Mining, Quarrying	180	0.111	0.315	110	0.200	0.402	-0.089**
Construction	180	0.239	0.428	110	0.255	0.438	-0.016
Wholesale, retail trade, transportation and other activities	180	0.144	0.353	110	0.373	0.486	-0.228***
Professional, scientific, technical and administrative activities	180	0.044	0.207	110	0.018	0.134	0.026
Other activities	180	0.178	0.383	110	0.091	0.289	0.087**
Incidence of work contract and social security							
Work contract	180	0.239	0.428	110	0.536	0.501	-0.297***
Indicator for missing work contract	180	0.344	0.477	110	0.046	0.209	0.299***
Social security	180	0.217	0.413	110	0.109	0.313	0.108**
Current job characteristics in 2010							
Sector of employment							
Government	180	0.406	0.492	110	0.655	0.478	-0.249***
Public	180	0.022	0.148	110	0.082	0.275	-0.060**
Private	180	0.572	0.496	110	0.264	0.443	0.309***
Economic activity							
Agriculture, Forestry, Fishing	180	0.139	0.347	110	0.018	0.134	0.121***
Manufacturing, Mining, Quarrying	180	0.111	0.315	110	0.145	0.354	-0.034
Construction	180	0.106	0.308	110	0.018	0.134	0.087***
Wholesale, retail trade, transportation and other activities	180	0.233	0.424	110	0.173	0.380	0.061
Professional, scientific, technical and administrative activities	180	0.017	0.128	110	0.046	0.209	-0.029
Other activities	180	0.394	0.490	110	0.600	0.492	-0.206***
Incidence of work contract and social security							
Work contract	180	0.472	0.501	110	0.745	0.438	-0.273***
Indicator for missing work contract	180	0.294	0.457	110	0.173	0.380	0.122**
Social security	180	0.572	0.496	110	0.791	0.409	-0.219***

*** p<0.01, ** p<0.05, * p<0.1

Notes. All reported descriptive statistics refer to sample returnees' characteristics in the 1980s cohort. Male returnees had a first job in the 1980s, are aged at least 15 years old at first job and are aged less than 65 years old in 2010. The number of observations, mean and standard deviation are reported for the subsamples of returnees who had their first job in Egypt and returnees who had their first job abroad, respectively. Difference in means between the two groups is reported. A t-test is performed to test whether the difference in means between the two groups is statistically significant. A returnee is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility. Males included in the estimation sample also have a current job in Egypt in 2010. First and current job characteristics cover the following: sectors of employment, economic activities and the incidence of work contract and social security and refer to individual's first job in the 1980s and current job in 2010. Sectors of employment are the following three dummies: government, public enterprise and private enterprise. The latter category includes private enterprises, investment/joint venture, international enterprises, non-profit or non-governmental organizations or other including co-operatives. Economic activities are defined according to ISIC-4 classification and include the following dummies: a dummy variable for agriculture, forestry and fishing, a dummy variable for manufacturing, mining, quarrying and other manufacturing activities, a dummy variable for construction, a dummy variable for wholesale, retail, transportation and storage, accommodation and food services, a dummy variable for professional, scientific, technical, administrative and support service activities and a dummy variable for other activities that include information and communication, finance and insurance services, real estate activities, public administration and defense, education, human health and social work. Job characteristics also include two dummies for having a work contract and social security. Indicator for missing work contract is a dummy variable equal one for observations with missing values for work contract.

Appendix

Table A3: First and current occupations and occupational mobility indicators for Returnees who had their first job in Egypt versus those who had their first job abroad in the 1980s cohort

	Returnees (first job in Egypt)			Returnees (first job abroad)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	N	mean	sd	N	mean	sd	Difference
First job occupation in the 1980s							
Agriculture	180	0.283	0.452	110	0.064	0.245	0.220***
Low-skilled blue collar	180	0.078	0.269	110	0.127	0.335	-0.049
High-skilled blue collar	180	0.289	0.455	110	0.336	0.475	-0.047
Low-skilled white collar	180	0.117	0.322	110	0.327	0.471	-0.211***
High-skilled white collar	180	0.233	0.424	110	0.145	0.354	-0.088*
Current job occupation in 2010							
Agriculture	180	0.139	0.347	110	0.018	0.134	0.121***
Low-skilled blue collar	180	0.150	0.358	110	0.091	0.289	0.059
High-skilled blue collar	180	0.150	0.358	110	0.046	0.209	0.105***
Low-skilled white collar	180	0.111	0.315	110	0.127	0.335	-0.016
High-skilled white collar	180	0.450	0.499	110	0.718	0.452	-0.268***
Occupational mobility indicators							
Degree of mobility	180	0.644	1.486	110	1.073	1.399	-0.428**
Upward mobility	180	0.361	0.482	110	0.645	0.481	-0.284***
Downward mobility	180	0.111	0.315	110	0.091	0.289	0.020
Immobility	180	0.528	0.501	110	0.264	0.443	0.264***

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Notes. All reported descriptive statistics refer to sample returnees' characteristics in the 1980s cohort. Male returnees had a first job in the 1980s, are aged at least 15 years old at first job and are aged less than 65 years old in 2010. The number of observations, mean and standard deviation are reported for the subsamples of returnees who had their first job in Egypt and returnees who had their first job abroad, respectively. Difference in means between the two groups is reported. A t-test is performed to test whether the difference in means between the two groups is statistically significant. A returnee is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility. Males included in the estimation sample also have a current job in Egypt in 2010. First and current job occupations refer to returnees' first occupation in the 1980s (either in Egypt or abroad) and current occupation in 2010. Occupations are defined according to ISCO-88, one digit classification. The five occupational dummies are the following: agriculture refers to skilled agricultural, forestry and fishery workers, low-skilled blue collar refers to plant and machine operators, assemblers and elementary occupations, high-skilled blue collar refers to craft and related trades workers, low-skilled white collar refers to clerical support workers and service and sales workers and high-skilled white collar refers to managers, professionals, technician and associate professionals. Armed forces occupations are eliminated. These five occupational categories are ranked one to five, respectively. Degree of mobility is an ordered categorical variable that ranges between -3 and 4 and is computed as the difference between individual's current occupation in 2010 and individual's first occupation in 1980s. Upward mobility is a dummy variable that takes the value one if the individual's occupation in 2010 is ranked higher compared to his first job occupation in the 1980s and zero otherwise, either for individuals who witnessed downward mobility or stayed within the same occupational category. Downward mobility is a dummy variable that takes the value one if the individual's occupation in 2010 is ranked lower compared to his first job in the 1980s and zero otherwise, either for individuals who witness upward mobility or stayed within the same occupational category. Immobility is a dummy variable equal to one if the individual stayed within the same occupational category in the two years considered and zero otherwise, if the individual either witnessed upward or downward mobility.

Appendix

Table A4 : Descriptive statistics on the sample of Stayers versus Returnees in the 1990s cohort

	Stayers			Returnees			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	N	Mean	Std. Dev.	N	Mean	Std. Dev.	Difference
Individual characteristics							
Age in 1990	2,056	14.500	4.802	220	14.950	4.694	-0.446
Age at first job	2,056	19.650	3.748	220	19.590	3.325	0.060
Ever-married in 2010	2,056	0.890	0.313	220	0.955	0.209	-0.064***
No educational degree	2,056	0.089	0.285	220	0.055	0.228	0.034*
Primary or preparatory education	2,056	0.127	0.334	220	0.082	0.275	0.046**
Secondary education	2,056	0.506	0.500	220	0.655	0.477	-0.148***
Above secondary education	2,056	0.277	0.448	220	0.209	0.408	0.068**
Geographical region in 1990							
Cairo	2,056	0.093	0.290	220	0.055	0.228	0.038*
Alexandria and Canal cities	2,056	0.085	0.279	220	0.023	0.149	0.062**
Urban Lower Egypt	2,056	0.140	0.347	220	0.159	0.367	-0.019
Urban Upper Egypt	2,056	0.179	0.383	220	0.100	0.301	0.079***
Rural Lower Egypt	2,056	0.261	0.439	220	0.423	0.495	-0.162***
Rural Upper Egypt	2,056	0.243	0.429	220	0.241	0.429	0.002
Parental background - Mother's level of education							
Illiterate	2,056	0.786	0.410	220	0.873	0.334	-0.087***
Literate	2,056	0.094	0.292	220	0.064	0.245	0.030
Less than intermediate	2,056	0.067	0.249	220	0.023	0.149	0.044**
Intermediate and above	2,056	0.037	0.188	220	0.036	0.188	0.001
University and above	2,056	0.017	0.129	220	0.005	0.067	0.012
Parental background - Father's level of education							
Illiterate	2,056	0.511	0.500	220	0.536	0.500	-0.026
Literate	2,056	0.204	0.403	220	0.259	0.439	-0.055**
Less than intermediate	2,056	0.141	0.348	220	0.082	0.275	0.059**
Intermediate and above	2,056	0.092	0.290	220	0.073	0.260	0.020
University and above	2,056	0.052	0.222	220	0.050	0.218	0.016

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Notes. All reported descriptive statistics refer to sample individuals' characteristics in the 1990s cohort. Individuals included in the sample are males, had a first job in the 1990s, are aged at least 15 years old at first job and are aged less than 65 years old in 2010. The number of observations, mean and standard deviation are reported for the subsamples of stayers and returnees, respectively. Difference in means between the two groups is reported. A t-test is performed to test whether the difference in means between the two groups is statistically significant. A stayer is defined as a male who never had any migration experience abroad, whereas, a returnee is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility. Males included in the estimation sample also have a current job in Egypt in 2010. Reported individual level characteristics are age in 1990, age at first job, a dummy for ever-married status in 2010 and four dummies for educational attainment: no education either illiterate or literate without any diploma, primary and preparatory education, secondary education either general or vocational and above secondary education, either post-secondary institute or university education and above. Descriptive statistics also include six dummies for individuals' geographical regions in 1990: Cairo, Alexandria and Canal Cities, Urban Lower Egypt, Urban Upper Egypt, Rural Lower Egypt and Rural Upper Egypt. Mother's and father's level of education are also reported, five dummies each: illiterate, literate without any diploma (read and write), less than intermediate, intermediate and above intermediate, university and post-graduate.

Appendix

Table A5 : First and current job characteristics for Stayers and Returnees in the 1990s cohort

	Stayers			Returnees			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	N	Mean	Std. Dev.	N	Mean	Std. Dev.	Difference
First job characteristics in the 1990s							
Sector of employment							
Government	2,056	0.167	0.373	220	0.068	0.253	0.099***
Public	2,056	0.031	0.172	220	0.018	0.134	0.012
Private	2,056	0.802	0.399	220	0.914	0.282	-0.112***
Economic activity							
Agriculture, Forestry, Fishing	2,056	0.193	0.394	220	0.218	0.414	-0.026
Manufacturing, Mining, Quarrying	2,056	0.159	0.366	220	0.100	0.301	0.059**
Construction	2,056	0.159	0.365	220	0.318	0.467	-0.160***
Wholesale, retail trade, transportation and other activities	2,056	0.280	0.449	220	0.250	0.434	0.030
Professional, scientific, technical and administrative activities	2,056	0.036	0.185	220	0.023	0.149	0.013
Other activities	2,056	0.175	0.380	220	0.091	0.288	0.084***
Incidence of work contract and social security							
Work contract	2,056	0.247	0.431	220	0.236	0.426	0.011
Indicator for missing work contract	2,056	0.330	0.470	220	0.277	0.449	0.052
Social security	2,056	0.259	0.438	220	0.105	0.307	0.154***
Current job characteristics in 2010							
Sector of employment							
Government	2,056	0.281	0.449	220	0.168	0.375	0.112***
Public	2,056	0.058	0.234	220	0.023	0.149	0.035**
Private	2,056	0.661	0.473	220	0.809	0.394	-0.148***
Economic activity							
Agriculture, Forestry, Fishing	2,056	0.193	0.394	220	0.141	0.349	-0.036*
Manufacturing, Mining, Quarrying	2,056	0.159	0.366	220	0.091	0.288	0.084***
Construction	2,056	0.159	0.365	220	0.223	0.417	-0.096***
Wholesale, retail trade, transportation and other activities	2,056	0.280	0.449	220	0.300	0.459	-0.025
Professional, scientific, technical and administrative activities	2,056	0.036	0.185	220	0.041	0.199	-0.009
Other activities	2,056	0.175	0.380	220	0.205	0.404	0.082***
Incidence of work contract and social security							
Work contract	2,056	0.423	0.494	220	0.264	0.442	0.160***
Indicator for missing work contract	2,056	0.203	0.403	220	0.268	0.444	-0.065**
Social security	2,056	0.482	0.500	220	0.323	0.469	0.159***

*** p<0.01, ** p<0.05, * p<0.1

Notes. All reported descriptive statistics refer to sample individuals' characteristics in the 1990s cohort. Individuals included in the sample are males, had a first job in the 1990s, are aged at least 15 years old at first job and are aged less than 65 years old in 2010. The number of observations, mean and standard deviation are reported for the subsamples of stayers and returnees, respectively. Difference in means between the two groups is reported. A t-test is performed to test whether the difference in means between the two groups is statistically significant. A stayer is defined as a male who never had any migration experience abroad, whereas, a returnee is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility. Males included in the estimation sample also have a current job in Egypt in 2010. First and current job characteristics cover the following: sectors of employment, economic activities and the incidence of work contract and social security and refer to individual's first job in the 1990s and current job in 2010. Sectors of employment are the following three dummies: government, public enterprise and private enterprise. The latter category includes private enterprises, investment/joint venture, international enterprises, non-profit or non-governmental organizations or other including co-operatives. Economic activities are defined according to ISIC-4 classification and include the following dummies: a dummy variable for agriculture, forestry and fishing, a dummy variable for manufacturing, mining, quarrying and other manufacturing activities, a dummy variable for construction, a dummy variable for wholesale, retail, transportation and storage, accommodation and food services, a dummy variable for professional, scientific, technical, administrative and support service activities and a dummy variable for other activities that include information and communication, finance and insurance services, real estate activities, public administration and defense, education, human health and social work. Job characteristics also include two dummies for having a work contract and social security. Indicator for missing work contract is a dummy variable equal one for observations with missing values for work contract.

Table A6: First, current occupations and occupational mobility indicators for Stayers and Returnees in the 1990s cohort

	Stayers			Returnees			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	N	Mean	Std. Dev.	N	Mean	Std. Dev.	Difference
First occupation in the 1990s							
Agriculture	2,056	0.183	0.387	220	0.209	0.408	-0.026
Low-skilled blue collar	2,056	0.160	0.366	220	0.109	0.312	0.050**
High-skilled blue collar	2,056	0.240	0.427	220	0.373	0.485	-0.132***
Low-skilled white collar	2,056	0.170	0.376	220	0.150	0.358	0.020
High-skilled white collar	2,056	0.247	0.431	220	0.159	0.367	0.088***
Current occupation in 2010							
Agriculture	2,056	0.099	0.298	220	0.136	0.344	-0.038*
Low-skilled blue collar	2,056	0.199	0.400	220	0.195	0.397	0.004
High-skilled blue collar	2,056	0.190	0.393	220	0.236	0.426	-0.046*
Low-skilled white collar	2,056	0.166	0.372	220	0.096	0.295	0.070***
High-skilled white collar	2,056	0.346	0.476	220	0.336	0.474	0.009
Occupational mobility indicators							
Degree of mobility	2,056	0.321	1.114	220	0.359	1.366	-0.038
Upward mobility	2,056	0.240	0.427	220	0.318	0.467	-0.078***
Downward mobility	2,056	0.090	0.286	220	0.091	0.288	-0.001
Immobility	2,056	0.670	0.470	220	0.455	0.499	0.217***

*** p<0.01, ** p<0.05, * p<0.1

Notes. All reported descriptive statistics refer to sample individuals' characteristics in the 1990s cohort. Individuals included in the sample are males, had a first job in the 1990s, are aged at least 15 years old at first job and are aged less than 65 years old in 2010. The number of observations, mean and standard deviation are reported for the subsamples of stayers and returnees, respectively. Difference in means between the two groups is reported. A t-test is performed to test whether the difference in means between the two groups is statistically significant. A stayer is defined as a male who never had any migration experience abroad, whereas, a returnee is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility. Males included in the estimation sample also have a current job in Egypt in 2010. First and current jobs' occupations refer to individual's first occupation in the 1990s and current occupation in 2010. Occupations are defined according to ISCO-88, one digit classification. The five occupational dummies are the following: agriculture refers to skilled agricultural, forestry and fishery workers, low-skilled blue collar refers to plant and machine operators, assemblers and elementary occupations, high-skilled blue collar refers to craft and related trades workers, low-skilled white collar refers to clerical support workers and service and sales workers and high-skilled white collar refers to managers, professionals, technician and associate professionals. Armed forces occupations are eliminated. These five occupational categories are ranked one to five, respectively. Degree of mobility is an ordered categorical variable that ranges between -3 and 4 and is computed as the difference between individual's current occupation in 2010 and individual's first occupation in 1990s. Upward mobility is a dummy variable that takes the value one if the individual's occupation in 2010 is ranked higher compared to his first job occupation in the 1990s and zero otherwise, either for individuals who witnessed downward mobility or stayed within the same occupational category. Downward mobility is a dummy variable that takes the value one if the individual's occupation in 2010 is ranked lower compared to his first job in the 1990s and zero otherwise, either for individuals who witness upward mobility or stayed within the same occupational category. Immobility is a dummy variable equal to one if the individual stayed within the same occupational category in the two years considered and zero otherwise, if the individual either witnessed upward or downward mobility.

Appendix

Table A7: Estimating the effect of return migration on occupational mobility for the 1980s cohort

Panel A: Return migration unconditional on the country of destination

	Probit Model	Ordered Probit Model							
VARIABLES	Upward mobility	(-3)	(-2)	(-1)	(0)	(1)	(2)	(3)	(4)
Return Migrant	0.090***	-0.002*	-0.005*	-0.009*	-0.035	0.016*	0.018*	0.012*	0.006
	(0.034)	(0.001)	(0.003)	(0.005)	(0.021)	(0.009)	(0.010)	(0.007)	(0.004)
Observations	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260	1,260

Panel B: IV approach using historical oil prices

	IV-Probit	IV-Ordered Probit							
VARIABLES	Upward mobility	(-3)	(-2)	(-1)	(0)	(1)	(2)	(3)	(4)
Return Migrant	0.359***	-0.004	-0.006	-0.008	-0.020	0.010	0.011	0.009	0.008
	(0.118)	(0.003)	(0.005)	(0.006)	(0.014)	(0.007)	(0.008)	(0.007)	(0.006)
Observations	1,239	1,239	1,239	1,239	1,239	1,239	1,239	1,239	1,239
Individual Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES
Household Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES
First job characteristics	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Notes. Marginal effects are reported for Probit and ordered probit models (Panel A) and for IV-Probit and IV-ordered Probit (Panel B), where inflation adjusted historical oil prices (in US dollars) are used to instrument return migration from Arab countries. The average age for males at the time of migration for the last episode is 26 years old, for the estimation sample. The inflation adjusted oil prices are matched with the year when each individual was aged 26 years old. Individuals included in the sample are males, had a first job in the 1980s, are aged at least 15 years old at first job and are aged less than 65 years old in 2010. A return migrant is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility, whereas, a stayer is defined as a male who never had any migration experience abroad. Males included in the estimation sample also have a current job in Egypt in 2010. Upward mobility is a dummy variable that takes the value one if the individual's occupation in 2010 is ranked higher compared to his first job occupation in the 1980s and zero otherwise, either for individuals who witnessed downward mobility or stayed within the same occupational category. For the ordered Probit model, the dependent variable is an ordered categorical variable that ranges between -3 and 4 and is computed as the difference between individual's current occupation in 2010 and individual's first occupation in 1980s. Regressions include individual, household controls and first job characteristics. Individual controls include the following: age in 1980 and its squared term, three dummies for individual's level of educational attainment: primary and preparatory education, secondary education either general or vocational and above secondary education, either post-secondary institute or university education and above; the reference category is no educational degree either illiterate or literate without any diploma and five dummies for individual's geographical regions in 1980: Cairo, Alexandria and Canal Cities, Urban Lower Egypt, Urban Upper Egypt and Rural Lower Egypt; the reference category is Rural Upper Egypt. Household level characteristics include mother's and father's level of education, four dummies each: literate without any diploma (read and write), less than intermediate, intermediate and above intermediate, university and post-graduate; the reference category is illiterate. First job characteristics include: sectors of employment, economic activities and the incidence of work contract and social security in the 1980s. Sectors of employment are the following two dummies: government and public enterprises. The reference category is private enterprises and it includes private enterprises, investment/joint venture, international enterprises, non-profit or non-governmental organizations or other including co-operatives. Economic activities are defined according to ISIC-4 classification and include the following five dummies: a dummy variable for agriculture, forestry and fishing, a dummy variable for manufacturing, mining, quarrying and other manufacturing activities, a dummy variable for construction, a dummy variable for wholesale, retail, transportation and storage, accommodation and food services and a dummy variable for professional, scientific, technical, administrative and support service activities. The reference category is a dummy variable for other activities that include information and communication, finance and insurance services, real estate activities, public administration and defense, education, human health and social work. First job characteristics also include a dummy variable for having a work contract, a dummy variable for having social security and dummy variable indicator for missing observations in work contract.

Appendix

Table A8: Estimating the effect of return migration on occupational mobility, conditional on the country of destination of returnees for the 1980s cohort

	Probit Model	Ordered Probit Model							
VARIABLES	Upward mobility	(-3)	(-2)	(-1)	(0)	(1)	(2)	(3)	(4)
Return Migrant (oil country)	0.088**	-0.001	-0.004	-0.007	-0.027	0.012	0.013	0.009	0.005
	(0.037)	(0.001)	(0.003)	(0.005)	(0.023)	(0.010)	(0.011)	(0.008)	(0.004)
Return Migrant (non-oil country)	0.107	-0.003**	-0.011***	-0.020***	-0.115*	0.038***	0.049**	0.039*	0.024
	(0.076)	(0.001)	(0.004)	(0.007)	(0.060)	(0.014)	(0.023)	(0.021)	(0.015)
Observations	1,246	1,246	1,246	1,246	1,246	1,246	1,246	1,246	1,246
Individual Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES
Household Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES
First job characteristics	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Notes. Marginal effects are reported for Probit and ordered probit models. Individuals included in the sample are males, had a first job in the 1980s, are aged at least 15 years old at first job and are aged less than 65 years old in 2010. A return migrant is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility, whereas, a stayer is defined as a male who never had any migration experience abroad. Males included in the estimation sample also have a current job in Egypt in 2010. Return migration experience is split into return migration from Oil countries versus Non-Oil countries, considering returnees' destination during the last migration episode. Upward mobility is a dummy variable that takes the value one if the individual's occupation in 2010 is ranked higher compared to his first job occupation in the 1980s and zero otherwise, either for individuals who witnessed downward mobility or stayed within the same occupational category. For the ordered Probit model, the dependent variable is an ordered categorical variable that ranges between -3 and 4 and is computed as the difference between individual's current occupation in 2010 and individual's first occupation in 1980s. Regressions include individual, household controls and first job characteristics. Individual controls include the following: age in 1980 and its squared term, three dummies for individual's level of educational attainment: primary and preparatory education, secondary education either general or vocational and above secondary education, either post-secondary institute or university education and above; the reference category is no educational degree either illiterate or literate without any diploma and five dummies for individual's geographical regions in 1980: Cairo, Alexandria and Canal Cities, Urban Lower Egypt, Urban Upper Egypt and Rural Lower Egypt; the reference category is Rural Upper Egypt. Household level characteristics include mother's and father's level of education, four dummies each: literate without any diploma (read and write), less than intermediate, intermediate and above intermediate, university and post-graduate; the reference category is illiterate. First job characteristics include: sectors of employment, economic activities and the incidence of work contract and social security in the 1980s. Sectors of employment are the following two dummies: government and public enterprises. The reference category is private enterprises and it includes private enterprises, investment/joint venture, international enterprises, non-profit or non-governmental organizations or other including co-operatives. Economic activities are defined according to ISIC-4 classification and include the following five dummies: a dummy variable for agriculture, forestry and fishing, a dummy variable for manufacturing, mining, quarrying and other manufacturing activities, a dummy variable for construction, a dummy variable for wholesale, retail, transportation and storage, accommodation and food services and a dummy variable for professional, scientific, technical, administrative and support service activities. The reference category is a dummy variable for other activities that include information and communication, finance and insurance services, real estate activities, public administration and defense, education, human health and social work. First job characteristics also include a dummy variable for having a work contract, a dummy variable for having social security and dummy variable indicator for missing observations in work contract.
.

Appendix

Table A9: Difference-in-Differences Approach for the 1980s cohort

Panel A: Treatment is return migration

Sample of Returnees=304, Sample of Stayers=956

	Before the treatment (t=0)	After the treatment (t=1)	Difference
Returnees	3.105	3.895	0.789***
(Treatment group)	(0.079)	(0.082)	(0.113)
Stayers	3.285	3.673	0.388***
(Control group)	(0.050)	(0.047)	(0.068)
Difference	-0.179	0.222**	0.401***
	-0.099	-0.096	(0.137)

Panel B: Treatment is return migration (Oil Countries)

Sample of Returnees=248, Sample of Stayers=956

	Before the treatment (t=0)	After the treatment (t=1)	Difference
Returnees	3.145	3.895	0.750***
(Treatment group)	(0.086)	(0.090)	(0.124)
Stayers	3.285	3.673	0.388***
(Control group)	(0.050)	(0.047)	(0.068)
Difference	-0.139	0.223**	0.362**
	(0.107)	(0.103)	(0.149)

Panel C: Treatment is return migration (Non-Oil Countries)

Sample of Returnees=42, Sample of Stayers=956

	Before the treatment (t=0)	After the treatment (t=1)	Difference
Returnees	2.833	3.976	1.143***
(Treatment group)	(0.228)	(0.227)	(0.322)
Stayers	3.285	3.673	0.388***
(Control group)	(0.050)	(0.047)	(0.068)
Difference	-0.451*	0.304	0.755**
	(0.241)	(0.230)	(0.333)

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Difference-in-Differences specification is estimated. Individuals included in the sample are males, had a first job in the 1980s, are aged at least 15 years old at first job and are aged less than 65 years old in 2010. A return migrant is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility, whereas, a stayer is defined as a male who never had any migration experience abroad. Males included in the estimation sample also have a current job in Egypt in 2010. In Panel A, treatment is considered as return migration unconditional on the destination country. In Panel B and C, treatment is considered as return migration from Oil countries versus Non-Oil countries, respectively, considering returnees' destination during the last migration episode. Before the treatment refers to the first job in the 1980s and after the treatment refers to the current occupation in 2010. The dependent variable is the individual's occupation. It takes values from 1 to 5 for the following categories respectively: agriculture, low-skilled blue collar, high-skilled blue collar, low-skilled white collar and high-skilled white collar. Agriculture refers to skilled agricultural, forestry and fishery workers, low-skilled blue collar refers to plant and machine operators, assemblers and elementary occupations, high-skilled blue collar refers to craft and related trades workers, low-skilled white collar refers to clerical support workers and service and sales workers and high-skilled white collar refers to managers, professionals, technicians and associate professionals. Armed forces occupations are eliminated.

Appendix

Table A10 : Propensity Score Matching combined with Difference-in-Differences Approach for the 1980s cohort

Panel A: Treatment is return migration

Sample of Returnees=292, Sample of Stayers=951

	Before the treatment (t=0)	After the treatment (t=1)	Difference
Returnees	3.116	3.880	0.764***
(Treatment group)	(0.081)	(0.084)	(0.117)
Stayers	3.284	3.668	0.384***
(Control group)	(0.050)	(0.047)	(0.069)
Difference	-0.167*	0.212**	0.380***
	(0.100)	(0.097)	(0.140)

Panel B: Treatment is return migration (Oil Countries)

Sample of Returnees=237, Sample of Stayers=951

	Before the treatment (t=0)	After the treatment (t=1)	Difference
Returnees	3.156	3.865	0.709***
(Treatment group)	(0.089)	(0.092)	(0.128)
Stayers	3.284	3.668	0.384***
(Control group)	(0.048)	(0.048)	(0.069)
Difference	-0.128	0.197**	0.325**
	(0.109)	(0.105)	(0.152)

Panel C: Treatment is return migration (Non-Oil Countries)

Sample of Returnees=40, Sample of Stayers=913

	Before the treatment (t=0)	After the treatment (t=1)	Difference
Returnees	2.775	4.000	1.225***
(Treatment group)	(0.233)	(0.232)	(0.329)
Stayers	3.234	3.628	0.393***
(Control group)	(0.051)	(0.048)	(0.070)
Difference	-0.459*	0.372	0.832**
	(0.248)	(0.237)	-0.342

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Propensity score matching, using the nearest neighbor estimator combined with a Difference-in-Differences Specification is estimated. Individuals included in the sample are males, had a first job in the 1980s, are aged at least 15 years old at first job and are aged less than 65 years old in 2010. A return migrant is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility, whereas, a stayer is defined as a male who never had any migration experience abroad. Males included in the estimation sample also have a current job in Egypt in 2010. In Panel A, treatment is considered as return migration unconditional on the destination country. In Panel B and C, treatment is considered as return migration from Oil countries versus Non-Oil countries, respectively, considering returnees' destination during the last migration episode. Before the treatment refers to the first job in the 1980s and after the treatment refers to the current occupation in 2010. The dependent variable is the individual's occupation. It takes values from 1 to 5 for the following categories respectively: agriculture, low-skilled blue collar, high-skilled blue collar, low-skilled white collar and high-skilled white collar. Agriculture refers to skilled agricultural, forestry and fishery workers, low-skilled blue collar refers to plant and machine operators, assemblers and elementary occupations, high-skilled blue collar refers to craft and related trades workers, low-skilled white collar refers to clerical support workers and service and sales workers and high-skilled white collar refers to managers, professionals, technicians and associate professionals. Armed forces occupations are eliminated.

Appendix

Table A11: Robustness checks using Linear Probability Model and IV Regression,
unconditional on the country of destination

	Panel A: 1980s cohort	
	Linear Probability Model	IV Regression
VARIABLES	Upward mobility	Upward mobility
Return migration	0.175***	0.220***
	(0.032)	(0.033)
Observations	1,260	1,239
R-squared	0.307	0.302
	Panel B: 1990s cohort	
	Linear Probability Model	IV Regression
VARIABLES	Upward mobility	Upward mobility
Return migrant	0.139***	0.104***
	(0.034)	(0.037)
Observations	2,276	2,263
R-squared	0.160	0.156
Individual Controls	YES	YES
Household Controls	YES	YES
First job characteristics	YES	YES

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Notes. Coefficient estimates using a linear probability model and IV-regression, where inflation adjusted historical oil prices (in US dollars) are used to instrument return migration from Arab countries for the 1980s cohort (Panel A) and for the 1990s cohort (Panel B). The average age for males at the time of migration for the last episode is 26 years old, for the 1980s cohort and 24 years old, for the 1990s cohort. The inflation adjusted oil prices are matched with the year when each individual was aged 26 years old and 24 years old for each cohort, respectively. Individuals included in the sample are males, had a first job in the 1980s (Panel A) or in the 1990s (Panel B), are aged at least 15 years old at first job and are aged less than 65 years old in 2010. A return migrant is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility, whereas, a stayer is defined as a male who never had any migration experience abroad. Males included in the estimation sample also have a current job in Egypt in 2010. Upward mobility is a dummy variable that takes the value one if the individual's occupation in 2010 is ranked higher compared to his first job occupation in the 1980s (Panel A) or 1990s (Panel B) and zero otherwise, either for individuals who witnessed downward mobility or stayed within the same occupational category. Regressions include individual, household controls and first job characteristics. Individual controls include the following: age in 1980 (Panel A) or in 1990 (Panel B) and its squared term, three dummies for individual's level of educational attainment: primary and preparatory education, secondary education either general or vocational and above secondary education, either post-secondary institute or university education and above; the reference category is no educational degree either illiterate or literate without any diploma and five dummies for individual's geographical regions in 1980 (Panel A) and 1990 (Panel B): Cairo, Alexandria and Canal Cities, Urban Lower Egypt, Urban Upper Egypt and Rural Lower Egypt; the reference category is Rural Upper Egypt. Household level characteristics include mother's and father's level of education, four dummies each: literate without any diploma (read and write), less than intermediate, intermediate and above intermediate, university and post-graduate; the reference category is illiterate. First job characteristics include: sectors of employment, economic activities and the incidence of work contract and social security in the 1980s (Panel A) or in the 1990s (Panel B). Sectors of employment are the following two dummies: government and public enterprises. The reference category is private enterprises and it includes private enterprises, investment/joint venture, international enterprises, non-profit or non-governmental organizations or other including co-operatives. Economic activities are defined according to ISIC-4 classification and include the following five dummies: a dummy variable for agriculture, forestry and fishing, a dummy variable for manufacturing, mining, quarrying and other manufacturing activities, a dummy variable for construction, a dummy variable for wholesale, retail, transportation and storage, accommodation and food services and a dummy variable for professional, scientific, technical, administrative and support service activities. The reference category is a dummy variable for other activities that include information and communication, finance and insurance services, real estate activities, public administration and defense, education, human health and social work. First job characteristics also include a dummy variable for having a work contract, a dummy variable for having social security and dummy variable indicator for missing observations in work contract.

Appendix

**Table A12: Robustness checks using Linear Probability Model,
conditional on the country of destination**

	Panel A: 1980s cohort
	Linear Probability Model
VARIABLES	Upward mobility
Return migrant (oil countries)	0.180***
	(0.034)
Return migrant (non-oil countries)	0.185***
	(0.069)
Observations	1,246
R-squared	0.308
Panel B: 1990s cohort	
	Linear Probability Model
VARIABLES	Upward mobility
Return migrant (oil countries)	0.096**
	(0.038)
Return migrant (non-oil countries)	0.234***
	(0.066)
Observations	2,271
R-squared	0.161
Individual Controls	YES
Household Controls	YES
First job characteristics	YES

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Notes. Coefficient estimates using a linear probability model for the 1980s cohort (Panel A) and for the 1990s cohort (Panel B). Individuals included in the sample are males, had a first job in the 1980s (Panel A) or in the 1990s (Panel B), are aged at least 15 years old at first job and are aged less than 65 years old in 2010. A return migrant is defined as a male who has both worked abroad for more than 6 months and had his final return is Egypt before 2010, or a male who had a job abroad before 2010 considering retrospective data on job mobility, whereas, a stayer is defined as a male who never had any migration experience abroad. Males included in the estimation sample also have a current job in Egypt in 2010. Upward mobility is a dummy variable that takes the value one if the individual's occupation in 2010 is ranked higher compared to his first job occupation in the 1980s (Panel A) or 1990s (Panel B) and zero otherwise, either for individuals who witnessed downward mobility or stayed within the same occupational category. Regressions include individual, household controls and first job characteristics. Individual controls include the following: age in 1980 (Panel A) or 1990 (Panel B) and its squared term, three dummies for individual's level of educational attainment: primary and preparatory education, secondary education either general or vocational and above secondary education, either post-secondary institute or university education and above; the reference category is no educational degree either illiterate or literate without any diploma and five dummies for individual's geographical regions in 1980 (Panel A) or in 1990 (Panel B): Cairo, Alexandria and Canal Cities, Urban Lower Egypt, Urban Upper Egypt and Rural Lower Egypt; the reference category is Rural Upper Egypt. Household level characteristics include mother's and father's level of education, four dummies each: literate without any diploma (read and write), less than intermediate, intermediate and above intermediate, university and post-graduate; the reference category is illiterate. First job characteristics include: sectors of employment, economic activities and the incidence of work contract and social security in the 1980s (Panel A) or in the 1990s (Panel B). Sectors of employment are the following two dummies: government and public enterprises. The reference category is private enterprises and it includes private enterprises, investment/joint venture, international enterprises, non-profit or non-governmental organizations or other including co-operatives. Economic activities are defined according to ISIC-4 classification and include the following five dummies: a dummy variable for agriculture, forestry and fishing, a dummy variable for manufacturing, mining, quarrying and other manufacturing activities, a dummy variable for construction, a dummy variable for wholesale, retail, transportation and storage, accommodation and food services and a dummy variable for professional, scientific, technical, administrative and support service activities. The reference category is a dummy variable for other activities that include information and communication, finance and insurance services, real estate activities, public administration and defense, education, human health and social work. First job characteristics also include a dummy variable for having a work contract, a dummy variable for having social security and a dummy variable indicator for missing observations in work contract.

References

Assaad, R. and Krafft, C. (2013), "The Egypt Labor Market Panel Survey: Introducing the 2012 round", *IZA Journal of Labor & Development* 2013, 2**:**8.

Binzel, C., and R. Assaad (2011), "Egyptian men working abroad: Labour supply responses by the women left behind", *Labour Economics*, 18(1): 98-114.

Bertoli, S. and Marchetta, F. (2015), "Bringing it all back home – Return Migration and Fertility Choices", *World Development*, Vol. 65, pp. 27-40.

Carletto, C. and Kilic, T. (2011), "Moving up the ladder? The impact of migration experience on occupational mobility in Albania", *Journal of Development Studies*, 47(6): 846–869.

De Vreyer P, Gubert F, Robilliard AS (2010) Are there returns to migration experience? An empirical analysis using data on return migrants and non-migrants in West Africa. Ann Econ Stat 97–98:307–328.

Dos Santos, D. and P-V Fabien (2003), 'Migration as a Source of Growth: The Perspective of a Developing Country', *Journal of Population Economics* , **16**(1), 161–75.

Djajic, S. (2014), 'Temporary Emigration and Welfare: The Case of Low-Skilled Labor', *International Economic Review*.

Heitmueller, A. (2004), "Job Mobility in Britain: Are the Scots different?", *Scottish Journal of Political Economy*, 51(3): 329-358.

Lacuesta A (2010) A revision of the self-selection of migrants using returning migrant's earnings. Ann Econ Stat 97(98):235–259.

Masso, J., Eamets, R. and Motsmees, P. (2014), "Temporary migrants and occupational mobility: Evidence from the case of Estonia", *International Journal of Manpower*, 35(6): 753-775.

Reinhold S, Thom K (2013) Migration experience and earnings in the Mexican labor market. J Hum Res 48(3):768–820.

Wahba, J. (2015), "Selection, Selection, Selection: the impact of return migration, *Journal of Population Economics*. July 2015 vol 28: 535-563.

Wahba, J., (2014) Return Migration and Economic Development, In *International Handbook on Migration and Economic Development*, Robert E. B. Lucas, (ed.), Edward Elgar Publishing Ltd.

Wahba, J. and Zenou, Y. (2012), "Out of sight, out of mind: Migration, entrepreneurship and social capital", *Regional Science and Urban Economics*, 42(5): 890–903.