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Return International Migration and Geographical Inequality: The Case of Egypt

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Return International Migration and Geographical Inequality

The Case of Egypt

Barry McCormick¹ and Jackline Wahba²

January 2004

Abstract

This paper explores entrepreneurship amongst return migrants, how their business locations and characteristics differ from other businesses, and the implications for rural-urban inequality. First, we examine, amongst returnees, the determinants of investment in a project/enterprise. Second, we study the impact of return migration on the characteristics and nature of non-farm small enterprises using a sample of return migrants and non-migrant owners of enterprises. Our data indicate that although the share of return migrants originating in urban areas is almost equal to those from rural areas, and that migrants tend to return to their origin region, urban areas benefit more than rural areas from international savings. The empirical evidence suggests that .../...

Keywords: return migration, remittances, developing countries, rural-urban inequality

JEL classification: F22, J23, J24, O15, O53

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overseas savings, and the duration of stay overseas, have positive separate effects on the probability of investing in a project/enterprise amongst returnees. Furthermore, returnees from urban-origin are more likely than rural ones to invest in a non-farm enterprise. The findings also indicate that there is a regional bias in the location of firms and jobs created by returnees compared to non-migrants, in favour of the capital city. Thus, overall, the results support a positive impact of return migration on enterprise investment in urban areas driven by the preference of returnees to invest in urban areas.

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1 Introduction

Migration is rarely only one way. More often than not, migrants return to their home country after a short or long period of time abroad. However, very little is known about the impact of *return* migration on income distribution and inequality in the home country. There has been a considerable interest in the impact of international migration and remittances on the welfare consequences and income inequality in the home country.¹ Although theoretical studies show that emigration is welfare improving for the origin country if accompanied by enough remittances (Djajic 1986),² empirical studies do not consistently find that international migration and remittances improve the welfare and income distribution of the home country. However, these studies focus on the impact of international remittances on inequality in recipient *rural* areas.

The impact of remittances on economic inequality is likely to vary over time and depend on who migrates. In the presence of liquidity constraints and initially high migration costs, only high-income groups can access higher income opportunities abroad and, hence, remittances tend to increase interhousehold inequality at origin. As the number of migrants increases, migration costs tend to decrease thus making migration affordable to low-income households; ultimately, economic inequality decreases. Stark, Taylor and Yitzhaki (1986) show that the distributional impact of remittances within a village strongly depends on the migration history, which captures the magnitude of migration costs. They find that international remittances have a profound inequality creating impact on the income of villages with a relatively recent Mexico-to-US migration experience, and yet reduce inequality in villages with a longer migration tradition. Adams (1989) finds a worsening in the income distribution in rural Egypt as a result of international remittances because they were earned mainly by the upper-income villagers. However, for rural Mexico, Taylor and Wyatt (1996) show that remittances induce an equalizing effect in terms of economic inequality because they are distributed almost evenly across income groups, and also remittances allow access to productive assets and complementary inputs by households at the middle-to-low-end of the income distribution.

Although the empirical literature shows that remittances have an ambiguous impact on inequality, there have been very few studies of the impact of return migration other than that of the effects of remittances in the home country.³ Return migration can, however,

¹ The impact of remittances on growth and income distribution has been widely studied; for example, Adams (1989), Adams (1991), Lucas (1987), Stark et al. (1986), Taylor (1992) and Taylor and Wyatt (1996).

² However the laissez-faire level of migration may not be welfare maximizing if remittances per migrant exceed the origin country wage and there exists a non-traded goods sector (McCormick and Wahba 2000).

³ See Rapoport and Docquier (2004) for a comprehensive survey of both the theoretical and empirical analysis of the determinants and impact of remittances.

affect the economic prospects of the origin countries through at least two main channels. First, emigrants may accumulate savings while overseas, that given the low wages and capital market distortions prevailing in many LDCs, might not have been possible without migrating. Second, overseas work may enable emigrants to acquire new skills and/or enhance human capital accumulation. Both channels can provide crucial inputs to start a business, or otherwise enhance earnings, on return.⁴ Thus, return migrants are potentially carriers of both financial and human capital, technology and entrepreneurship. All of these factors can contribute to the economic development of the home country, but may also affect inequality.

The aim of this paper is to study the effect of return migration and savings on investment, enterprise development, and employment generation in the home country, and differentiate that effect on rural and urban areas. Since, the interest of this paper is in the impact of return migration on rural-urban inequality, we study for Egypt, where about 20 percent of the labour force has worked overseas, the rural-urban residence location of migrants upon return and the rural-urban locational choice of returnees' investment.

First, we examine amongst the returnees the determinants of investment in a project/enterprise. We explore the impact of the spatial origin of return migrants, the use of overseas skills and savings on the probability of returnees investing in business ventures in rural and urban areas. Second, we study the impact of return migration on the characteristics and nature of enterprises using a sample of return migrants and non-migrant owners of non-farm enterprises. We test whether an enterprise that belongs to a return migrant is more likely (i) to be located in the capital city; (ii) to have formal status; (iii) to create good jobs; and (iv) to be in the services sector. This paper is the first to our knowledge to study enterprises of returnees and non-migrants in both urban and rural areas using national-level data.

The small theoretical literature on return migration generally examines the phenomenon as part of life cycle strategy. In this framework, return migration is part of optimal decision-making and is related to savings behaviour of migrants, their investment in human capital acquisition whilst overseas, and the relative wage differences between the host and home country. One reason for return migration is that the marginal utility of consumption is higher in the home country than in the host country (Galor and Stark, 1991). Another motive for return, developed by Dustmann (1997), is the relatively high return to overseas human capital investments in the host country. In addition, exogenous factors can also explain the return of migrants e.g. sickness, war, etc. In this paper we do not study the determinants of return migration, but focus on the nature of its impact on economic development in LDCs. We do not model the duration of migration, but

⁴ Insightful overviews of return migration and its development potential are given by Thomas-Hope (1999) for Jamaica; Diatta and Mbow (1999) for Senegal; and Rodriguez and Horton (1995) for the Philippines.

assume it is exogenous given the temporary nature of migration in the countries we are studying and the institutional barriers created by the importing Middle Eastern countries, though we test this assumption in Section 4.

There have been concerns that remittances and overseas savings are spent on current consumption or housing investment and not invested in productive activities or small businesses—see Taylor (1999) for a summary of that debate. This has led to analysis of the occupational choice of return migrants and in particular self-employment and entrepreneurship. Ilahi (1999), using cross-sectional data from Pakistan, finds that upon return savings become a significant factor in the choice of self-employment over waged employment. Mesnard (1999) models migration as a way to overcome credit constraints in the presence of capital markets imperfections. She finds that the majority of entrepreneurial projects started by Tunisian returnees were totally financed through overseas savings. Dustmann and Kirchkamp (2002) develop a model where migrants decide simultaneously about the optimal migration duration and their after return activities. They find that among Turkish returnees more than half are economically active and most of these engage in entrepreneurial activities. McCormick and Wahba (2001) provide a different insight by showing that savings matter more than human capital acquisition for the probability of entrepreneurship of illiterate Egyptian return migrants. However, for the educated returnees, both access to credit, through overseas savings, and human capital accumulation are significant determinants of entrepreneurship upon return. Unlike Ilahi (1999), Dustmann and Kirchkamp (2002) and Mesnard (1999) who focus on the choice of occupational activity upon return between self-employment and waged work, and McCormick and Wahba (2001) who use a wide definition of entrepreneurship,⁵ in this paper, we focus our analysis on a particular type of entrepreneurship, namely investment in non-farm small enterprises and agricultural projects. In other words, we study return migrants who are business owners. In addition, unlike the above studies, we compare the enterprises of *both* returnees and non-migrants.

Although, there is also a small descriptive literature on the use of remittances in small business formation, those studies are based on case studies of specific communities, for example, Durand and Massey (1992), Escobar and Martinez (1990), Portes and Guarnizo (1991) and Lopez and Seligson (1991). However, Woodruff and Zenteno (2001) is the first study that uses census data (though only for urban areas) and examines the use of remittances (though not return migration) in the creation of micro enterprises. They study whether access to remittances is positively correlated with being an owner of a micro enterprise and examine the determinants of enterprise investments using migration rates by state. They find that remittances are responsible for 20 percent of the capital invested in micro enterprises in urban Mexico. Furthermore, they find that

⁵ In McCormick and Wahba (2001), ‘entrepreneur’ refers to being either an employer, a self-employed, or someone with a business project in addition to their usual economic activity.

most of the output growth associated with remittances by rural-origin migrants is located in urban areas. This suggests that the impact of remittances on investment is largely underestimated in most studies since they focus on the consequences of rural emigration and return for investment in rural areas. Our paper provides the first study using a survey with national coverage so that we are able to both include and distinguish between urban and rural areas when studying the impact of return migration and savings.

In Section 2 we provide some information on international migration and the scale of remittances to Egypt, and a description of the dataset on which our evidence is based. In Section 3 we examine the characteristics of return migrants by rural/urban origin. Section 4 discusses estimates of the probability of return migrants investing in projects/enterprises. In Section 5 we compare the businesses of returnees with those of non-migrants, and test whether return migration influences the nature and characteristics of enterprises. Finally, the main findings are summarized in the Conclusion.

2 Background and data

After the oil boom of 1973, oil-exporting Gulf countries found their development plans constrained by labour shortages, and embarked on importing large numbers of workers from neighbouring countries. At the peak, the Gulf States were importing 90 percent of their labour force. However, these countries have strict labour and migration laws, and all imported workers are on temporary contracts. This has resulted in a high imported labour turnover. For example, Egypt—who has been exporting both educated and uneducated labour to the Gulf States—have had around 10 percent of its labour force working overseas at any point in time. Another important consequence has been huge inflow of remittances to labour exporting countries such as Egypt, Jordan, Pakistan and Bangladesh. It is estimated that official total remittances from the Gulf countries have been around \$70 billion during the last three decades. Remittances to Egypt have been amongst the highest in the world, peaking at \$6.1 billion in the early 1990s, and ranging between 5-11 percent of GDP. Remittances have been a major source of Egypt's foreign currency, not considerably different to the value of merchandise exports. Hence, given the temporary nature of migration and the magnitude of remittances, Egypt seems a good case study for the impact of return migration on entrepreneurship.

This study uses data from the October 1988 special round of the Labour Force Sample Survey (LFSS), which was carried out by the Central Agency of Public Mobilization and Statistics (CAPMAS) in Egypt. The 1988 LFSS is nationally representative and includes extensive data on basic demographics and employment characteristics, in addition, to several supplementary survey modules. One of which is on workers who are return migrants, where a migrant refers to someone who spent a minimum of six months overseas and has been overseas only for employment purposes. This return migration module describes the main characteristics of just over 1,520 returnees in the labour

market before and after migration, in addition to details on migration; country of destination, migration duration, and savings whilst overseas.

In addition, the 1988 LFSS had a supplementary module on the nature of establishments where around 14,000 workers were surveyed. This module being part of a household survey gathered information on all economic units and establishments regardless of firm size as is common in establishment surveys and thus captured all employment in the economy not just that that occurs within fixed establishments of a certain size. The economic unit module is extremely valuable in providing detailed picture of informal employment, compliance with labour regulations, and the legal status of firms. We use these data in Section 5 to study the impact of return migration on different characteristics of enterprises.

3 Characteristics of return migrants

We begin by examining the characteristics of return migrants by urban/rural origin, given in Table 1. First, it is important to note that the share of our sample of return migrants *originating* in urban areas is almost equal to those from rural areas. Unsurprisingly, there are only small differences in certain of the observed characteristics of returnees with respect to their origin: almost all rural-origin returnees are males (97 percent) compared to 92 percent of urban-origin returnees, while the average age of rural origin returnees is slightly less than that of urban origin returnees (38 years compared to 40 years).

However, other characteristics show larger rural-urban differences. Urban origin returnees tend to be more educated: only 16 percent of urban origin returnees have no formal education compared to 44 percent of the rural origin returnees. There also appear to be differences between the occupations whilst overseas of both groups. Almost 78 percent of rural-origin returnees were employed as agriculture or production workers, compared to 47 percent of urban-origin returnees. Around one-third of urban-origin returnees were involved in technical, scientific and management occupations. Indeed, 47 percent of the urban-origin returnees reported to have acquired useful skills whilst overseas that were beneficial on their return, compared to only 25 percent among the rural-origin group. Rural-origin returnees stay on average less than 2 years overseas (1.9 years), whilst, those from urban-origin stay longer (3.2 years). Another significant difference concerns the amount of overseas savings they accumulate (in 1988 prices). Obviously given that the urban sample is on average more educated, hence their overseas wages are higher and so are their savings. The average monthly savings of urban-origin returnees is twice as much as that of rural-origin (*LE* 777 compared to *LE* 366). Given that urban origin migrants stay longer and save more, their average total savings is almost three times as much. In addition, since the proportion of returnees settling in urban areas is not very different from that which goes back to rural areas

Table 1: Characteristics of return migrants by origin

	Urban Origin	Rural Origin	All Returnees
Male (%)	91.71	97.31	94.52
Mean age, 1988	40.35	38.02	38.84
Married, 1988	82.57	90.04	87.54
<i>Education (%), 1988</i>			
Illiterate	15.65	43.78	29.70
Read and write	14.79	21.31	18.06
Primary	12.79	6.29	9.56
Preparatory	23.83	16.53	20.10
Secondary	5.07	3.46	4.25
University and higher	27.89	8.54	18.30
<i>Occupation overseas (%)</i>			
Technical & scientific	31.94	9.99	20.96
Management	0.99	0	0.49
Clerical	5.41	1.99	3.70
Sales	4.64	3.66	4.16
Services	9.84	6.86	8.35
Agriculture	2.61	24.80	13.75
Production	44.56	52.71	48.58
<i>Skills acquired abroad</i>			
Beneficial to current job (%)	47.46	25.37	33.78
<i>Overseas duration and savings</i>			
Mean years spent overseas	3.18	1.92	2.56
Average monthly overseas savings per migrant (LE)	777	366	571
Total overseas savings per migrant (LE)	46,064	12,723	29,331
<i>Year of overseas migration (%)</i>			
Pre 1974	15.31	6.66	10.97
1974-78	25.95	13.46	19.68
1979-82	35.72	35.86	35.79
1983-85	17.79	31.25	24.55
1986-88	5.23	12.77	9.02
<i>Years back from overseas</i>			
Less than 2 years	14.41	21.44	17.94
2-5 years	44.32	49.51	46.93
6 years or more	41.27	29.05	35.13
<i>Sample Size : N</i>			
(%)	49.87	50.13	100

Source: Authors' calculation based on the 1988 LFSS.

(Table 2A), the total amount of savings going back to urban areas is more than three times as much (*LE* 34 million compared to *LE* 10 million). Thus, urban areas seem to benefit more than rural areas in attracting savings.

Amongst those that return to Egypt, the scale of international out-migration in the years prior to our 1988 survey evidence reveal a simple inverted 'U' shape to the time pattern, with a peak in 1982, as given in Figure 1. Likewise the year of a migrant's return also follows this shape, only with a peak in 1985, as given in Figure 2. This is consistent with the survey evidence that the mean overseas spell length was around 2-3 years. In the period up to 1983 migration was primarily from urban areas but this was sharply reversed in the post-1983 era. Figures 1 and 2 together confirm that the decreasing urban share of out-migration from Egypt is subsequently reflected in the same change in the share of return migrants to urban and rural areas. This reflects, at a macro level, evidence that migrants tend to return to their origin region.

Figure 1: Estimates of number of migrants, by year of migration and region of origin

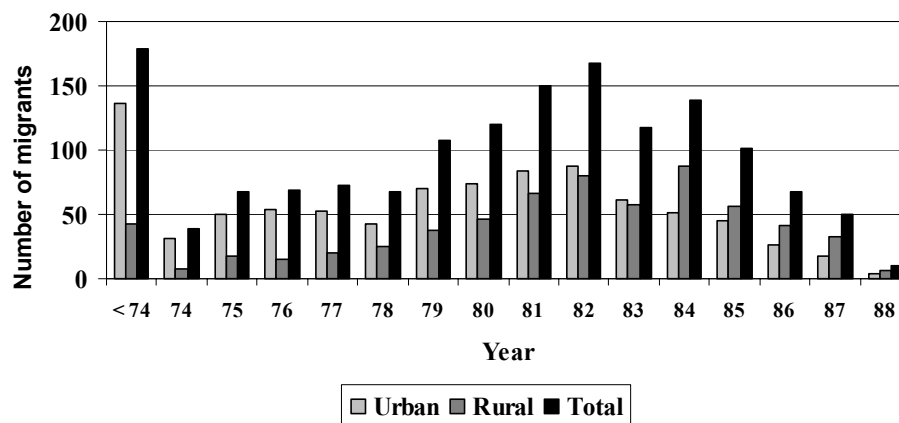


Figure 2: Estimates of number of return migrants, by year of return and region of origin

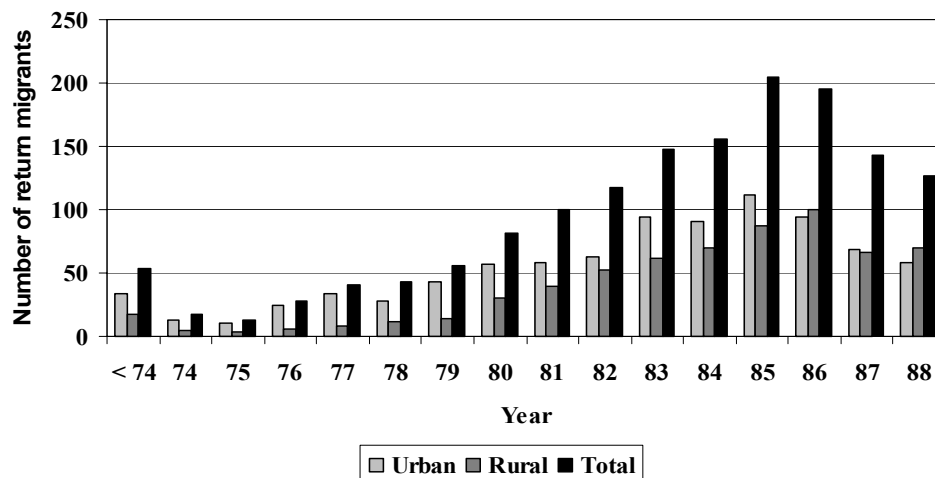


Table 2A: Regional origin and destination of returnees¹ (%)

	Pre-migration	In 1988
Urban	49.87	48.52
Rural	50.13	51.48
<i>Regions</i>		
Greater Cairo	27.58	26.63
Alexandria and Canal Cities	7.65	8.30
Lower Urban	10.61	10.52
Upper Urban	4.02	3.07
Lower Rural	25.59	25.33
Upper Rural	24.54	26.15

Note: ¹Region of residence.

Source: Authors' calculation based on the 1988 LFSS.

Table 2B: Transitional probabilities of returnees by region¹ (%)

Pre-migration	In 1988						
	Greater Cairo	Alex. and Canal Cities	Lower Urban	Upper Urban	Lower Rural	Upper Rural	TOTAL
Greater Cairo	91.53	0.51	0.76	0.00	0.67	6.53	100.00
Alexandria and Canal Cities	1.76	95.41	2.24	0.00	0.59	0.00	100.00
Lower Urban	2.29	1.86	91.84	0.00	4.01	0.00	100.00
Upper Urban	7.50	3.15	2.25	73.18	0.00	13.92	100.00
Lower Rural	1.21	1.20	1.17	0.00	96.42	0.00	100.00
Upper Rural	1.61	0.93	0.00	0.52	0.00	96.94	100.00

Note: ¹Region of residence.

Source: Authors' calculation based on the 1988 LFSS.

There is a concern that international migrants develop a taste for either 'big city' life or the facilities of urban areas, and hence that returnees might settle back in more dense urban areas than in their origin. Table 2A shows that 49.9 percent of migrants originate from urban areas and 48.5 percent return to urban areas. In addition, the share of returnees that lived in Greater Cairo before migration is (27.6 percent) while on return that share is 26.6 percent. Thus, overall the data do not support the hypothesis that return migrants have different preferences for cities than prior to migration. This contrasts with Woodruff and Zenteno (2001) who find that Mexican returnees from the US tend to settle in cities rather than in rural areas. However, it is important to also examine the transitional probability of returnees by region in order to examine flows rather than just stocks. Table 2B suggests that although up to 90 percent of all migrants go back to their region of origin, only 73 percent of Urban Upper Egypt residents do. Since looking at regions might still be masking movements *within* region, a more disaggregate picture is provided. Around 8 percent of all returnees have changed either their geographical location of residence crossing either a governorate or urban/rural

Table 3: Work characteristics of returnees by urban/rural residence (%)

	Urban residents		Rural residents		All returnees	
	Before migration	In 1988	Before migration	In 1988	Before migration	In 1988
<i>Employment Status</i>						
Waged	73.15	66.06	51.32	52.50	62.26	58.70
Employer	2.68	10.40	17.58	26.25	10.10	18.51
Self-employed	7.34	10.63	9.11	8.91	8.24	9.68
Unpaid family worker	1.40	0.01	10.97	5.31	6.21	3.14
Unemployed	1.98	6.36	2.07	3.58	2.03	4.92
Unemployed new entrant to labour market	5.32	---	4.26	---	4.79	---
Out of labour force	8.14	6.21	4.70	3.29	6.39	4.70
<i>Sector of employment</i>						
Government	35.29	33.71	17.02	25.39	25.91	29.32
Public enterprises	39.52	13.52	49.27	4.30	44.49	8.59
Private	25.19	52.77	33.71	70.31	29.60	62.09
<i>Occupation</i>						
Technical & scientific	34.89	31.31	10.82	15.85	22.55	23.07
Management	1.14	4.65	0	0.26	0.55	2.32
Clerical	7.12	7.86	3.12	6.46	5.07	7.13
Sales	6.03	10.44	2.08	3.44	4.01	6.72
Services	5.15	7.56	4.83	5.91	4.56	6.69
Agriculture	2.59	2.87	59.25	50.67	31.62	28.27
Production	43.09	35.30	19.89	17.41	31.63	25.80
<i>Industry</i>						
Agriculture	3.79	3.93	60.03	50.93	32.61	28.90
Mining & Manufacturing	23.38	20.36	8.89	7.89	15.95	13.73
Electricity	0.57	0.61	0.45	1.12	0.51	0.88
Construction	15.40	11.34	7.69	5.16	11.45	8.06
Trade	10.28	16.01	3.93	5.29	7.02	10.28
Transport	8.57	9.31	3.80	6.70	6.93	7.93
Finance	1.47	2.87	0.18	0.52	0.80	1.02
Services	36.55	35.57	15.03	22.38	25.53	28.58
<i>Sample Size</i>	<i>762</i>	<i>741</i>	<i>766</i>	<i>787</i>	<i>1528</i>	<i>1528</i>

Source: Authors' calculation based on the 1988 LFSS.

boundary.⁶ Only 3.4 percent of rural origin returnees moved to urban areas, while 6.1 percent of urban origin returnees moved to rural areas by 1988. In addition, 3.4 percent of returnees have moved to a different governorate by the time of our survey. In

⁶ There are 26 governorates and 6 regions in Egypt. There are 4 urban-only governorates; Greater Cairo, Alexandria, Port Said, and Suez. All other 22 governorates have both urban and rural areas.

summary, the distribution of return migrants by both regional and rural/urban locations of residence was similar to that prior to migration, with very few migrants not returning to their former region.

Since we are interested in the impact of working overseas on subsequent work and productivity on return, Table 3 displays the employment characteristics before and after migration by urban/rural residence. The proportion of employers in our sample rises from 10 to 19 percent between the pre-migration and post-return periods. Although the shares of employers increase in both urban and rural areas, the increase is striking in urban areas, fourfold, compared to 50 percent in rural areas. Although the proportion of waged urban workers falls, that is not the case in rural areas. Another difference between urban and rural workers is that twice the proportion of urban workers has exited the labour force by 1988, compared to rural workers.

An examination of the public or private nature of work, before and after, migration suggests more striking changes. Whereas 45 percent of migrants had worked in public enterprise before migration only 9 percent did so on return (Table 3). In contrast, about one third of return migrants enter the private sector having previously not been employed there. However, those sectoral changes apply to both urban and rural residents. Another noticeable change occurred in our migrants' occupations. About 5 percent more workers living in rural areas (an increase of around 50 percentage points) have technical and scientific jobs after returning compared to pre-migration. Also, more workers (around 4 percentages points) dwelling in urban areas have managerial jobs after returning compared to only 1 percent pre-migration. Moreover, fewer workers both urban and rural are employed as production workers post-migration. In other words, there seems to be some evidence that returnees have acquired human capital whilst overseas that has had an impact on their occupation and productivity. It is also important to note that there are fewer (9 percentage points less) rural workers engaged in agriculture. About 6 percentages more of urban dwellers are engaged in trade on return and 7 percentages more of rural dwellers are employed in services. Nevertheless, overall the migrants returned to broadly similar industrial patterns of employment.

Uses of savings by migrants and their families have received a lot of attention in the literature. In our sample, and similar to many other studies (see for example, Adams 1991) a large proportion of returnees invested in housing. Half of all rural-origin returnees, and 42 percent of urban-origin returnees, invested in housing. One third of all returnees report not having any savings—36 percent of rural-origin and 30 percent of urban-origin returnees were unable to make any savings at all. However, what is of interest to us in this paper is that 10 percent of returnees invested in economic projects as shown in Table 4. In Section 4 we will examine the characteristics of returnees who invested in business projects.

Table 4: Uses of savings by region of origin¹ (%)

	Urban	Rural	Total sample
Economic projects	12.54	7.58	10.08
Banks	15.27	3.06	9.13
Investment companies	3.76	0.96	2.35
Gold and jewellery	3.87	3.07	3.47
Housing	42.06	50.10	46.10
Securities and shares	0.06	0	0.03
Others	8.43	8.23	8.33
No savings	30.43	35.59	33.00

Note: ¹ More than one response allowed.

Source: Authors' calculation based on the 1988 LFSS.

4 The investment projects of return migrants: who, where and what?

In this section we discuss the investment behaviour of returning migrants, and begin by contrasting characteristics of returnees who invest in projects and businesses, with those who do not. We distinguish between two types of investment: agricultural projects and non-farm enterprises. We also separate those who have invested in *new* non-farm enterprises after returning. We then construct an econometric model of the probability that a returning migrant invests into a project.⁷ We estimate four different models to distinguish between different types of investments as follow:

- (i) agricultural project or non-farm enterprise
- (ii) agricultural project only
- (iii) non-farm enterprise only, and
- (iv) *new* non-farm enterprise.

In this section, we focus on returnees who are either employers or self-employed who have either invested in agricultural projects or invested in non-farm enterprises.⁸

⁷ We limit our analysis to a sample of return migrants to avoid sample selection problems since we cannot correct for selectivity into migration. Data limitations do not allow us to correct for self-selection into migration (i.e. who migrates and who does not) because we only have data on return migrants and on non-migrants, but not on non-returnees.

⁸ We only study those two types of activities. Thus, those who have invested in an entrepreneurial activity, but have no fixed location for their establishments (for example, street vendors, construction workers, etc.) are not considered.

Table 5: Descriptive statistics of returnees who invested in projects

	Project or enterprise		Agriculture project		Non-farm enterprise		New non-farm enterprise		No project or enterprise	
	<i>mean</i>	<i>Std. dev</i>	<i>mean</i>	<i>Std. dev</i>	<i>mean</i>	<i>Std. dev</i>	<i>mean</i>	<i>Std. dev</i>	<i>mean</i>	<i>Std. dev</i>
<i>Characteristics of overseas stay</i>										
Average monthly savings (LE)	720	1976.13	337	511.24	1225	2880.09	741	1480.53	529	945.49
Average total savings (LE)	62,344	288,879	13,370	37,694	126,984	430,144	65,036	196,893	20,047	44,998
Months spent overseas	35.65	41.26	23.50	27.03	51.58	50.40	44.06	40.80	29.12	32.85
<i>Years back from overseas</i>										
Less than 2 years, dummy=1	18.78	39.11	22.68	41.96	13.64	34.44	26.53	44.58	17.71	38.19
2 - 5 years ago, dummy=1	44.82	49.81	47.76	50.10	40.91	49.33	39.93	49.46	47.52	49.96
More than 5 years, dummy=1	33.41	47.24	29.62	45.79	45.45	49.96	33.54	47.68	34.77	47.65
<i>Individual characteristics</i>										
Male (%)	99.79	4.62	100	0	99.51	7.04	98.40	12.66	93.04	25.46
Age (years)	42.49	10.99	43.64	11.19	40.97	10.56	40.10	9.96	38.26	11.21
Education (%): Illiterate	45.81	49.90	64.12	48.10	21.64	41.32	19.66	40.14	25.26	43.47
less educated	43.87	49.70	34.42	47.65	56.35	49.76	56.61	50.05	48.84	50.01
highly educated	10.31	30.46	1.45	11.99	22.01	41.57	23.73	42.96	25.90	43.83
Useful skills acquired abroad	32.65	41.26	18.59	39.01	49.94	50.16	31.74	47.01	34.84	47.67
<i>Employment characteristics before migration (%)</i>										
Government sector	7.05	25.64	2.48	15.60	13.08	33.83	12.94	33.90	26.79	44.31
Public enterprise	48.05	50.04	56.12	49.77	37.39	48.55	34.28	47.94	36.01	48.02
Pre-migration establishment	13.35	34.35	----	----	30.96	46.39				
Region of origin (%): urban	33.41	47.24	4.11	19.91	72.08	45.01	78.74	41.32	54.42	49.83
Sample size: n (%)	319 (20.88%)		170 (11.13%)		149 (9.75%)		98 (6.98%)		1209 (79.12%)	

Source: Authors' calculation based on the 1988 LFSS.

Table 5 gives the descriptive statistics of those return migrants who invest in agricultural projects, those who invest in non-farm enterprises and those who do not invest in any project. First, the average overseas total savings of returnees who invest in agricultural project is the lowest among all returnees. However, the importance of total savings is much greater for those returnees who invest in non-farm enterprises.

We shall explore in our model below how far savings play a role in explaining the birth of new enterprises amongst the return migrants. Second, those who invest in non-farm enterprises have on average spent longer spells overseas of 4.3 years relative to a mean figure of 2.4 years, of the non-investor returnees. Returnees, who invest in agricultural projects are males, tend to be on average older than the rest of the sample and a large proportion of whom (64 percent) are illiterate. A significant overall feature of returnees who invest in non-farm enterprises is that they are broadly drawn from all educational categories. However, they are on average more educated than those investing in agriculture. Finally, and not surprisingly, the majority of agricultural investors (96 percent) live in rural areas. However, owners of non-farm enterprises tend to be predominantly urban dwellers. Thus, the descriptive statistics suggest an important geographical bias among returnees—rural returnees tend to invest in agricultural projects, while urban returnees invest in non-farm enterprises.

Now, we construct a simple econometric model of the probability that a return migrant invests in a project/enterprise. We are interested in examining the determinants of investing in an enterprise, and whether overseas migration facilitates that process through two channels. First, overseas savings may provide individuals who otherwise are capital constrained with an opportunity to start an enterprise. As Evans and Jovanovic (1989) discuss, liquidity constraints tend to exclude those with insufficient capital to become entrepreneurs. Secondly, overseas emigration may promote a more effective flow of information and knowledge and raise human capital of emigrants. Hence, we conjecture that the length of time spent overseas matters because of its implications on human capital acquisition, holding constant total savings.

We assume that the pay-off from the decision to start a project/enterprise is an unobserved variable y^* , and that

$$y^* = \beta_0'x + \gamma S + \lambda D + \mu$$

where S is accumulated overseas savings, D is duration of overseas work experience in months, x is a vector of individual and demographic characteristics of the returnee - such as urban/rural origin, age and educational background, and μ is normally distributed error term with mean zero and variance one. Since we do not observe y^* , only whether or not a returnee has invested in a project/ enterprise or not

$$y = 1 \text{ if } y^* > 0,$$

$$y = 0 \text{ if } y^* \leq 0$$

We estimate four different models using probit. First we study the probability that a returnee invests in either an agricultural project or in a non-farm enterprise. Second, we examine the probability that a returnee invests only in an agricultural project. Third, we study the probability that a returnee invests in an economic (a non-farm enterprise) project. Finally, we study the probability that a returnee establishes a new non-farm enterprise conditional upon not having an enterprise before migrating. The results of these four models are given in Table 6. In each model we have included a range of demographic characteristics capturing the age of the returnee in 1988, the educational level achieved by the returnee, the urban or rural origin of the individual, and whether the individual was originally working in the government or public enterprise sector. In addition for two of the models where we include individuals who have had non-farm enterprises prior to overseas migration, we allow for this characteristic. The results of estimating probit models of these four specifications are shown in Table 6 where the marginal effects are reported.

First, we focus on the two variables capturing overseas savings and time spent overseas. Given time spent overseas, we find that higher overseas savings generate a higher probability of a returnee investing in an agricultural project or non-farm enterprise, all else held equal. Thus, our empirical evidence supports the hypothesis that access to credit through overseas migration and savings play an especially critical role in the decision to start economic ventures. Another interesting issue is whether the length of overseas employment matters if we control for total savings. If the savings constraint is the only channel whereby overseas work can enhance establishing enterprises, then duration should not have a separate influence. We find that the effect of duration overseas given total savings on the probability of investing in a non-farm enterprise, whether new or old, is positive and significant. This suggests that learning overseas may matter for explaining entrepreneurship and that the influence of overseas work arises from channels other than the relaxation of a savings constraint. However, that relationship is negative and insignificant in the case of agricultural projects, i.e. overseas working experience has an insignificant impact on the probability of a returnee investing in an agricultural project. To test the hypothesis that overseas migration provides emigrants with an opportunity to enhance their skills and human capital, the last column in Table 6, includes a dummy capturing whether the returnee reported that he has acquired useful skills whilst overseas. We find that there is a positive relationship between those who report having benefited from overseas work and the probability of investing in non-farm enterprise.

Examining the rest of the explanatory variables, the age of the returnee does not seem to have a significant influence on the probability that they start an enterprise but has a positive significant impact on investing in agriculture. In addition, there seems to be no selectivity by education when it comes to investing in enterprises—the educated are as likely as the uneducated to establish enterprises amongst return migrants. The role of

Table 6: Determinants of businesses investment amongst returnees: marginal effects

	Projects/ enterprises	Agriculture projects	Non-farm enterprises	New non-farm enterprises	New non-farm enterprises
<i>Characteristics of overseas stay</i>					
Total savings	0.043 (2.48)	0.027 (1.84)	0.007 (2.82)	0.007 (2.61)	0.004 (2.38)
Months spent overseas	0.002 (3.78)	-0.001 (1.61)	0.001 (5.81)	0.0005 (6.27)	0.0003 (5.28)
Dummy=1, if returned 2-5 years ago	-0.001 (0.02)	-0.044 (1.05)	0.013 (1.50)	0.023 (2.23)	0.018 (2.23)
Dummy=1, if returned more than 5 years	-0.008 (0.16)	-0.139 (2.98)	0.045 (3.66)	0.062 (4.63)	0.050 (4.46)
<i>Individual characteristics</i>					
Male	0.307 (2.62)	---	0.029 (2.21)	---	---
Age	0.008 (4.08)	0.013 (5.07)	0.0001 (0.36)	-0.0003 (1.28)	-0.0002 (1.13)
<i>Education (ref.: illiterate)</i>					
Less educated	-0.067 (1.82)	-0.109 (2.71)	0.014 (1.42)	0.007 (0.99)	0.004 (0.73)
Highly educated	-0.148 (4.08)	-0.258 (3.71)	0.002 (0.16)	-0.008 (1.34)	-0.008 (1.76)
Useful skills acquired abroad	----	----	----	----	0.030 (3.50)
<i>Employment characteristics before migration (ref.: private sector)</i>					
Government sector	-0.261 (6.56)	-0.208 (2.29)	-0.261 (4.13)	-0.020 (3.66)	-0.015 (3.77)
Public enterprise sector	0.006 (0.18)	0.062 (1.53)	-0.006 (0.62)	-0.002 (0.29)	-0.002 (0.30)
Pre-migration establishment	0.337 (4.51)	----	0.236 (8.20)	----	----
<i>Region of origin</i>					
Urban	-0.211 (7.61)	-0.337 (9.65)	0.025 (1.65)	0.020 (1.66)	0.014 (1.61)
Base ¹	0.394	0.370	0.031	0.024	0.017
Sample size	1523	1523	1523	1401	1401
Log likelihood	-639.88	-352.32	-382.22	-303.39	-296.27

Notes: Absolute values of robust t-statistics are in parentheses. Robust (Huber/White/sandwich) estimator of the variance was used in place of the conventional Maximum Likelihood Estimation variance estimator and observations were allowed to be not independent within cluster. Marginal effects show the increment in the probability and are calculated at the reference set of individual characteristics and sample means.

¹The reference individual is male returnee with no education, from rural origin, working in the private sector prior to migration.

Source: Authors' calculation based on the 1988 LFSS.

public employment is an interesting one. Workers in the official government sector are perhaps unsurprisingly less likely to become investors but those in the government-owned public enterprise sector are as likely to become investors as those in our reference group, private sector employees.

Given our interest in spatial inequality, it is important to explore how far amongst return migrants the probability of establishing businesses is affected by the region from which the individual originated. We find clear evidence that even after controlling for individual characteristics and savings and duration overseas, that region of origin makes a significant difference to the probability of a returnee investing in a project. Rural-origin returnees are much more likely than urban-origin ones to invest in agricultural projects. However, urban-origin returnees are more likely than their rural counterparts to invest in a non-farm enterprise though this is only significant at the 10 percent level.

5 The impact of return migration on the characteristics of enterprises

In this section, we contrast the location and other characteristics of small enterprises owned by return migrants with those of other enterprises not owned by returnees. Thus, unlike the previous section, we do not limit our analysis to return migrants. We study all owners (employers and self-employed) of non-farm small enterprises. We use a nationally representative sample of 1,220 owners of enterprises conducted at the household level from the 1988 LFSS supplementary module on the economic unit which samples private family-owned, non-farm establishments; i.e. small enterprises.⁹ Since the survey is household based, we have information on both regulated/registered and unregulated/unregistered enterprises. Thus we are able to study firms operating within the informal sector.

Table 7 displays the characteristics of the owners and their enterprises, distinguishing between return migrants and non-migrants. Our sample is made of 1,220 non-farm small enterprises where 149 units are owned by return migrants; i.e. around 12 percent of enterprises are owned by returnees. First, we discuss the characteristics of the *owners*. Then we compare the characteristics of the *firms*. Returnee owners seem to be on average three years younger than non-migrant owners and mostly male. In addition, returnees tend to be more educated; 22 percent compared to 13 percent among non-migrants. Although 70 percent of non-migrants and 73 percent of returnees are urban dwellers, the proportion of returnees living in Greater Cairo is quite higher than that of non-migrants; 40 percent compared to 31 percent.

⁹ Those enterprises are small in the sense that they are non-corporate and family-owned. There is no restriction in sampling based on firm size, though the mean number of employees is less than 5 workers in around 85 percent of enterprises.

Table 7: Characteristics of non-farm enterprises and owners, 1988

	Returnees	Non-Migrants	Total
<i>Individual characteristics of owners</i>			
Mean age in 1988	40.97	43.56	43.22
Male (%)	99.51	83.92	85.98
<i>Education (%)</i>			
Illiterate	21.64	36.33	34.38
Less educated	56.35	50.83	51.56
Highly educated	22.01	12.84	14.05
<i>Region of residence (%)</i>			
Greater Cairo	40.41	30.58	31.88
Alexandria and Canal Cities	14.48	12.82	13.04
Lower Urban	15.44	20.14	19.52
Upper Urban	2.70	6.84	6.29
Lower Rural	12.59	18.16	17.42
Upper Rural	14.38	11.46	11.84
URBAN	73.03	70.38	70.74
RURAL	26.97	29.62	29.26
<i>Characteristics of non-farm enterprises</i>			
<i>Location (%)</i>			
Greater Cairo	47.29	32.36	34.34
Alexandria and Canal Cities	14.20	12.92	13.08
Lower Urban	16.93	23.52	22.65
Upper Urban	4.03	8.35	7.78
Lower Rural	11.38	15.09	14.60
Upper Rural	6.17	7.76	7.55
URBAN	82.45	77.01	77.73
RURAL	17.55	22.81	22.12
<i>Industry (%)</i>			
Agriculture	1.49	0.92	1.00
Mining and manufacturing	27.51	26.41	26.56
Construction	4.96	1.54	1.99
Trade	42.11	57.13	55.15
Transport	1.09	0.91	0.94
Finance	4.70	3.80	3.92
Services	18.14	9.17	10.36
<i>Estimated value of capital invested (LE)</i>			
none	2.29	0.80	1.00
less than 100	2.57	6.31	5.81
100-499	5.58	11.29	10.54
500-999	6.27	12.07	11.30
1000-4999	25.29	23.55	23.78

table continues...

	Returnees	Non-Migrants	Total
5000-9999	21.71	18.63	19.04
more than 10000	35.20	26.12	27.32
Mean estimated value of capital invested (LE)	11124	8638	8966
Number of employees			
less than 5	86.36	84.56	84.80
5-9	7.34	9.07	8.84
10-19	2.49	3.87	3.69
20-49	0.99	1.42	1.36
50 or more	1.95	0.14	0.38
Mean number of employees	5.89	4.30	4.51
<i>Ownership (%)</i>			
Sole owner	70.72	76.39	75.64
<i>Year established (%)</i>			
Pre 1952	4.02	8.42	7.84
1952-59	2.29	8.79	7.93
1960-69	6.85	16.11	14.88
1970-1979	17.90	26.57	25.43
1980-1988	62.56	38.48	43.81
<i>Pre-migration establishment</i>	30.96	----	30.96
<i>Firm has tax file (%)</i>			
yes	76.24	67.46	68.62
no	15.82	23.38	22.38
<i>Firm has registration/licence (%)</i>			
yes	80.49	73.78	74.80
no	14.35	16.08	15.85
not required	4.16	10.02	9.25
<i>Workers contribute to social security (%)</i>			
all	14.75	12.66	12.94
none	32.99	31.98	32.12
<i>Workers get paid leave(%)</i>			
all	18.14	10.53	11.54
some	6.94	6.10	6.21
none	66.40	72.33	71.55
Total size	149	1071	1220
(%)	12.21	87.79	100

Source: Authors' calculation based on the 1988 LFSS.

We now examine the characteristics of small enterprises owned by returnees and stayers. First, considering the location of firms, a significant difference is that returnees tend to locate almost half of their firms (47 percent) in Greater Cairo compared to a third (32 percent) by non-migrants. Second, it seems that there are differences in the

industry or activity of both groups. The share of returnee enterprises engaged in services activities is twice that of stayers. On the other hand, non-migrant enterprises tend to be concentrated in trade activities. The proportion of returnee enterprises in manufacturing is about the same as that of non-migrants; 28 percent compared to 26 percent.

A significant difference between returnee and non-migrant firms is the higher average estimated value of capital invested (in 1988 prices) by returnees.¹⁰ The average for returnee firms is *LE* 11,124, while that for stayers is only *LE* 8,638. It is worth noting that around 2 percent of returnees and 1 percent of the stayers report zero as the estimated value of capital invested at the time of survey. Another apparent difference of returnee firms is the higher average number of employees. Returnees create on average 1.5 more jobs per establishment than do stayers. Overall, return migrants are responsible for 15 percent of the capital invested in small enterprises and 15 percent of the associated employment generation.

Table 8: Number of jobs created by region (%)

	Returnees	Non-Migrants
Greater Cairo	50.79	38.14
Alexandria & Canal Cities	11.06	11.61
Lower Urban	22.01	19.34
Upper Urban	2.71	8.72
Lower Rural	9.71	15.76
Upper Rural	3.72	6.43
Urban	86.57	77.81
Rural	13.43	22.19
Total (%)	100.00	100.00
Total number of jobs	886	4911

Source: Authors' calculation based on the 1988 LFSS.

Considering the geographical location of these jobs, Table 8 shows that 51 percent of jobs created by the returnees are located in Greater Cairo compared to 38 percent for other owners. In addition, only 13 percent of jobs created by returnees are located in rural areas, compared to 22 percent in the case of non-migrants. Thus, our data suggest that there is a regional bias in firms and jobs location in favour of the capital city or the mega city. Furthermore, examining the region of residence of the owners and their chosen location for their enterprises, there is a clear indication amongst both groups, that more than half of the Upper Rural dwellers establish their firms in another region (Table 9). However, amongst Upper Rural dwellers, the non-migrants tend to locate their firms in Urban Upper, while returnees favour Greater Cairo. Cornelius (1990) also

¹⁰ Individuals were asked about the current estimated value of the capital invested in the enterprise at the time of the survey in 1988.

finds that in Mexico, rural recipients of remittances often choose to invest in small businesses in urban areas, where both products and inputs markets are larger.

The majority of enterprises are small-scale with less than 5 employees; 86 percent of returnee firms and 85 percent of non-migrant firms as Table 7 shows. However, the proportion of returnees who are not sole owners is 5 percent less than stayers; i.e. returnees tend to be more likely to invest in partnership, or have joint investment. It is not surprising that on average the firms established by returnees are more recent, although 31 percent of returnee firms are established prior to emigration. In addition, to being interested in the geographical location of firms and jobs created, it is important to examine: (i) the nature of these firms whether they are operating as formal establishment and paying taxes thus raising government revenue or not; and (ii) the nature of these jobs and whether they are ‘good’ jobs or not. First, our sample suggests that around three-quarters of returnee firms (76 percent) pay taxes, while only 67 percent do so among non-migrants. Also, 80 percent of returnee firms have a licence or registration, compared to 74 percent of non-migrant enterprises. Secondly, it seems that returnees are as likely to employ casual workers who do not contribute to social security as non-migrants. However, returnees are more likely to provide ‘good’ jobs by giving paid leave to their employees.

Table 9: Residence of business owners and location of businesses (%)

Residence	Business location						
	<i>Returnees</i>						
	Greater Cairo	Alexandria and Canal Cities	Lower Urban	Upper Urban	Lower Rural	Upper Rural	TOTAL
Greater Cairo	100.00	0.00	0.00	0.00	0.00	0.00	100.00
Alexandria & Canal Cities	0.00	94.81	5.19	0.00	0.00	0.00	100.00
Lower Urban	0.00	3.02	45.68	0.00	51.30	0.00	100.00
Upper Urban	0.00	0.00	0.00	78.43	0.00	21.57	100.00
Lower Rural	0.00	0.00	72.53	0.00	27.47	0.00	100.00
Upper Rural	47.80	0.93	0.00	13.34	0.00	38.86	100.00
	<i>Non-migrants</i>						
	Greater Cairo	Alexandria and Canal Cities	Lower Urban	Upper Urban	Lower Rural	Upper Rural	TOTAL
Greater Cairo	98.15	0.00	0.00	0.60	1.26	0.00	100.00
Alexandria & Canal Cities	0.00	100.00	0.00	0.00	0.00	0.00	100.00
Lower Urban	0.35	0.35	60.33	0.00	38.96	0.00	100.00
Upper Urban	0.00	0.00	0.0	57.24	0.00	42.76	100.00
Lower Rural	0.00	0.00	62.37	0.00	37.63	0.00	100.00
Upper Rural	19.65	0.00	0.00	37.58	0.00	42.78	100.00

Source: Authors' calculation based on the 1988 LFSS.

We now examine whether return migrants' enterprises have significantly different characteristics. We do so by testing the following four hypotheses; enterprise location, formality, job quality, and activity/industry.

Location of enterprises

There is a concern that international migrants develop a taste for either 'big city life' or the facilities of urban areas, and hence might locate their enterprises in more dense urban areas rather than in their area of origin. Thus, we test whether firms belonging to return migrants are more likely to be located in Greater Cairo.

Formality

Another hypothesis concerning the impact of return migration on the characteristics of enterprises is that return migrants are more likely to invest in formal enterprises (pay taxes and are licensed/registered concerns) compared to non-migrants. Being overseas for a period might reduce the local knowledge, or the social capital, needed to be able to be successfully involved in an informal enterprise.

Quality of Jobs

International migration to a higher wage country may provide the migrants with an environment in which there is larger proportion of higher quality jobs. Hence, we test whether return migrants create good jobs (e.g. jobs offering benefits such as paid leave).

Activity/industry

Given that our sample of Egyptian returnees have been migrants, primarily to Middle Eastern countries—Saudi Arabia, Jordan, Iraq, Kuwait and Libya—and not to highly industrialized countries, one would expect that the skills and information acquired by emigrants would be more useful in services than in manufacturing. Thus, we test whether firms owned by returnees tend to be in services.

Our interest here is whether firms belonging to return migrants—controlling for the owner's individual characteristics, such as gender, age, education and urban/rural residence—are more likely to: (i) be located in Greater Cairo; (ii) be formal sector firm; (iii) create 'good jobs'; (iv) be in manufacturing; (v) be in services. Thus we estimate five equations using probit where the dependent variable in each case is the probability that the enterprise has a certain characteristic (e.g. being located in Greater Cairo; or being a formal sector firm). We capture the effect of the owner being a return migrant by a variable which equals one, only if the owner is a return migrant, and control for the owners' other individual characteristics. However, we do not control for other characteristics of the enterprise as they are potentially endogenous. Appendix Table A1 gives a summary of the variable definitions.

Table 10 summarizes the results of the above regressions, while Appendix Tables A2 and A3 display the full estimates. First, our empirical findings support a positive and significant relationship between the location of enterprise and return migration. Being a returnee owner, compared with being a non-migrant, increases the probability that an enterprise is located in Greater Cairo by almost 36 percent. Thus, there is strong evidence that return migrants favour the big city location for their enterprise investment. However, return migration does not impact on the formality status of the enterprise. Returnees are as likely as stayers to establish formal sector firms. We have tried several definitions of formality. The one reported here in Table 10 refers to having a tax file. We have also used having a licence or registration, but have found similar results. Yet, enterprises owned by return migrants increases the likelihood by almost 30 percent that jobs created are ‘good jobs’. Although, return migrants are more likely than non-migrants, by almost 16 percent, to invest in enterprises engaged in manufacturing, this relationship is not statistically significant. On the other hand, there is a strong and positive relationship between being a return owner of an enterprise and that enterprise being engaged in services.

Table 10: Impact of return migration on businesses

	Coefficient	Marginal Effect	(%)
Probability of business located in Greater Cairo	0.355 **	0.114 **	35.8 **
Probability of formal business	-0.091	-0.034	-5.4
Probability of good jobs	0.263 *	0.076 *	30.3 *
Probability of manufacturing business	0.147	0.048	16.4
Probability of services business	0.372 *	0.095 *	42.2 *

Notes: **significant at 5%; *significant at 10%. See Tables A2 and A3 for the full estimates.

Source: Authors' calculation based on the 1988 LFSS.

6 Conclusion

This paper has explored entrepreneurship amongst return migrants, how their locations and business characteristics differ from other businesses, and the implications for rural-urban inequality. First, the paper describes the labour market activity of return migrants to Egypt, contrasting their situation with that prior to migration, and focussing on the characteristics and circumstances of returnees that engage in business ventures on return. We find that in the case of Egypt, migrants tend to return to their region of origin. Although the proportion of returnees settling in urban areas is not very different from that returning to rural areas, the total amount of savings going back to urban areas is more than three times as much. Thus, urban areas benefit more than rural areas from international savings. However, unlike that for Mexico¹¹ for example, this result, that urban areas are the primary beneficiaries of return migration, is not because rural origin international migrants settle in cities upon return.

¹¹ See Woodruff and Zenteno (2001).

Second, in an econometric model of the probability that returnees invest in an enterprise, we find evidence supporting the hypotheses that overseas savings, and the duration of stay overseas, have positive separate effects on investing in a project/enterprise. The findings suggest how overseas migration facilitates the accumulation of financial capital on a scale not otherwise possible, and the accumulation of new useful skills that increase enterprise investment on return. We also find that region of origin makes a significant difference to the probability of a returnee investing in a project. Urban-origin returnees are more likely than their rural counterparts to invest in a non-farm enterprise.

Third, we compare non-farm small enterprises owned by returnees to those owned by non-migrants. Our data suggest that there is a regional bias in the location of firms and jobs created by returnees compared to non-migrants, in favour of the capital city. We also find that there is a positive and significant relationship between the location of enterprises and return migration. Being a returnee owner, compared with being a non-migrant, increases the probability that an enterprise is located in Greater Cairo by almost 36 percent. In other words, although migrants tend to return to their origin region, they tend to be more likely than non-migrants to invest in urban areas and in particular in Greater Cairo. We do not find evidence that return migration influences the formality status of the enterprise, but it does impact on the quality of jobs favourably. Thus, overall, the results support a positive impact of return migration on enterprise investment in urban areas. Perhaps, the main implication of this paper is that policies associated with the free international movement of labour between LDCs and high income countries or those policies supporting return migration may lead to higher home country rural-urban inequality and ultimately to additional urban growth as a result of greater investment being directed to urban areas and in particular to the big cities. Thus, growth in international migration and greater international labour market integration strengthens the case for intervention to remove distortions which may bias the location of investment towards urban areas.

Appendix

Table A1: Definition of variables used in Section 5

<i>Dependent Variables</i>	
Located in Greater Cairo	Dummy=1 if enterprise located in Greater Cairo, 0 otherwise
Formal enterprise	Dummy=1 if enterprise has tax file i.e. formal sector, 0 otherwise
Good jobs	Dummy=1 if, enterprise provides all employees with paid leave, 0 otherwise
Manufacturing enterprise	Dummy=1, if enterprise is engaged in manufacturing activities, 0 otherwise
Services enterprise	Dummy=1, if enterprise is engaged in services activities, 0 otherwise
<i>Independent Variables</i>	
Returnee enterprise	Dummy=1 if enterprise is owned by a returnee
Male	Dummy=1 if enterprise is owned by a male
Age	Age in years of enterprise owner
Age squared	Age squared
<i>Education</i>	
None	Dummy=1, if enterprise owner has no education
Less educated	Dummy=1, if enterprise owner has less than secondary education
High educated	Dummy=1, if enterprise owner has secondary or university education
Urban residence	Dummy=1, if enterprise owner lives in urban areas

Source: Authors' definitions.

Table A2: Impact of return migration on enterprise characteristics: marginal effects

	Probability of enterprise in Greater Cairo	Probability of formal enterprise	Probability of good jobs
Returnee enterprise	0.114 (2.33)	-0.034 (0.73)	0.076 (1.90)
Male	----	0.375 (8.85)	0.074 (1.00)
Age	0.001 (0.12)	0.029 (4.69)	0.008 (1.08)
Age squared	0.00002 (0.42)	-0.0003 (4.40)	-0.0001 (1.04)
<i>Education</i>			
None	----	----	-0.120 (2.84)
Less educated	0.085 (2.39)	0.131 (4.83)	----
High educated	0.176 (1.73)	0.228 (3.21)	----
Urban residence	----	0.234 (4.27)	0.159 (3.16)
Base	0.318	0.631	0.251
Sample size	1220	1220	1220
Log likelihood	-704.717	-656.81	-439.36

Notes: Absolute values of robust t-statistics are in parentheses. Marginal effects show the increment in the probability and are calculated at the reference set of individual characteristics and sample means.

Source: Authors' calculation based on the 1988 LFSS.

Table A3: Impact of return migration on enterprise activity: marginal effects

	Probability of manufacturing enterprise	Probability of services enterprise
Returnee enterprise	0.048 (1.31)	0.095 (1.89)
Male	-0.144 (2.39)	0.111 (2.13)
Age	-0.015 (3.21)	-0.002 (0.25)
Age squared	0.0001 (2.28)	0.00 (0.06)
<i>Education</i>		
Less educated	-0.029 (1.27)	-0.002 (0.05)
High educated	-0.172 (4.92)	-0.095 (1.63)
Urban residence	-0.115 (2.67)	0.105 (3.09)
Base	0.293	0.225
Sample size	1220	1220
Log likelihood	-648.35	-403.12

Notes: Absolute values of t-statistics are in parentheses. Robust (Huber/White/sandwich) estimator of the variance was used in place of the conventional Maximum Likelihood Estimation variance estimator and observations were allowed to be not independent within cluster.

Source: Authors' calculation based on the 1988 LFSS.

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