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Patterns and Determinants of Internal Migration by Direction of Move: The Case of Egypt

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Abstract. The main objective of this study is to analyze and test the patterns and determinants of inter-governorate migration flows in Egypt by direction of move. Four directional moves of internal migration have been distinguished and employed in the study. Data analysis shows that the highest migration occurs between urban areas followed by rural to urban areas, whereas the lowest occurs between rural areas of different governorates.

The empirical results indicate that distance is one of the most important variables in explaining the spatial distribution of migrants in Egypt. Distance elasticity differs from one directional move to another. The results suggest that low-income levels in Egyptian rural governorates tend to encourage people to move toward high-income governorates. Also, the results indicate that migration to rural governorates is more responsive to destination education than urban governorates.

The unemployment rate variable is found to be a major determinant of the individual's decision to migrate in Egypt. Higher rates of origin unemployment tend to encourage migration from rural and urban areas, and higher rates of destination unemployment tend to discourage migration to rural and urban areas. Migration to urban areas is more responsive to unemployment than migration to rural areas.

1. Introduction

Internal migration is a demographic process that affects the growth and structure of geographic areas of any country. As a means for regional population redistribution, it constitutes a useful mechanism in the process of developing socio-economic welfare strategies.

In recent decades, there was a substantial literature on the economics of internal migration in most developing countries [1]. Even though, the study of internal migration in the Arab countries has not received much attention. Few migration studies dealt with the determinants of Egyptian internal migration in general and labor mobility in particular. Greenwood [2] made the first empirical effort to study the determinants of labor migration in Egypt. His study objective was to examine the factors that affect

individual decisions with respect to internal migration, and to estimate the magnitude in which each factor exerts its influence on labor supply adjustment. The results show the importance of distance, wages, and population in affecting the individual decisions to migrate in Egypt.

Lately, certain aspects of internal migration in Egypt have been focused upon. Seifelnasr [3] analyzes the multivariate association between reasons for migration, sex of the migrant, and the level of education for both urban and rural areas. Elrouby and Mustafa [4] developed an index that is a linear composite function of the variables affecting area attractiveness. Four variables were selected to represent demographic, social, economic, and environmental aspects of area attractiveness. A more recent study by Aldakhil [5] estimates the magnitude and tests the importance of some factors that are belived to affect decisions to migrate from one place to another in Egypt. It suggest that distance is an important deterrent to migration between Egyptian governorates.

Among the basic returns of the last Egyptian population and housing census, CAPMAS [6-9], is a cross classification of the population by place of birth and place of current usual residence. Therefore, inter-governorate lifetime migration flows can be easily identified and studied. Each flow is further categorized by rural and urban residence in governorate of origin and by rural an urban residence in governorate of destination. This study is concerned with four types of internal migration flows, namely [1]:

(1) Migration from rural areas of governorate (i) to urban areas of governorate (j).
(2) Migration from rural areas of governorate (i) to rural areas of governorate (j).
(3) Migration from urban areas of governorate (i) to rural areas of governorate (j), and finally,
(4) Migration from urban areas of governorate (i) to urban areas of governorate (j).

In this study inter-governorate migration flows and mobility patterns for each of the above directional moves will be analyzed and examined. The paper is set up as follows. The data and methodology are discussed in section 2. Section 3 provides the theoretical model. The empirical results are shown and discussed in section 4. The paper concludes in section 5 with a summary and assessment of the findings.

2. Data & Methodology

The spatial unit employed in this study is the governorate, which is the highest administrative division of the country. There are 26 governorates in Egypt, of which four are totally urban, while the others have both urban and rural areas [2]. Rural and urban areas of each governorate were treated as destinations.

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[1] Throughout this study, it will be assumed that (i) refers to origin governorate and (j) to destination governorate.

[2] The four governorates that are totally urban are Cairo, Alexandria, Port Said, and Suez.

The observation base is different for each type of directional move. There is a maximum of 650 (26×25) migration flows from urban to urban areas, and a minimum of 462 (22×21) migration flows from rural to rural areas. Each of the other two types of migration flows includes 550 observations.

Table 1 shows the 26 Egyptian governorates ranked according to 1986 total population, and the distribution of each governorate's population between urban and rural areas.

Table 1. Urban and rural population of Egyptian governorates ranked by 1986 total population*

Governorate	Rank	Total pop.	Urban pop.	Rural pop.
Cairo	1	6007280	6007280	NR
Giza	2	3682825	2109157	1573668
Dakahlia	3	3493206	909388	2583818
Sharkia	4	3411424	713159	2698265
Behira	5	3250729	761914	2488815
Alexandria	6	2896459	2896459	NR
Gharbia	7	2862980	931676	1931304
Almenia	8	2641036	542521	2098515
Qulyoubia	9	2507788	1092966	1414822
Sohag	10	2448880	533428	1915452
Quena	11	2245392	517960	1727432
Menoufia	12	2223034	443779	1779255
Assiut	13	2206415	603659	1602756
Kafr-Sheikh	14	1795749	406745	1389004
Fayoum	15	1542258	357082	1185176
BeniSweif	16	1438919	358241	1080678
Aswan	17	793379	312501	480878
Demiat	18	739846	185830	554016
Ismailia	19	541223	262882	278341
Port-Said	20	393841	393841	NR
Suez	21	324852	324852	NR
N.Sina	22	169648	104160	65488
Matrouh	23	157119	80870	76249
Wadi Gedid	24	111142	48318	62824
Red Sea	25	84916	72516	12400
S. Sina	26	24925	8174	16751
Total Egypt		**47995265**	**20979358**	**27015907**

* NR means no rural population is recorded

The number of individuals whose place of current usual residence was different from their places of birth (3,617,305) relative to the total Egyptian population of

47,995,265 individuals yields an overall migration rate of 75 per thousand. This means that just over 7.5% of Egypt's population in the 1986 census report a previous place of current residence different from their place of enumeration. The composition of movements in Egypt for those who moved in the ten years prior to the 1986 census is shown in Table 2. The patterns of migration by direction of move in Egypt are shown in Table 3.

Table 2. Composition of Egyptian migration

Migration flow	(%)
Urban - Urban	71.2
Urban - Rural	14.7
Rural - Urban	10.1
Rural - Rural	4.0

Table 3. Migration patterns by direction of move

Origin \ Destination	Rural	Urban	Total
Rural	142,124	532,373	674,497 (19%)
Urban	367,398	2,575,410	2,942,808 (81%)
Total	**509,522 (14%)**	**3,107,783 (86%)**	**3,617,305 (100%)**

As of the 1986 census, there were 3.6 million individuals in Egypt who were born in one governorate and were enumerated in another governorate. About 81.4 percent of the total migrants, or 2.9 million, moved out from urban areas (87.5 percent of whom moved to other urban areas and 10.5 percent to rural areas), while 18.6 percent, or 0.67 million, moved out from rural areas (78.9 percent of whom moved to urban areas and 21.1 percent to other rural areas).

The pattern of internal migration in Egypt is similar to that of any other country. The highest magnitude of migration occurs between urban areas followed by rural to urban areas, whereas the lowest occurs between rural areas. These differences are due mainly to differing concentrations of urban and rural residents. More than 2.5 million individuals were born in urban areas of one governorate and were enumerated in urban areas of another governorate. On the other hand, more than 0.5 million individuals were born in rural areas of one governorate and were enumerated in urban areas of another governorate. Previous migration studies have given a great deal of attention to rural - urban migration for its serious implications. Obviously, the above numbers that have been summarized in Table 3 support the argument that internal migration in Egypt prior to 1986 is a multi-directional movement, even though the magnitude differs considerably from one direction to another, This means that other migration flows, especially urban-

urban flows are important and should therefore not be ignored.

Table 4 reports the in-, out-, and net migration rates of population in urban and rural areas for each Egyptian governorate, The in-migration rate (IMR) is defined as the number of individuals born in other governorates and enumerated in governorate (i) divided by the total population of governorate (i) in 1986. The out-migration rate (OMR) is defined as the number of individuals born in governorate (i) and enumerated in other governorate divided by governorate (i) population size in 1986. The net in-migration rate (NMR) is defined as the in-migration rate minus the out-migrant rate.

Table 4. In-, Out-, and Net migration rates of Egyptian population in 1986

	Urban			Rural		
	IMR	**OMR**	**NMR**	**IMR**	**OMR**	**NMR**
Cairo	19.73	9.25	10.48	0.00	0.00	0.00
Alexandria	13.92	3.67	10.25	0.00	0.00	0.00
Port-Said	18.03	9.99	8.05	0.00	0.00	0.00
Suez	33.28	15.46	17.81	0.00	0.00	0.00
Demiat	3.40	33.29	-29.89	2.97	1.51	1.45
DAkahlia	2.99	21.91	-18.93	1.07	3.12	-2.05
Sharkia	5.60	26.77	-21.16	1.28	2.21	-0.94
Qulyoubia	25.98	9.38	16.59	3.27	2.35	0.93
Kafr-Sheikh	3.79	12.96	-9.17	1.37	1.03	0.34
Gharbia	6.49	17.83	-11.34	0.85	2.48	-1.64
Menoufia	3.77	51.92	-48.15	1.25	6.99	-5.74
Behira	4.13	14.41	-10.28	2.77	1.13	1.64
Ismailia	28.74	15.83	12.91	13.69	1.47	12.22
Giza	27.67	6.30	21.37	6.69	0.84	5.85
BeniSweif	3.60	23.66	-20.07	0.80	1.69	-0.89
Fayoum	2.93	21.28	-18.35	0.90	1.53	-0.64
Almienia	3.56	16.80	-13.24	0.99	1.01	-0.02
Assiut	3.87	27.46	-23.59	0.76	3.61	-2.85
Sohag	2.45	43.46	-41.01	1.04	3.79	-2.75
Quena	2.55	29.83	-27.28	0.80	3.43	-2.63
Aswan	15.15	18.81	-3.66	3.25	2.10	1.15
Red Sea	34.08	12.95	21.13	43.24	1.01	42.23
Wadi Gedid	17.01	33.07	-16.07	5.53	1.44	4.09
Matrouh	16.52	4.80	11.72	1.69	0.16	1.53
N. Sina	8.42	8.94	-0.52	3.28	2.15	1.13
S. Sina	59.14	23.66	35.48	4.20	1.83	2.36
Total Egypt	**14.81**	**14.03**	**0.79**	**1.89**	**2.50**	**-0.61**

There were 11 (10) governorates which had urban (rural) in-migration rates of population above the national rate. Moreover, there were 17 (5) governorates which had

urban (rural) out-migration rates of population above the national rate. The migrants highest contribution to urban population was in South Sina, and to rural population was in Red Sea governorate. South Sina experienced the highest rate of urban in-migration (59.14%). This means that more than half of this governorate urban population in 1986 had in-migrated from other urban and rural areas. In the same time, Red Sea governorate experienced the highest rate of rural in-migration (43.24%). On the other hand, the migrants lowest contribution to urban population was in Sohag, and to rural population was in Assiut. These results indicate that the most attractive urban areas were in south Sina and the lowest attractive were in Sohag. Whereas, the most attractive rural areas were in Red Sea and the lowest attractive were also in Assiut.

Some governorates such as Red Sea and Ismailia experienced high urban and rural in-migration rates. Relative to other governorates in the country, the only governorate that experienced high urban and rural out-migration rates is Menoufia.

Sixteen of the 26 Egyptian governorates had urban net out-migration and 10 had rural net out-migration. The top two governorates in urban net in-migration rates were South Sina and Giaz with rates of 35.48% and 21.37% respectively. While the top two governorates in rural net in -migration rates were Red Sea and Ismailia with rates of 42.23% and 12.22% respectively. On the other hand, the top two governorates in urban net out-migration rates were Menoufia and Sohag with rates of -48.18% and -41.01% respectively. While the top two governorates in rural net out-migration rates were Menoufia and Assuit with rates of -5.74% and –2.85% respectively.

3. The Model

The model estimated in this study consists of four relationships, each belongs to one of the above mentioned directional moves. Specifically, these relationships are of the following form:

$$(1) \quad M_{r_i u_j} = f\,[D_{ij}, Y_i, Y_j, E_i, E_j, U_i, U_j, P_i, e]$$

$$(2) \quad M_{r_i r_j} = f\,[D_{ij}, Y_i, Y_j, \ldots\ldots\ldots e]$$

$$(3) \quad M_{u_i r_j} = f\,[D_{ij}, Y_i, Y_j, \ldots\ldots\ldots e]$$

$$(4) \quad M_{u_i u_j} = f\,[D_{ij}, Y_i, Y_j, \ldots\ldots\ldots e]$$

Where

$M_{r_i u_j}$ = Number of individuals born in rural areas of governorate (i) and enumerated in urban areas of governorate (j) in 1986 divided by the urban population of governorate (j) in 1986.

$M_{r_i r_j}$ = Number of individuals born in rural areas of governorate (i) and enumerated in rural areas of governorate (j) in 1986 divided by the rural population of governorate (j) in 1986.

$M_{u_i r_j}$ = Number of individuals born in urban areas of governorate (i) and enumerated in rural areas of governorate (j) in 1986 divided by the rural population of governorate (j) in 1986.

$M_{u_i u_j}$ = Number of individuals born in urban areas of governorate (i) and enumerated in urban areas of governorate (j) in 1986 divided by the urban population of governorate (j) in 1986.

D_{ij} = Distance in kilometers between representative cities in governorates (i) and (j).

Y_i (Y_j) = Annual per capita income of workers in urban/rural areas of governorate i (j) in 1986.

E_i (E_j) = Percentage of population ten years old and over who are literate with a minimum of university degree in urban/rural areas of governorate i (j) in 1986.

U_i (U_j) = Rate of unemployment in urban or rural of governorate i (j); that is the ratio of the unemployment level prevailing in urban or rural areas of governorate i (j) in 1986 to the labor force of the same governorate's urban or rural areas in 1986.

P_i (P_j) = Total population of urban or rural areas of governorate i (j).

e = Random errors.

Distance is known to be a very important determinant of migration. It serves as a proxy for economic and non-economic costs incurred by a migrant when moving from one place to another, Greenwood [10]. The economic costs include out-of-pocket costs of moving and the opportunity cost associated with migration, whereas non-economic costs are psychic costs that entail moving away from relatives and friends. Both kinds of costs, economic and non-economic, are expected to rise with distance, and therefore, migration flows from any given governorate would tend to decline with distance.

Income level of origin and destination governorates is another variable that is expected to play an important role in the individual's decision to migrate. People are expected to move away from relatively low income to relatively high-income places. This means migration flows are expected to be negatively related to the origin-income variable and positively related to the destination-income variable. Therefore, *ceteris paribus*, the greater the income level of governorate (j) relative to (i), the greater the migration flow from (i) to (j).

Education level is considered one of the characteristics variables that determine the individual's decision to migrate. Higher level of education in origin areas is expected to reduce the importance of traditions and family ties, while higher level of education in destination areas is expected to increase employment opportunities and rise the rate of return on migration. Therefore, *ceteris paribus*, both origin-and destination-level of education are expected to have a positive impact on migration flows.

A potentially important variable that is expected to be a major determinant of migration is the unemployment rate. The higher the unemployment rate of the origin area, the greater is the expected out-migration. The higher is the unemployment rate of the destination area, the less is in-migration to that area. The population of origin areas is expected to have a positive influence on migration flows. Areas with a large population size are expected to experience more out-migration than areas with small population size. Greenwood [11] argues that the greater the population of the origin region, the greater is likely to be the number of person having any given reason to migrate.

Finally, it should be noted that the migration flows in each equation have been normalized by dividing the M_{ij} variable by the destination population (P_j) and by including the origin population as an explanatory variable [3].

4. The Empirical Results

Each of the four-migration equations employed in this study has been estimated in double-logarithmic form where all data have been transformed to logarithms. The Goldfeld-Quandt test has been applied to the data of each relationship to test for the problem of heteroscedasticity and the result show that there is no evidence of such a problem. Least squares estimates of each parameter and their associated t-ratios are shown in Table 5. For comparative purposes, the coefficient of multiple determination (R^2) corresponding to each relationship is presented at the bottom of the table. The (R_s^2) range from 0.62 (rural-urban migration) to 0.44 (urban-rural migration). Generally, these coefficients are reasonably high, and the explanatory variables perform well in

[3] For more details about the rational of this normalization see Greenwood ([11], P.670).

explaining each type of migration flows. The noticeable variation in coefficients of the rural-urban and urban-rural migration could be attributed to the large differences in the nature and rate of occurrence of the two flows.

The empirical results of this study strongly support the findings of many earlier studies that have found distance to be the major determinant of the spatial distribution of migrants. These results show that the coefficient of the distance variable has the anticipated negative sign and highly significant in each migration equation. This means that the greater the distance between two governorates (i) and (j), the lower is likely to be the tendency of a person to move from (i) to (j). This result supports the earlier argument that the components of moving costs, economic and/or non-economic, tend to be an important determinant of internal migration in Egypt.

Table 5. Gross migration of population in Egypt by direction of move: Logarithmic regression coefficients and associated t-ratios. *

Independent variables	Equation for			
	$M_{r_i u_j}$	$M_{u_i u_j}$	$M_{u_i r_j}$	$M_{r_i r_j}$
D_{ij}	-0.795	-0.569	-0.543	-0.889
	(-7.927)	(-7.948)	(-6.176)	(-7.488)
Y_i	-1.298	0.102	0.456	-0.632
	(-3.516)	(0.488)	(1.76)	(-1.432)
Y_j	-0.888	-0.877	-1.268	-1.086
	(-3.196)	(-4.217)	(-3.825)	(-2.596)
E_i	-0.414	0.103	0.214	-0.438
	(-1.822)	(0.600)	(1.015)	(-1.634)
E_j	0.549	0.470	1.039	0.773
	(2.529)	(2.881)	(5.826)	(3.364)
U_i	0.421	1.071	0.910	0.155
	(2.082)	(5.115)	(3.522)	(0.644)
U_j	-1.691	-1.746	-0.749	-1.049
	(-8.050)	(-11.216)	(-6.025)	(-6.473)
P_i	0.916	0.601	0.395	0.651
	(13.045)	(10.660)	(5.715)	(7.808)
Constant	-2.273	-7.206	-4.111	-1.686
	(-0.596)	(-2.604)	(-1.072)	(-0.325)
R^2	0.62	0.56	0.44	0.46
F	111.21	103.54	41.94	47.59

* Numbers in parentheses are t-ratios.

The distance elasticity indicates the percentage change in migration flow from governorate (i) to (j) that result from a one-percent change in the distance between (i) and (j). The distance coefficients in the rural-urban and urban-rural equations suggest that a one percent increase in the distance between rural (urban) areas of origin governorate (i) and urban (rural) areas of destination governorate (j) result in 0.795 (0.543) percent decrease in migration from (i) to (j).

On the other hand, the distance coefficients in the urban-urban and rural-rural equations suggest that a one-percent increase in the distance between rural (urban) origin of governorate (i) and rural (urban) destination (j) results in 0.889 (0.569) percent decrease in migration from (i) to (j). These results show that the highest distance elasticity is for rural-rural migration followed by rural-urban migration, whereas the lowest distance elasticity is for urban-urban migration. This conclusion could be attributed to the fact that urban areas have better and more advanced transportation and communication systems than rural areas.

These distance elasticities are quite similar to those obtained in other studies dealing with developed and developing countries. Greenwood [12] estimates similar elasticities for two types of migration in India. He found distance elasticity of (-2.04) for rural-urban migration, and (-1.72) for urban-urban migration. Another study by Greenwood [2] estimated a distance elasticity of (-1.06) for Egypt. Also in studying the determinants of internal migration in the United States, Greenwood and Sweetland [11] have found a distance elasticity of (-0.70). Beals et al. [13] estimated a distance elasticity of (-1.43) for Ghana. Lastly, Aldakhil [4] found that a one percent increase in the distance between governorate of origin (i) and destination (j) results in (0.73) decrease in migration from (i) to (j). The study estimates the elasticity of migration for the Egyptian economy as a whole and also each individual governorate.

The origin income level variable is a significant determinant of migration only from rural areas. It has a significant coefficient and anticipated negative sign in rural-urban and rural-rural equations. This means that low-income levels in rural areas encourage people to move toward high-income urban and rural governorates. This result suggests that migration may contribute to a narrowing of inter-governorate wage differentials in rural governorates. The estimated coefficient shows that a one percent increase in income of rural areas of governorate (i) reduces migration to rural areas of (j) by 0.63 and by 1.30 to the governorate urban areas. The coefficients on the origin income level variable of the urban-urban and urban-rural equations are positive, which is unexpected. The empirical results of this study show a poor performance of the destination income level variable in each migration equation. The parameter estimates of this variable in the four migration equations are significant but with unexpected negative sign.

The coefficient of the origin education variable in rural migration equations is

negative. This means higher level of origin education discourages out-migration. This result could be attributed to the fact that educated people in rural areas usually have good employment and income opportunities at home governorates. Moreover, those educated people might give more concern to traditions and religion orders which encourage them to give great care to close relatives such as parents, sisters, and brothers. This result is like several earlier migration studies that found similar results concerning migration in developing countries such as Egypt (Greenwood [2]), Ghana (Beals *et al.* [14]), and Brazil (Sahota [15]).

The coefficient on the destination education variable is positive, as expected, and highly significant for each migration equation. This means higher level of education in destination governorates of both urban and rural areas encourages in-migration. Migration to rural governorates seems to be more responsive to destination education than urban governorates. The results suggest that a one percent increase in the education level of governorate (j) rural areas encourages migration from governorate (i) urban areas by 1.04 percent and from governorate (i) rural areas by 0.77 percent.

Unlike several earlier migration studies that found a poor performance of the unemployment variable in the migration equations, in this study the unemployment variables perform well. Generally, the empirical results of origin- and destination rate of unemployment variables in the four migration equations strongly support the earlier expectations that higher rates of origin unemployment tend to encourage migration from rural and urban areas. And higher rates of destination unemployment tend to discourage migration to rural and urban areas. The sign of the origin unemployment variable is positive and highly significant except for the rural-rural equation, and the sign of the destination unemployment variable is negative and highly significant for all equations.

Migration to urban areas is more responsive to unemployment rate variable than migration to rural areas. A one percent increase in unemployment rate of a governorate urban areas result in a decrease in migration from rural areas by 1.69 percent and from urban areas of other governorates by 1.75 percent. On the other hand, a one percent increase in unemployment rate of governorate (j) rural areas discourages in-migration from urban areas of governorate (i) by 0.75 percent and from rural areas of governorate (i) by 1.05 percent. An increase in unemployment rate variable of origin governorate (i) by one percent tends to encourage migration from urban areas of governorate (i) to urban and rural areas of governorate (j) by 1.07 and 0.91 percent respectively.

The results show a positive and strong relationship between origin population size and each migration equation. This suggests that population of the origin governorates is a significant determinant of interregional migration in Egypt. This

result is consistent with the earlier findings of Greenwood [2] that migrants come from governorates with large populations.

Since the origin population coefficient is less than one and differs in magnitude from one equation to another. Therefore, the response of each type of migration to origin population is inelastic. A one percent increase in rural population of origin governorate (i) results in 0.92 percent increase in migration flow from (i) to urban areas of governorate (j), and 0.65 percent increase to rural areas of governorate (j). Moreover, a one percent increase in urban population of origin governorate (i) encourages migration to urban and rural areas of destination governorate (j) by 0.60 and 0.40 respectively. These results indicate that migrants in Egypt are more attracted to urban areas.

5. Summary and Conclusion

The main objective of this study is to analyze and test the patterns and determinants of inter-governorate migration flows in Egypt by direction of move. To accomplish this objective, four directional moves of internal migration have been distinguished and employed:(1) Migration from rural areas of governorate i (the origin governorate) to urban areas of governorate j (the destination governorate), (2) Migration from rural areas of governorate (i) to rural areas of governorate (j), (3) Migration from urban areas of governorate (i) to rural areas (j), and finally, (4) Migration from urban areas of governorate (i) to urban areas of governorate (j).

Data analysis of internal migration in Egypt shows that the highest migration occurs between urban areas followed by rural to urban areas, whereas the lowest occurs between rural areas of different governorates. Moreover, the analysis shows that the most attractive urban areas were in south Sina and the lowest attractive were in Sohag. Whereas, the most attractive rural areas were in Red Sea and the lowest attractive were also in Assiut.

The empirical results of this study indicated that distance is one of the most important variables in explaining the spatial distribution of migrants in Egypt. This result suggests that moving costs are important determinant of internal migration. Distance elasticity differs from one directional move to another. The highest distance elasticity was for rural-rural migration flows followed by rural-urban migration, whereas the lowest distance elasticity was for urban-urban migration.

The results suggest that low-income levels in Egyptian rural governorates tend to encourage people to move toward high-income governorates, which means that inter-governorate wage differentials in rural areas have been narrowed by migration. Higher

level of education in destination governorates of both urban and rural areas encourages in-migration, while higher level of education in origin governorates of rural areas discourages out-migration. The results indicate that migration to rural governorates is more responsive to destination education than urban governorates.

The unemployment rate variable is found to be a major determinant of the individual's decision to migrate in Egypt. Higher rates of origin unemployment tend to encourage migration from rural and urban areas, and higher rates of destination unemployment tend to discourage migration to rural and urban areas. Migration to urban areas is more responsive to unemployment than migration to rural areas. Also the response of each migration flow to origin population is inelastic and migrants are more attracted to urban areas and to governorates that have large populations.

Finally, in order to push this study forward, the following suggestions are provided. First, using a specific characterization for the four endogenous variables, such as characterizing each migration flow by sex, age, education level, etc. Second, expanding the data set to include more recent data as soon as the 1996 migration data come out. Third, expanding the sample to include smaller places in order to account for some variable biases. Lastly, including more exogenous variables such as urbanization, amenity, and other economic variables.

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أنماط ومحـــددات الهجرة الداخلية حسب الاتجاه في حركة الهجرة

(دراسة تطبيقية على جمهورية مصر العربية)

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(قُدم للنشر في ١٤٢٠/٢/١٤هـ ، وقُبل للنشر في ١٤٢٠/١٠/١٣هـ)

ملخص البحث. تهدف هذه الدراسة إلى تحليل واختبار أنماط ومحددات تيارات الهجرة بين المحافظات المختلفة في جمهورية مصر العربية حسب اتجاه الحركة . ولتحقيق هذا الهدف فقد تمت التفرقة بين أربع اتجاهات للهجرة الداخلية بين مناطق حضر وريف هذه المحافظات . وقد أوضح تحليل بيانات الهجرة الداخلية أن أعلى تيار هجرة حدث بين مناطق حضر المحافظات ، تليها مناطق ريف إلى حضر ، بينما أقل تيار هجرة للسكان كان بين مناطق ريف المحافظات المختلفة .

كما بينت النتائج القياسية لهذه الدراسة أن عامل البعد الجغرافي (المسافة) للمحافظات في مصر يعتبر أحد أهم المتغيرات التي تساهم في تفسير التوزيع المكاني للمهاجرين بين مناطق الحضر والريف للمحافظات المختلفة. هذا، وقد تفاوتت مرونة المسافة بين تيارات الهجرة الأربعة التي شملتها الدراسة . كذلك أوضحت النتائج أن مستويات الدخل المنخفضة في محافظات الريف المصرية تشكل عاملاً حافزاً للأفراد على الانتقال إلى محافظات ذات مستويات دخل مرتفعة ، كما اتضح أن تيار الهجرة إلى مناطق الريف في محافظة الوصول أكثر استجابة لمتغير التعليم منه إلى مناطق الحضر .

أما متغير معدل البطالة فقد وجد أنه من المحددات الهامة لقرار هجرة الفرد في مصر . فالمعدلات المرتفعة للبطالة في محافظة القدوم تميل إلى تشجيع الهجرة من مناطق الريف والحضر ، أما في محافظة الوصول فإنها تؤدي إلى تقليل الهجرة إلى مناطق الريف والحضر. هذا، وقد كانت الهجرة إلى مناطق الحضر أكثر استجابة للبطالة من الهجرة إلى مناطق الريف .