

SEX-AGE PATTERN OF POPULATION MOBILITY IN THE U. A. R. WITH SOME INTERNATIONAL COMPARISONS

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INTRODUCTION

The United Arab Republic is good example of a country which does possess some basic data on population mobility running for a fairly long span of time, and while sufficient to give a broad picture of the overall trend and direction of movements, are nevertheless too inadequate and imprecise to measure their quantities and interrelations. The Egyptian data on internal migration consist of the census tabulations on governorate of birth by governorate of enumeration, available for all the census years since 1907. These data throw light on the cumulative net effect of migration and deaths (among migrants), on the population of the governorates at the time of the censuses, on the major streams of migration, and on the sex composition of the lifetime migrants. These data are inadequate for the present-day needs in the field of economic and social planning, which require more precise information on recent (as against lifetime) migration patterns : volume and direction of migration during fixed time intervals, characteristics of migrants and nonmigrants, factors underlying migration etc. There is, therefore, a great need for inclusion of a time-oriented question on migration in the forthcoming census of the UAR and for cross-classification of migrants by their social and economic characteristics. At the same time, the available materials need continued exploitation with the help of recent advances made in the techniques of migration analysis, not as a substitute for more comprehensive data, but as supplementary information to provide historical background for studies dealing with recent situation. This paper is an attempt to apply some of the recently developed techniques of migration analysis to the available data in

order to throw light on one of the most neglected areas in the study of internal migration in the U. A. R. namely, the sex - age pattern of population mobility.

SEX COMPOSITION OF LIFETIME MIGRANTS

The population of the U. A. R. is well-balanced in its sex composition, with only a small excess of (12 males per 1,000 females in 1960) males. The urban population is slightly more masculine, but the imbalance is still only about 37 males per 1,000 females. One would therefore expect that migration within the country will not be highly imbalanced in its sex composition. This expectation is on the whole borne out by the census data, but the masculinity ratio of migrants is higher than that of the total population by about 114 males per 1,000 females. The total intergovernorate redistribution due to lifetime migration (in 1960) is composed of 1,413,000 females and 1,590,000 males, giving a sex ratio of 113 males per 100 females. The ratio varies somewhat with the origin of the stream, from 89 for Alexandria to 190 for Asswan, and with the destination of the stream, from 54 for Souhag (a very typical case) to 222 for Red Sea. Souhag Governorate is an extreme case of contrast between the sex ratio of in-and out-migrants. The ratio of out-migrants showing an excess of 45 males per 100 females while that of in-migrants shows a deficit of 46 males per 100 females. If this particular governorate is excluded, there exists a statistically significant positive correlation between the sex ratio of in-migrants to and that of out-migrants from a governorate.

In general, the sex ratios of migration streams originating and terminating in Frontier Governorates and Upper Egypt Governorates are higher than those of the streams of Lower Egypt (Table 1).

TABLE 1
Sex Ratio of Migrants by Region, U. A.R. 1960

Region	In-Migrants	Out-Migrants
Lower Egypt	122	102
Upper Egypt	113	136
Frontier Governorates	169	123
Total	113	113

The highest ratio is observed for in-migrants to Frontier Governorates and the lowest for out-migrants from Lower Egypt.

The sex ratio of lifetime out-migrants from urban areas is significantly lower than that of out-migrants from other governorates ; but the in-migrants to these two categories of governorates are very similar in their sex composition (Table 2).

TABLE 2
Sex Ratio of Lifetime Migrants by Urban-Rural
Type of Governorates, U. A. R. 1960

Type of Governorates	In-Migrants	Out-Migrants
Urban	113	97
Others	112	115
Total	113	113

For Cairo Governorate, the largest urban agglomeration in the country, the sex ratio of in-migrants is 111 and that of out-migrants is 99. These figures lie between the corresponding ratios of the urban governorates as a whole and therefore imply that for some of the other smaller urban concentrations the difference between in-and out-migrants is greater.

Distance of migration affects the sex composition of a migration stream. In other countries, it is generally observed that the proportion of females decreases as distance of migration increases. The same relation seems to hold good in the U. A. R. Migration between contiguous governorates consists of almost the same number of males and females (sex ratio, 102), but that between noncontiguous governorates has an excess of males (sex ratio, 114).

A more detailed analysis of the relation between distance and the sex ratio of lifetime migrants is given in Table 3. In this table those governorates, which are linearly located along the River Nile, are grouped in pairs according to the number of governorates which lie between them. For example, migration between Asswan and Kena is given under «1» because they are contiguous governorates and no governorate lies in between them, that between Asswan and Souhag or between Kena and Assiut is included under «2» because in between

these pairs of governorates there is one governorate, Kena in the first and Souhag in the second. It is seen from this table that not only have the contiguous streams relatively more females than the noncontiguous ones, the proportion of streams relatively more females than the noncontiguous ones, the proportion of streams relatively more females than the noncontiguous ones, the proportion of females in the latter group decreases as the distance of migration increases. But the table also reveals that other factors, perhaps more important than distance, are

TABLE 3
Sex Ratio of Nonmigrants and Groups of Migrants
by Distance and Direction of Movement, Selected
Governorates, U. A. R. 1960

Index of Distance		Northward	Southward	Combined
Nonmigrants	0	100	100	100
	1	102	102	102
Migrants	2	112	106	108
	3	125	92	107
	4	135	90	118

also operating. For example, if the streams are classified into two groups according to north-south direction of movement and south-north direction, it is found that the proportion of males consistently increases with distance for streams moving from south to north, while an opposite tendency, not very consistent however, is noticed for streams moving from north to south.

SEX RATIO OF POPULATION REDISTRIBUTION

The volume of population redistribution in the U. A. R. (the sum of net in-migration of gaining governorates or of losing governorates during an intercensal period) is also marked by a little excess of males during all the intercensal periods except the depression period 1927—1937, which also falls in line with the general pattern, if ages 15 years and above are considered. (Table 4).

TABLE 4

Sex Ratio (males per 100 females) of Intercensal Redistribution, and of Net Migration to Urban Governorates, by Age, U. A. R. 1917—1927 to 1947—1960

Intercensal period	Redistribution			Net Migration to Urban Governorates (All Ages)
	10+	15+	25—34	
1917—1927	129	144	170	171
1927—1937	97	128	89	57
1937—1947	101	111	129	121
1947—1960	—	116	186	128

As Table 4 indicates, the proportion of males among migrants in the U. A. R. has been increasing steadily since the 1927—1937 decade, an increase which is particularly sharp in the young adult ages. The trend in the sex composition of net migration to urban governorates corroborates this tendency.

The depression decade 1927—1937 is particularly noteworthy. The volume of redistribution (ages 10 and above) during this decade is composed of a larger number of females than males. The excess of female migration is particularly large in the young working ages. Net migration to urban governorates consists of almost twice the number of females than males, a situation which has no parallel in any other period.

AGE PATTERN OF INTERCENSAL REDISTRIBUTION

On a first glance at the age composition of the major urban centres in the U. A. R. it may appear that rural-urban migration in the country is not very age selective as the difference in the age composition of the rural and urban population is not very marked. In fact, the proportion of children under 15 years in Cairo (1960 census) is exactly the same as that in the country as a whole (42.75% in each). There are, however, differences at older ages amounting to a total of 2.95 percentage points (coefficient of dissimilarity), but these are by no means large.

The absence of large differences in the age composition of the total populations need not necessarily indicate absence of significant differences in the age composition of the migrants and the nonmigrants. In

the first place, the proportion of migrants may be small and hence the age distribution of migrants may have only minor influence on the age distribution of the total population. Secondly, the distribution of migrants by duration of residence has considerable influence on their age distribution at the time of the census, and differentials that existed at the time of migration may not be revealed by the differentials at the time of the census. In order to study-age differentials of migrants, it is therefore necessary to separate migrants from the nonmigrants.

The age pattern of internal migration in the U. A. R. can only be inferred indirectly as direct tabulation of the age distribution of the migrants and has never been attempted in the censuses. Estimates based on the Census Survival Ratio Method indicate that at the time of migration the migrants in the U. A. R. do have a distinctly different age distribution. For example, during 1937—1947 the net migration to Cairo consisted of (among males) only 19 percent children (0 — 14 years) compared to 43 percent among the total population, 53 percent young adults (15—29 years) compared to 25 percent in the general population etc. There are, thus, very large differences between the total population and the migrants to Cairo.

The age pattern of intergovernorate population redistribution due to migration is shown in Graph I. Several features of this graph are typical of similar ones for other countries. First, and perhaps the most conspicuous is the general shape of the curves which confirms the existence of large age selectivity in the U. A. R. The degree of mobility increases with age at the younger ages and reaches a maximum at ages 20—24 years (the intercensal period 1947—1960 is an exception; probably due to errors peculiar to the 13-years intercensal period), remains high at ages 25—29 years and falls sharply but rises again in secondary peaks at older ages. For example, during 1937—1947, the rate of redistribution increased from 40 (per 1,000 average population) in the age group 10—14 years, to 43 at ages 15—19 years, to 90 at ages 20—24 years and falls a little to 85 at ages 25—29 years, and then sharply to 43 at ages 30—34 years, and to 40 at ages 35—39 years. At older ages, the rates oscillated between 33 and 21. The occurrence of the peak rate at ages 20—24 or 25—29 years is a very common phenomenon ; so is the sharp decline after the peak and the subsequent rise in secondary peaks. The underlying reason is given to be the tendency for primary migration to approach closely reverse migration in the middle ages, thus closing the gap between in-and out-migration, and to exceed the primary migration at still higher ages raising the

curve higher at advanced ages ⁽¹⁾. The fluctuations from one age group to another observed throughout the age span, but more conspicuously at older ages, may best be explained in terms of the effects of misstatement of age, which is relatively more pronounced at advanced ages. Among females, the overall rates are slightly lower (except

TABLE 5

Relative Rates of Displacement due to Internal Migration
for the United States, Taiwan and United Arab Republic
by Sex, Selected Age Groups and Time Periods

Area	Time period	Sex and Age							
		Male				Females			
		10+	20-24	25--29	30--34	10+	20-24	25-29	30-34
(Rates for 1930 — 40 = 100)									
United States (Native White)	1920—30	150	150	150	162	152	150	140	159
	1930—40	100	100	100	100	100	100	100	100
	1940—50	162	161	139	176	165	156	160	176
(Rates for 1930 — 35 = 100)									
Taiwan (Native)	1925—30	175	179	182	189	175	147	136	212
	1930—35	100	100	100	100	100	100	100	100
	1935—40	200	193	200	167	112	100	127	112
(Rates for 1927 — 37 = 100)									
United Arab Republic	1917—27	145	133	219	165	109	126	108	87
	1927—37	100	100	100	100	100	100	100	100
	1937—47	152	158	315	116	144	137	169	113

Source : Computed from tables in Hope T. Eldridge and Dorothy S. Thomas, Vol. III of *Population Redistribution and Economic Growth, United States*, EFBQ—EPTQ : *Demographic Analyses and Interrelations*, American Philosophical Society, 1964, p. 133.

Wen-Lang Li, unpublished Ph. D. dissertation in demography, *Inter-Prefectural Migration of the Native Population of Taiwan, 1905—1940* University of Pennsylvania 1967, and from the Population Censuses of the U. A. R. and of Taiwan.

(1) Hope T. Eldrige, «Primary, Secondary and Return Migration in the United States, 1955—1960», in *Demography*, Vol. II (1965), pp. 444—455.

during the depression decade 1927—1937) compared with the rates of males. But the age-specific rates are relatively (compared to the rate for all ages) very much higher at ages below 20 years, probably due to the higher female mobility associated with marriage. The age at which the peak rate occurs is probably lower (15—19 instead of 20—24 years), but the pattern of change of the rates after the peak ages is quite similar for the two sexes.

Second, in conformity with the situation in other countries for which similar data are available, there is a general tendency in the U. A. R. for the rates of redistribution of the depression period in the 1930's to remain low and those of the prosperous period to remain high ; that is, the rates of redistribution are positively correlated with the level of economic condition in the country. In Graph I, the curve for the 1927—1937 decade occupies the lowest and that for 1937—1947 the highest position. The situation in two other countries is illustrated in Table 5 where the rates of redistribution at the peak ages and for all ages combined are given. In all three countries and for all age intervals, the rate during the depression period is lower than the one before the depression and the one following the period. It also appears that the response of female migration to economic changes is in general similar to that of male migration.

Third, examination of the curves of net migration rates for individual governorates shows that the extent of return migration for major urban centres of the U. A. R. is negligible except during depression periods. In places where return migration is relatively large, it is generally observed that net migration is negative at older ages. In the case of the urban governorates in the U. A. R. significant net out-migration is not generally observed, though a tendency for such movement is noticed in each of the urban centres during the depression decade, 1927—1937. For example, for Cairo there was no net out-migration in any of the age groups during 1937—1947 for either sex. There was some net out-migration at ages 50 and above during 1927—1937, but the little out-migration that is noticed in other decades (see Table 6) is hardly sufficient to indicate a general pattern. It thus appears that rural-urban migration in the U.A.R. is more or less a permanent shift with few people returning to the village after retirement. In this respect, the situation in the U. A. R. resembles more to the pattern in the developing countries in Latin America than to the pattern in similar countries in Southeast Asia.

TABLE 6

Net Out-Migration at Ages 40 Years and Above
as Percent of Net Migration at All Ages, Cairo,
1917—1927 to 1947—1960

Decade	Males	Females
1917—1927	1.1	4.6
1927—1937	7.6	7.0
1937—1947	0.0	0.0
1947—1960	0.6	1.8

CONCLUSION

International comparison of the rates and patterns of internal migration is made hazardous by their dependence to varying degrees on the definition of migration and on the number, size and shape of migration-defining areal units. The sex-age pattern of population redistribution is somewhat less affected by these factors and is, therefore, one of the few aspects of migration that is amenable to international comparison.

The excess of males in both lifetime migration and intercensal redistribution due to migration in the U. A. R. has little general significance, as the sex ratio migrants is found to be sensitive to changes in definition of & differences in the nature of a real units. But the positive association between the proportion of males and the distance of migration seems relevant. The selectivity of young adult males and females among migrants and the apparent diminished mobility in the middle ages are patterns, which are widely observed, and may therefore be considered of some general interest. Similarly, the relation between population mobility and economic changes in the country is similar to that observed in other countries ; a period of high economic activity is associated with a period of high population mobility.

GRAPH I. RATES OF POPULATION REDISTRIBUTION DUE TO INTERNAL
MIGRATION BY AGE AND SEX, UAR, 1917-1927 to 1947-1960

