

DEMOGRAPHIC ASPECTS OF UNEMPLOYMENT

IN JORDAN

BY

AHMED A. HAMMOUDA

INTRODUCTION

The unemployment problem defined

The aim of this paper is to investigate the extent and structure of open unemployment in the Hashemite Kingdom of Jordan, as existing recently. First the problem of unemployment is defined in general terms, and the levels and structures of unemployment in Arab countries in the Middle East are presented as a background for the analysis of current unemployment in Jordan.

Insight into the magnitude of the problem of unemployment is of social and economic importance for any country, especially for developing countries, where in general levels of unemployment are high. In these countries the nature of the problem is determined by the particular economic structure of the society, which is -

in contrast to more developed countries- of a dual nature. On the one hand there is the traditional sector of the economy, characterized (in terms of lack of employment) by underemployment, while on the other hand the modern sector is more characterized by unemployment. It is generally hypothesized that underemployment is a much more serious problem in developing countries than open unemployment.⁽¹⁾

However, underemployment is extremely difficult to measure. This difficulty is clearly reflected in the definition of underemployment given by the ILO: "Underemployment is the difference between the amount of work performed by persons in employment and the amount of work they would normally be able and willing to perform." (2)

-
- (1) See for instance: Edgar O. Edwards, "Employment in Developing Countries", in Edgar O. Edwards (ed.), Employment in Developing Nations (New York: Columbia University Press, 1974); Economic Commission of Western Asia (ECWA), "Employment and Development", in Report of the Seminar on Population, Employment and Development, 4-7 April 1977, Amman (Amman: National Planning Council and ILO, June 30, 1977), pp. 7-8; Handbook of Household Surveys (New York: United Nations Statistical Office, 1964). Studies in Methods, Series F, No. 10, p. 78.
- (2) H.S. Shryock and J.S. Siegel, The Methods and Material of Demography (Washington D.C. : US Bureau of the Census, 1975), vol. 1, p.340.

Both the amount of work actually performed and the amount of work people are willing and able to perform are subject to different interpretations and to statistical problems of measurement. Due to this, data available on underemployment in developing countries generally are scarce and unreliable. For that reason it was necessary to exclude the underemployment-part of the unemployment problem from the present study. However, also open unemployment is subject to conceptual and statistical measurement problems. Broadely speaking, the openly unemployed are defined as those who want work and are actively seeking it, but do not have it presently.

Levels of open unemployment in developing countries generally are high and increasing, which is attributed to the lack of creation of new jobs due to the establishment of mainly capital-intensive industries, to a low productivity of the labor force (3), to the relative scarcity of capital, high population growth rates, and to the dual production system (4).

(3) Henry T. Azzam, "Population, Employment and Development, An Integrated Planning Approach", in Report of the Seminar on Population, Employment and Development, 4-7 April 1977, Amman (op. cit.), pp. 2-3

(4) ECWA, 1977, op. cit., p. 37.

In the following we will look at the evidence with respect to open unemployment in Arab countries in general and Jordan in particular.

Open unemployment in Arab countries in the Middle East with particular reference to Jordan: An overview.

In Arab countries, the data on open unemployment are mainly from censuses and sample surveys. The former have been held irregularly, while the latter have only recently been introduced in most of the countries in the region, if at all. In so far as data are available, they are often very difficult to compare, due to the difference in definitions used, i.e., difference from the above-stated definitions, especially with regard to age limits, reference periods, criteria for seeking work, minimum limits of time worked, treatment of persons temporarily laid-off and treatment of first-time job seekers.⁽⁵⁾ Table 1 presents unemployment rates for several Arab countries. It should be kept in mind that, due to the factors mentioned above, comparison between countries is not strictly possible.

(5) Yearbook of Labour Statistics, 1975 (Geneva: International Labour Office, 1975), p. 427.

Also, as the ECWA warns, the rates should not be viewed as a time series, because the difference in the figures may represent improved data sources and changes in estimation techniques rather than genuine changes.⁽⁶⁾ Still, we can get a general idea of the extent of open unemployment. The levels seem to be rather low as compared to those of many other developing countries, except for the levels recorded in Syria and Iraq. But one can be sure that the relatively low levels of open unemployment hide a considerably larger underemployment.

The levels of open unemployment in Jordan seem to indicate a genuine decrease. The 1961 rates have been adjusted so as to reflect the East-Bank unemployment only, in order to make a rough comparison with past-June 1967 data possible, given the subsequent occupation of the West-Bank. The definition of unemployment used was the following: "Those seeking work include all persons 12 years of age and older who, although presently not working, were seeking work for pay or profit, and including those who

(6) Demographic and Related Socio-Economic Data Sheets for Countries of the Economic Commission for Western Asia, no. 2 (Beirut: United Nations/ECWA, January 1978).

Table 1 - Unemployment Rates for Several Countries
in the Middle East

Country	Year	Rate (Percent)	Country	Year	Rate (Percent)
Bahrain	1971	3.0	Kuwait	1970	3.4
Egypt	1968	3.1		1975	2.6
	1970	2.4	Syria	1968	7.4
	1972	1.5		1970	6.4
	1975	2.5		1972	4.7
Iraq	1965	7.6		1974	5.1
	1973	6.7		1976	6.2
	1975	7.5	United	1968	3.4
Jordan	1961	7.1	Arab	1975	2.1
	1966	3.5	Emirates		
	1970	8.0			
	1972	2.8			
	1974	2.2			
	1976	1.6			

Sources:

Bahrain: Demographic and Related Socio-Economic Data Sheets for Countries of the Economic Commission for Western-Asia, No. 2 (Beirut: United Nations/ECWA, January 1978). Census data.

Sources of table 1 (continued) :

Egypt: Yearbook of Labour Statistics, 1977 (Geneva: International Labour Office, 1977), table 10. Labor force sample survey data.

Iraq: ECWA , 1978, op. cit.

Jordan: 1961 : First Census of Population and Housing 18 November 1961 (Amman, Jordan: Department of Statistics, 1964).

1966: Michael P. Mazur, "Economic Development of Jordan", in C.A. Cooper and S.S. Alexander (eds.), Economic Development and Population Growth in the Middle East (New York: American Elsevier Publishing Co., 1972), p.236.

1970: ECWA, 1977, op.cit., p.7; and The Hashemite Kingdom of Jordan, Ministry of Culture and Information and the National Planning Council, The Concise Jordanian Development Plan 1973-1975 (Amman, no date) (In Arabic).

1972, 1974, 1976: The Multi-purpose Household Survey (Amman, Jordan: Department of Statistics, 1974, 1976, 1977), vols. 1972, 1974, 1976.

Kuwait: ECWA, 1978, op.cit. Census data.

Syria: Yearbook of Labour Statistics, 1977, op.cit., table 10 Labor force sample survey data.

United Arab Emirates: ECWA, 1978, op.cit. Census data

had never worked before." (7) The time reference applied to the census day. Mazur thinks this rate is understated (8) but it is evident that during the 1960s prior to the war of 1976 unemployment declined considerably, so that the unemployment rate by early 1967 is estimated to have reached a low of 3.5 percent. (9) This decline is due to substantial economic growth, labor export, and social development, especially education.

With respect to economic growth, the average annual rate of growth in gross national product was eight percent during the period 1962-1966, and the average annual rates of growth in agricultural and industrial income were six and fifteen percent respectively, both higher than in the

(7) First Census of Population and Housing, 18 November 1961 (Amman, Jordan: Department of Statistics, 1964), pp.91-92

(8) However, Mazur also indicates that the census is taken in November, a fairly slack time for agriculture. This would tend to inflate the unemployment rate. Michael P. Mazur, "Economic Development of Jordan", in C.C. Cooper and S.S. Alexander (eds.), Economic Development and Population Growth in the Middle East (New York: Elsevier Publishing Co., 1972 p. 234.

(9) Ibid., p. 232, p. 278.

periods 1954-1961 and 1967-1972.⁽¹⁰⁾ The sectors mining and manufacturing industry increased from 5,258 establishments in 1963 to 7,242 in 1966, while the number of workers in these sectors increased from 29,591 to 37,257.⁽¹¹⁾

As far as the labor-emigration of Jordanians is concerned, there are neither reliable data nor good estimates of the size of this migration. According to the 1961 Census 63,000 Jordanians were living abroad. It should be noted that not all of these emigrants left Jordan in order to work. A considerable number of them are students. Azar gives a rough estimate of 250,000 Jordanians residing abroad in 1974.⁽¹²⁾ The difference between the two estimates is large enough to confirm the conclusions that there was external migration from Jordan to other countries during the 1960s.

(10) Five-Year Development Plan 1976-1980 (In Arabic) (Amman, Jordan: The National Planning Council, 1977), p.9.

(11) Ministry of Culture and Information, Economic Development of Jordan 1954-1971 (Amman, Jordan: Jordanian Press Foundation, 1972), Appendix 4.

(12) W.Y. Azar, "The Population Position of Jordan", in First Regional Population Conference, Beirut, February-March 1974 (Beirut: ECWA, 1974).

Finally, social development and especially education can be considered as an important factor in reducing unemployment rates. In 1964 compulsory education was extended to embrace the first nine years of schooling, i.e., the primary and preparatory cycles. Consequently, educational opportunities have witnessed marked expansion: The number of schools increased from 1,595 in 1960/1961 to 2,022 in 1966/1967, and student enrollment increased by over 56.1 percent, rising from 281,462 to 439,552.⁽¹³⁾ In addition, the University of Jordan and several vocational institutions were established during the 1960s before the war of 1967. It is known that the expansion of educational opportunities lowers the participation rates in the labor force and hence the pressure on available work opportunities lessens. Thus, the chances of finding work for those seeking it increases and the rate of open unemployment decreases.

The 1967 war, however, followed by the events of 1970, interrupted this period of sustained and rapid economic growth, probably raising the levels of unemployment again, to as high a level as eight percent. This increase can be seen through the following:

(13) Ministry of Culture and Information, Economic Development of Jordan 1954-1971, op.cit., appendix 7

Firstly, the seizure of the West-Bank in June 1967 caused the influx of approximately 400,000 persons into the East-Bank, that is about one fifth of the population of the whole country. Besides, subsequent events forced thousands of people living on the eastern side of the Jordan valley to leave their lands and to move towards the cities and the highlands, seeking protection away from military and conflict areas.

The West-Bank comprises six percent of the total land area, one fourth of its cultivated area and 65 percent of the vegetable production. There are 3,700 industrial establishments or about 48 percent of the total number of industrial establishments, employing 14,000 persons (37 percent of the total industrial employment). The West-Bank has also 53 percent of trade establishments (44 percent of the labor force in the sector).⁽¹⁴⁾ The annual rate of growth of the gross national product dropped to 3.8 percent in the period 1967-1971, and the national income from the agricultural and industrial sectors registered negative annual growth rates of two and one percent

(13) Ministry of Culture and Information, Economic Development of Jordan 1954-1971, op.cit., appendix 7.

(14) Ministry of Culture and Information, Economic Development of Jordan 1954-1971, op.cit., p.38.

respectively in the same period.(15)

Thirdly, the occupation of the West-Bank caused a direct decline in the national income from tourism from 11.3 million J.D.(16) in 1966 to 3.1 million J.D. in 1971. In addition, income from tourism constitutes an important source of foreign exchange; in 1966, for instance, income from tourism contributed more than 24 percent to Jordans foreign exchange receipts from goods and services.(17)

Finally, private transfer, i.e. money sent by Jordanian emigrants and workers abroad to support their families and to make investments, dropped from 13 million J.D. in 1966 to 5 million J.D. in 1971, due to the fact that part of those receiving remittances stayed at the West-Bank after 1967, and due to the unsettled political and economic situation in the last third of the 1960s.(18)

(15) Five-Year Development Plan 1976-1980, op.cit., pp.9-10, p. 13.

(16) Jordanian Dinars.

(17) Ministry of Culture and Information, Economic Development of Jordan 1954-1971, op.cit., p. 23.

(18) The Hashemite Kingdom of Jordan, Ministry of Culture and Information, and the National Planning Council, the Concise Jordanian Development Plan 1973-1975 (Amman, no. date), p.3. (In Arabic).

The most recent source of data is the Multi-purpose Household Survey. The levels of unemployment can be compared for the three rounds of surveys held, but the definition used differs from the census definition in the time reference used. Thus, since 1972, or may be slightly earlier, the level has gone down again, reaching an all-time low in 1976. Ecevit attributes much of this decline to the labor export, mainly to other Arab countries.⁽¹⁹⁾ "The Follow-up Study for the Graduates of Secondary Schools, Vocational and Training Institutes in the East-Bank 1971-1975" ⁽²⁰⁾ showed that 31.4 percent of the total sample of graduates 1971-1975 left Jordan to work abroad. In addition, again the economic growth and the increase of educational opportunities are of importance as causes of the decrease of the unemployment rate in the period 1973-1975. The annual rate of growth for industrial production during this period exceeded all the previous rates and reached 23 percent. The corresponding rate for trade and

(19) Zafer Ecevit, Labor Migration in the Middle East and North Africa and its Economic Implications. Paper presented to UN/ECWA Seminar on Population and Development, Amman November 25, 1978, pp.10-11.

(20) The Follow-up Study for the Graduates of Secondary Schools, Vocational and Training Institutes in the East-Bank 1971-1975 (In Arabic) (Amman, Jordan: The National Planning Council, no. date).

services was three percent, and for agricultural production and gross national product one and seven percent respectively. (21)

As far as the expansion of educational opportunities is concerned, during the period 1973-1975 new schools and institutions were opened, while the capacity of existing schools was enlarged; A second university was established; new facilities were added to the University of Jordan, and the number of students rose from 3,030 in 1972/1973 to 5,600 in 1975/1976. Total student enrollment in the East-Bank schools increased from 460,000 to 540,000 for 1972/1973 and 1974/1975 respectively. (22)

Besides these level data with respect to open unemployment, not much is known about the structure of this type of unemployment in Arab countries. One study by Vaidyanathan (23) compared the demographic aspects of unemployment in Arab countries, mainly on the basis of censuses and of the few available surveys. The time

(21) Five-Year Development Plan 1976-1980, op.cit., p.11

(22) Ibid., p. 235.

(23) K.E. Vaidyanathan, "Demographic Aspects of Unemployment in Arab Countries", in Cairo Demographic Center, Demographic Aspects of Manpower in Arab Countries (Cairo, 1972). Research Monograph Series no. 3

period covered ranges from 1955 to 1966 and thus does not provide us with recent information. However, the few available studies unemployment in Arab countries, together with the more abundant literature on the structure of unemployment in LDCs in general, can lead us to a general picture and to hypotheses about the structure of unemployment in Jordan.

As regards age, it is generally found that unemployment is high among the younger people, that is generally those between 15 and 24 years of age. Often the unemployment rate for this group is double or more the total rate.⁽²⁴⁾ ⁽²⁵⁾ Vaidyanathan, in his study for Arab countries around 1960, finds high unemployment for men 15-19 and 20-24 years, low rates for men 35-44 and 45-54, and moderately high rates for the age group 55-64.⁽²⁶⁾ For females he finds high unemployment rates in the age group 15-19, declining until a low is reached in the age group

(24) The unemployment rate is defined as the number of unemployed people in the labor force divided by the total labor force (usually bounded by the ages 15 and 64).

(25) Gerald M. Meier, Leading Issues in Economic Development (New York: Oxford University Press, 1976), p.184. Here, Meier reports on studies on data for the 1960s.

(26) Vaidyanathan, op.cit., pp.365-366.

25-34, after which again a rise sets in. In traditional societies the sex of a person is an important variable in matters of labor force. While Vaidyanathan conclude (27) that most of the unemployed are men, this does not necessarily mean that the unemployment rates for men are higher than for women. According to the census, in 1961 unemployment rates for women were indeed lower than for men in Jordan (3.5 and 7.3 percent respectively). Available data since 1972 indicate a reverse situation : unemployment among women was 5.9, 2.9 and 2.7 percent in 1972, 1974 and 1976 respectively. The figures for men were 2.6, 2.1 and 1.5 percent. (28) The relative decrease in the female unemployment rate 1972-1976 can be attributed to the increase in the availability of new jobs and opportunities for women due to the economic growth discussed earlier and the moder-

(27) Ibid., p. 365.

(28) First Census of Population and Housing, op.cit.; and The Multi-purpose Household Survey (Amman, Jordan: Department of Statistics, 1974 1976, 1977), vols. 1972, 1974, 1976.

nization and social development. (29)

A third variable influence unemployment is the marital status of the persons involved. For Egypt and Syria in 1960 it was found that unemployment among married men and widowed women was relatively low, while it was high for divorced men and women.

An obvious factor of importance in matters of employment is education. Meier (31) finds that the unemployed tend to be better educated relative to the total labor force, especially if these unemployed are young and inexperienced. The unemployment rate are highest for the

(29) According to the "Labor Force Survey in Civil Non-agricultural Organization which have 5 Employees or More" in 1970 and 1975, the female labor force participation rate in the non-agricultural sector (i.e. mining, industry, construction, transportation, services and commerce, and public administration) increased from 9.6 percent in 1970 to 13.6 percent in 1975. According to the "Agricultural Census 1975" the female labor force participation rate in agriculture was 33 percent in 1975. The Hashemite Kingdom of Jordan, Report on the Labor Force in Jordan. Paper submitted to the Jordanian Development Conference, May 13-June 4, 1976. Document no. JDC 76, pp. 3-4 (In Arabic).

(30) Vaidyanathan, op.cit., p.367

(31) Meier, op.cit., p.185

medium educated group (primary and secondary school leavers), and relatively low among the highly educated and the illiterates. Vaidyanathan's findings for Kuwait men in 1965 and for Syrian and Egyptian men in 1960 confirm this pattern.⁽³²⁾ Mazur, for Jordan, also finds that the most serious unemployment was among recent secondary school leavers, in 1966- a year of rather low overall unemployment.⁽³³⁾ According to Mazur, skilled workers generally did not lack employment opportunities, while the opportunities for unskilled workers were improving. He notes that widespread white-collar unemployment has been avoided by the availability of employment abroad (e.g., in Kuwait and Saudi Arabia).⁽³⁴⁾ Also when unemployment was relatively high in 1970, most of the unemployed were educated people, especially university graduates from the humanities and secondary school leavers.⁽³⁵⁾

(32) Vaidyanathan, op.cit., p. 367

(33) Mazur, op.cit., p. 32

(34) Ibid., p. 235

(35) The Hashemite Kingdom of Jordan, Ministry of Culture and Information, and the National Planning Council, The Concise Jordanian Development Plan 1973-1975, op.cit., p.65

Unemployment is especially high in urban areas, where high rates of open unemployment are added to the underemployment existing in both urban and rural areas.⁽³⁶⁾

Part of the high urban unemployment is caused by the migration of rural underemployed to the cities; where they only become urban unemployed.⁽³⁷⁾ Meier places the rate of open unemployment in urban areas in developing countries as high as 15-20 percent, with the age group 15-24 generally about double this.⁽³⁸⁾ In rural areas, the rates of open unemployment seem to be rather low, but there is little evidence for this.⁽³⁹⁾ Mazur estimates the rural unemployment rate in Jordan in 1961 to be much more lower than the urban rate and he assumes it has lowered since then, due to high rural-to-urban migration.⁽⁴⁰⁾ Evidence for the importance of this type of migration in Jordan in the 1960s comes from the "Population Census and Internal Migration 1967". In this census 39,037 persons were

(36) Vincent M. Barnett Jr., Implementation of Policies for Fuller Employment in LDCs", in Edwards op.cit. in foot note 1, p.247.

(37) See for instance Barnett, op.cit., p.247; Edwards, op.cit., p.4; Meier, op.cit., p.168.

(38) Meier, op.cit., p.171

(39) Ibid., p.186.

(40) Mazur, op.cit., p.233

enumerated who were at the time of the census residing in either one of four cities - Amman, Zarqa, Ruseifa, Aqaba - but were living somewhere else five years earlier, i.e., in 1962.⁽⁴¹⁾ And it seems that the city-ward migration continued after the war of June 1967. Besides, the majority of the non-agricultural establishments and the large economic projects are concentrated in the cities and especially in the Amman-Zarqa area. This implies that this area is expected to receive a large stream of rural migrants coming to seek work and expecting to find it, an expectation which does not always seem to be justified.

Information on urban unemployment can be found in the Social Survey of Amman, held in 1966 by the United Nations. This study found - using the same definitions as the census of 1961 - that the unemployment rate for men dropped from seven to five percent between 1961 and 1966, while the rate for women increased from four to eleven percent. No explanation for this is given, but it is through that the rates

(41) The Hashemite Kingdom of Jordan, Department of Statistics, Population Census and Internal Migration for Amman, Jerusalem, Zarqa, Ruseifa, Irbid and Aqaba, 1967 (Amman, Jordan: Department of Statistics Press, no. date), p.10

are understated. (42)

Having exhausted most of the information on un-employment in Arab countries, we can now infer hypotheses about the structure of unemployment in Jordan, as it exists recently. These hypotheses will then be tested, using data from the 1976 round of the Multi-purpose Household Survey of Jordan:

- 1- More men than women are unemployed, in absolute terms if not also in relative terms.
- 2- Unemployment is concentrated in the young adult ages, especially in the age groups 15-19 and 20-24 years. This holds for both men and women.
- 3- Unemployment is higher for single and divorced than for married persons. Among young adults, unemployment is concentrated in the "single" group, for both men and women.
- 4- Unemployment is low for the uneducated people (i.e., less than elementary education), increases gradually

(42) United Nations, "Report on the Social Survey of Amman, Jordan, 1966", in Studies on Social Development in the Middle East, 1969 (Beirut: United Nations, 1970), p.32.

with educational level, reaching high levels for the educated (i.e., those with secondary education), except for the very highly educated (i.e., the university education). This holds for both men and women.

- 5- Unemployment is concentrated in the urban areas. This holds for both men and women. In both urban and rural areas unemployment is most severe among young adults (men and women).

SOURCES AND LIMITATIONS OF THE DATA

Data on unemployment in Jordan come from the following main sources: censuses and labor force sample surveys. The last census was held in 1961 and obviously cannot provide us with up-to-date information. Survey data, however, are available through the Multi-purpose Household Surveys, held yearly since 1972.

The ILO considers this type of source generally as the most reliable for estimating unemployment: "When based on adequate sampling methods, labor force sample surveys have proved in practice to be a satisfactory and reliable method of estimating unemployment".⁽⁴³⁾

(43) Yearbook of Labour Statistics, 1975, op.cit., pp.427-428

The Multi-purpose Household Survey is held each first four months of the year. Each month one fourth of all households in the sample is interviewed, and the first week of the month in which a household is interviewed serves as the period of reference. (44)

The sample is a stratified multistage random sample. Three strata are distinguished: Cities, camps, and rural areas. The way in which the sample was taken is as follows: For the cities a three percent random sample was taken from the land and building registers provided by the Ministry of Finance. All households residing in these buildings were interviewed, resulting in approximately six percent of city households being included in the sample. The "city" stratum includes all places with 10,000 or more inhabitants (13 places). A list of cities is published in the 1972 issue of the survey.

For the refugee camps no building registers were available. Hence, these were made for the purpose of the survey.

(44) Most of the information given on sampling and definitions is derived from the 1972 issue of the survey.

Again, a three percent random sample of buildings was taken, resulting in this case also in three percent of households being included. The "camp" stratum includes all 11 camps.

The rest of the country was classified as rural but nomads were excluded. First, in a simple random sample 88 villages were selected, taking into account "muhafadhah" (districts) and "nawahi" (subdistricts). For the selected villages a list of buildings was made, and from this a three percent random sample was taken, resulting in the inclusion of three percent of households. In all, the sample contained 17,612 households, which constitute around six percent of all households in the East-Bank. The 1976 round contained 114,800 persons.

For this survey, the unemployed are defined as those persons who are physically able to perform work and who want work and are actively looking for it, but do not have it presently. Persons younger than 12 years or older than 64 are not considered unemployed. In order to be classified as "actively looking for work" a person should in the reference period be busy writing applications, going for personal interviews, looking in periodical or daily newspapers, visiting institutions, or advertising his or her name and qualifications in the newspapers.

In our analysis, however, we will exclude those persons from the unemployed who are in the age group 12-14, for two reasons. First their number is very small and, secondly, there is compulsory education up to the age of 15, which may have led to some intentional misreporting of employment.

The unemployed together with the employed (i.e., persons working for pay or profit) constitute the labor force or economically active population. All persons not classified as in the labor force are economically inactive. It should be noted that it is usually a problem in developing countries to distinguish the economically active from the economically inactive in a clear way, due to the large number of unpaid family workers, who might or might not consider themselves as participants in the labor force. In the current survey, unpaid family workers are included in the labor force only if they themselves state that they work, and usually they do not say so. This is due to several reasons: The strong cultural bias against work for women causes respondents, especially in rural areas, not to admit that the women do actually work; the seasonal and part-time character of this work causes these women not to perceive their labor as work; finally, these women are not used to distinguish between their work as housewives and their time devoted to assisting their husbands in work.

Thus, it is probable that the female labor force is understated especially in rural areas, which leads to an inflation of the unemployment rate.

For evaluating the accuracy and adequacy of the data, only indirect information is available. The UN/ECWA, in publishing data sheets for the countries of the Economic Commission for Western Asia, states that only data believed to be fairly accurate were included, and they use the 1976 survey data for many indicators.⁽⁴⁵⁾ Secondly, the sample is a large one, as compared with many other surveys. Thirdly, the surveys are held regularly, indicating that experience is being built up. Fourth, the data do not give unlikely results, as compared with comparable survey data in comparable countries. Fifth, the sample is considered to be representative of the population: Multistage stratified random sampling is a good procedure to cover the population; and in studying open unemployment it is not thought to be a serious limitation that the nomad population is excluded, because - like the agricultural population - it is expected that underemployment will be a more serious problem among them than unemployment.

The major limitations are the following: The urban population is overrepresented as compared with the rural

(45) ECWA, 1978, op.cit., p.5

population in the sample. This leads to some bias in aggregate (i.e., urban plus rural combined) measures. This problem is not considered to be of critical importance, because the problem under study is mainly an urban one. Secondly, the standard error of the sample has not been published. Finally, though the total sample is large ($N = 114,800$), the number of unemployed is small ($N = 355$). Thus it was not feasible to make detailed cross-classifications, and in some cases an analysis could not be carried out.

DEMOGRAPHIC ASPECTS OF UNEMPLOYMENT IN JORDAN

Having established the sources and the limitations of the data, we can proceed to analyse them. Recall our first hypothesis: More men than women are unemployed, in absolute terms if not also in relative terms. Indeed, 82.3 percent of unemployed in the sample are men. But, while the total unemployment rate was 1.6 percent, the rate for women was 2.8 percent and that for men only 1.5 percent. Probably, as noted previously, the rate for women is overstated to an unknown extent, due to underreporting of women in the labor force. However, it seems unlikely that this factor would explain all of the difference in the extent of unemployment between men and women. The cultural bias against work for women outside the home will exert an influence

in making it more difficult for women to find a job (while also only a limited number of jobs is open to women). But it should not be forgotten that due to this bias also many women do not even enter the labor force and hence cannot be unemployed.

When we examine the age distribution of the unemployed, it is clear that most of them are in the age group 20-24, and to a lesser extent in the age group 15-19 (Table 2 and figure 1). Almost 60 percent of the unemployed are in these age groups. Beyond these ages, the percentages of unemployed decrease regularly with age, with the age group 40-44 as a minor exception. Examining the unemployment rates, essentially the same picture is maintained: Unemployment is high among young adults (3.7 percent for 20-24 years old and 3.4 percent for those 15-19 years of age). After that, there is a decrease up to ages 40-44. Among older people, unemployment is highest for those 55-59 years old, but it is still below the average. When taking sex into account, the first phenomenon to be noticed is the highly skewed age distribution of female unemployed, who are all under 30 years of age. Female labor force participation is a recent phenomenon in Jordan; few older women do work outside their home, and when they lose

Table 2 - Proportions Unemployed and Unemployment Rates by Age and Sex, Jordan, 1976

Age Group	Percentages			Unemployment Rates		
	Male	Female	Total	Male	Female	Total
15-19	18.3	36.5	21.7	2.6	10.2	3.4
20-24	34.6	50.8	37.7	3.7	3.6	3.7
25-29	13.6	12.7	13.5	1.5	1.3	1.4
30-34	8.8	-	7.3	1.0	-	.9
35-39	5.1	-	4.2	.6	-	.6
40-44	6.8	-	5.6	.9	-	.8
45-49	4.4	-	3.7	.7	-	.7
50-54	3.4	-	2.8	.7	-	.7
55-59	2.7	-	2.3	1.1	-	1.1
60-64	1.4	-	1.1	.7	-	.7
All Ages	100	100	100	1.5	2.8	1.6

Source of the raw data: The Multi-purpose Household Survey (Amman, Jordan: Department of Statistics, 1977), vol. 1976, table 2, pp.35-37.

their outside jobs, they tend to drop out of the labor force.⁽⁴⁶⁾ This skewedness is related to the fact that marriage is almost universal ⁽⁴⁷⁾ and to the fact that work is considered undesirable and of low status for women, and especially for married women.

Of the unemployed men most are also young, with 34.6 percent in the age group 20-24 and more than half - 52.9 percent - younger than 25 years. The unemployment among both men and women in the age group which contains the largest number of unemployed (20-24 years) is high: 3.7 and 3.6 percent respectively. But while the unemployment among the youngest men is lower at 2.6 percent, that among the youngest women is extremely high (10.2 percent). This might be explained by the fact that men can "escape" unemployment more readily than women by continuing their school education, while these women are still rather young for their specific "escape", i.e., marriage.⁽⁴⁸⁾ Also, the

(46) Labor force participation of older women in rural areas is more common, but it is not perceived as labor force participation

(47) The celibacy rate at age 50 for women is 3.3 percent. ECWA, 1978, op.cit.,

(48) The mean age at marriage for women in 1974 was 22.3 years. Ibid.

competition among women with high levels of education is less severe than among men with the same levels of schooling (segregated labor market), leading to comparatively low rates for women 20 years and older.

The high unemployment at young ages can be explained as follows: While the rate of population growth has been high,⁽⁴⁹⁾ the pace in which new jobs are created lags behind, so that many more young people enter the labor force than there are jobs for them. Unfortunately, no data are available on unemployed according to previous participation or non-participation in the labor force, that is on first-time job seekers.

Our third hypothesis involves the marital status of the unemployed. Only the levels "single" and "married" are taken into account, because the number of cases in the two other levels "divorced" and "widowed" were very small. From table 3 it can be seen that most of the unemployed men and especially women are single. The incidence of

(49) The rate of growth in 1972 was 3.3 percent, due to sustained very high fertility (CBR: 50 per thousand, TFR 6.5) and rather low mortality (CDR: 15 per thousand). Ibid.

unemployment among them does not vary substantially with sex: For both single men and women the rate is high (3.2 and 3.6 percent respectively) and for both married men and women the rate is low (0.7 and 0.6 percent respectively). The conclusion reached previously with regard to un-

Table 3 - Proportions Unemployed and Unemployment Rates
by Marital Status and Sex, Jordan, 1976

Marital Status	Percentages			Unemployment Rates		
	Male	Female	Total	Male	Female	Total
Single	67.1	95.2	72.2	3.2	3.6	3.3
Married	32.9	4.8	27.8	.7	.6	.7

Source: See table 2, reference, table 2, pp.35-37

employment of women according to age, can now be refined: For married women the low rate can be explained by the fact that many married women probably drop out of the labor market if they cannot find a job or if they lose their previous job (because of marriage or pregnancy or for other reasons). The reasons for this are, firstly, that -as mentioned previously- work for women and especially married women is

considered undesirable. And of course, unemployment reflects the active desire for work and is equally undesirable. Secondly, married women have already their daily work as housewives and mothers of rather many children. Thus, for them, unemployment will not really mean that they are without work. Hence, if they stay long without employment, it is more likely for them than for men that they give up trying to find a job.

Table 4 and figure 2 provide the unemployment data for men by age and marital status.⁽⁵⁰⁾ While most of the young unemployed men are single and most of the older are married -as could be expected from the marital distribution of the population- in all age groups unemployment is more severe

(50) For women the number of cases was rather small and the distribution was highly skewed in the direction of the young and single women. The extremely high unemployment rate found previously for all women 15-19 years of age, appeared to be located in the category of single women (10.5 percent). In the age groups 20-24 and 25-29 the rate was also higher for single than for married women.

Table 4 - Proportions Unemployed and Unemployment Rates
for Men by Age and Marital Status, Jordan,
1976.

Age Group	Percentage			Unemployment Rates		
	Male	Female	Total	Male	Female	Total
15-19	27.3	1.1	18.7	2.7	1.9	2.6
20-24	50.0	5.3	35.3	4.2	1.2	3.8
25-29	15.5	10.5	13.8	2.5	.7	1.5
30-34	5.2	15.8	8.7	2.8	.7	1.0
35-39	1.5	11.6	4.8	3.0	.5	5.6
40-45	.5	18.9	6.6	2.6	.8	.8
45-49	-	13.7	4.5	-	.7	.7
50-54	-	10.5	3.5	-	.7	.7
55-59	-	8.4	2.8	-	1.1	1.1
60-64	-	4.2	1.4	-	.8	.8
All Ages	100	100	100	3.2	.7	1.5

Source: See table 2, reference, table 2, pp. 35-37

among single than among married men. Of all married men unemployment is highest among the very young (15-19 years of age). One explanation for the higher rate among single than among married men is that, in general, men first secure

a job and marry only after succeeding in getting work, that is, after they can financially afford to have a family.

Among the single population female unemployment was far worse than male unemployment at ages 15-19 (10.5 and 2.7 percent respectively), while in the next two age groups the rates for women (3.7 and 1.6 percent) were lower than for men (4.2 and 2.5 percent). The explanation offered previously, still holds: young single men can escape unemployment by continuing their education; while a few women might do so, most of them escape unemployment some years later by getting married, which -together with the competition factor mentioned above - might explain the substantial drop in unemployment between ages 15-19 on the one hand and ages 20-24 and 25-29 on the other. By that time also men finally have to leave school and seek work, with less possibilities than women to escape unemployment. (One possible escape is going abroad, which is discussed later).

It was hypothesized that, for both men and women, unemployment is low for uneducated people (i.e., less than elementary education), increases gradually with educational level, reaching high levels for the educated (i.e., secondary education), except for the very high educated (i.e., university education).

The data provide us with a cross-tabulation of unemployed according to educational level and sex. The first three educational categories distinguished⁽⁵¹⁾ are defined as "completed the lower level(s), ever attended but not completed the level in which one is classified". The "Tawjihi" category stands for completed secondary education. The higher levels⁽⁵²⁾ are defined as "completed lower levels and attended or completed the level of classification".

Table 5 and figure 3 present the unemployment data according to educational level and sex. However, because these data were not cross-classified with age, it was not possible to eliminate the age group 12-14 from the computations. Thus, these rates reflect unemployment among those in the labor force between ages 12 and 64.

Indeed, for men we find very low unemployment among those who did not complete primary school. Then, with increasing education, unemployment increases until a top

(51) "Less than elementary", "less than preparatory", and "less than secondary".

(52) "Post-secondary diploma", "B.A., B.Sc., License", and M.A., M.Sc., and higher".

(3.4 percent) is reached for those who graduated from secondary school. The rates decline again for those who received an education beyond secondary school, but they stay above the average. Likewise, for women unemployment is high among secondary school leavers but also among those who did not finish secondary school or who dropped out of the educational system after finishing the preparatory school. A second peak of high unemployment for women is found at the B.A. level.

The country emphasizes education in its development goals enrollment as compulsory (but cannot effectively be enforced) at the elementary and preparatory levels and is free up to and including the secondary level. Thus, the number of educated school leavers rose relatively as well as absolutely⁽⁵³⁾, while the number of jobs created for

(53) The illiteracy rate of the population 15 years and over declined from 1961 to 1976 from 49.9 to 19.0 percent for men and from 34.8 to 45.7 percent for women. The educational attainment of the population 25 years of age and over (both sexes) changed as follows:

<u>Educational attainment</u>	<u>1961</u>	<u>1976</u>
Less than first level	80.9	40.9
First level	16.0	47.3
Second level	2.6	7.8
Third level	.5	4.0

Source: ECWA, 1978 op.cit.

Table 5 - Proportions Unemployed and Unemployment Rates by
Educational Level and Sex, Jordan, 1976.

Educational Level	Percentages			Unemployment Rates		
	Male	Female	Total	Male	Female	Total
Less than elementary	14.6	-	12.0	.6	-	.6
Less than preparatory	30.8	4.8	26.3	1.3	1.1	1.3
Less than secondary	11.2	11.1	11.2	2.2	3.8	2.4
Tawjihi	25.8	58.7	31.6	3.4	3.8	3.5
Post-secondary diploma	5.4	7.9	5.9	3.0	1.4	2.3
B.A., B.Sc., License	11.2	17.5	12.3	2.8	4.6	3.1
M.A., M.Sc. and higher	1.0	-	.9	2.4	-	2.2

Source: See table 2, reference, table 6, p. 120, pp. 126-131.

for them grew at a lower rate, creating a bottleneck at the young end of the labor force. Also, a number of men probably decided to continue their education in the second and especially third level because when they drop out of the educational system they are faced with the likelihood of unemployment. The very highly educated face fewer problems in seeking employment because they can fill jobs which their specific skills are required as well as jobs which require less education. In this last case, they can successfully compete with those having less education. The fact that the levels of unemployment among the educated are still low on the whole, is very probably due to the effect of the brain drain and of the employment opportunities in other countries.

The lower unemployment rates for the holders of a post-secondary diploma (especially women) can be explained by the fact that the beginning students and the government sign contracts which require that the students serve the country for a period of two years after graduation and that the government provides this employment immediately after the student's graduation. This arrangement is part of the governmental policy (1973-1975 and 1976-1980 Development Plans) to train people in vocational and educational field

as opposed to academic education.⁽⁵⁴⁾ This program does not exist at the lower and hardly at the higher levels of education.

The last hypothesis we are able to test concerns the distribution of unemployment according to urban and rural residence. Urban in this case is defined as all places with 10,000 or more inhabitants plus those camps which are located inside or very close to these cities. The rest of the country is defined as rural, but it should be remembered that the nomad population is excluded from the sample.

It appears that unemployment is higher in urban than in rural areas, for both men and women; and it is highest for urban women (Table 6). For men it was possible to make a more detailed classification by age and residence (Table 7 and figure 4). Most of the urban unemployed men are young (51 percent is 15-24 years) and even more of

(54) Haitham Horani et.al., "Regional Population Distribution and Manpower Utilization in Jordan", in Report of the Seminar on Population, Employment and Development, 4-7 April 1977, Amman (op.cit.), p.22

the rural unemployed men are young (76 percent). For all age groups urban unemployment is higher than rural unemployment. The results of tables 6 and 7 are not surprising, because it is well known that a lack of employment in rural areas exists mainly in the form of underemployment. Open unemployment in the rural areas will only appear when it has become a too heavy burden to accomodate more people in the labor force in the form of underemployment. Thus, it is expected that open unemployment in rural areas will be apparent first and foremost among the young.

While part of the rural underemployment thus might be transferred into open rural unemployment, it is well known that another part of the rural underemployment is transferred into open urban unemployment.

Table 6 - Proportion Unemployed and Unemployment Rates by Urban-rural Residence and Sex, Jordan 1976.

Sex	Percentages			Unemployment Rates		
	Urban	Rural	Total	Urban	Rural	Total
Male	81.2	93.5	82.3	1.7	.7	1.5
Female	18.8	6.5	17.7	2.9	1.1	2.8
Total	100	100	100	1.9	.7	1.6

Source: See table 2, reference, table 13F and 13G, pp.167-174.

Table 7 - Proportions Unemployed and Unemployment Rates for Men by Urban-Rural Residence and Age, Jordan, 1976.

Age Group	Percentages			Unemployment Rates		
	Urban	Rural	Total	Urban	Rural	Total
15-19	17.5	27.6	18.5	2.9	1.7	2.6
20-24	33.5	48.3	34.9	4.2	2.3	3.7
25-29	13.3	17.2	13.7	1.6	.9	1.5
30-34	9.9	-	8.9	1.3	-	1.0
35-39	4.9	6.9	5.1	.6	.4	.6
40-44	7.6	-	6.8	1.1	-	.9
45-49	4.9	-	4.5	.9	-	.7
50-54	3.8	-	3.4	.9	-	.7
55-59	3.0	-	2.7	1.4	-	1.1
60-64	1.5	-	1.4	1.0	-	.7
All Ages	100	100	100	1.7	.7	1.5

Source: See table 2, reference, table 13F and 13G, pp.167-174.

Summarizing, we have found that the overall levels of unemployment in Jordan are low, but higher for women than for men. Secondly, we found that unemployment is concentrated in the ages 15-24, with for men a concentration in the age group 20-24 and for women in the age group 15-19. Thirdly, unemployment is higher for single than for married men and women, and it is most severe among single men 20-24 years old and among single women 15-19 years of age. Fourth, unemployment increases with educational level for men, reaching a top for secondary school graduates, declining slightly beyond that. Female unemployment by educational level shows two distinct peaks: one at the B.A. level and a broader one at the "less than secondary" level plus the "Tawjihi" level. Finally, it was found that unemployment is a phenomenon of urban rather than rural areas.

Many, because of a lack of data sometimes necessarily tentative explanations have been offered. A puzzling phenomenon is left to be explained : the low overall levels of unemployment found. (55) The explanation can be sought among the following:

- (55) These levels of unemployment are even lower than what is usually thought of as frictional unemployment, that is the level of unemployment in a full employment economy.

2. The specific time reference of the survey definition tends to give rather low rates as compared to other definitions used. That is, in the survey a person is considered unemployed if he did not have work for pay or profit during the reference week. On the other hand, in the 1961 census a reference period of only one day was used.
3. From a high level in 1961, unemployment declined up to 1976 as a result of favourable economic growth. The wars caused a recession, but the country gradually recovered from that, leading in the 1970s again to a lowering of unemployment levels.
4. With regard to women: women's labor force participation rates are still low, though increasing. In 1961 the participation rate was 3.3 percent for women in the age group 15-64; in 1976 it had increased to 8.4 percent. (56) Those women who

(56) 1961: First Census of Population and Housing, op. cit.
1976: The Multi-purpose Household Survey 1976, op. cit.

do participate in the labor force will probably drop out when staying unemployed for a long time, because they usually have, or will soon have, work as housewives and mothers.

5. With regard to men: the low levels of unemployment for men partly be explained through the increased duration of school education.
6. A very important phenomenon, which probably accounts for the bulk of the low rates found, is the migration abroad for employment reasons. Evidence for this is found in the 1975 round of the Multi-purpose Household Survey. In this round the respondents were asked about the members of their household residing abroad. It appeared that of all men abroad a high 59.2 percent were medium educated (i.e., with levels of education corresponding to "Tawjihi" and "post-secondary diploma"), another 10.2 percent were highly educated (i.e., with university attendance and/or degrees), while only 30.4 percent were low educated (i.e., had not completed secondary school). (Table 8)

Table 8 -Jordanian Men Abroad in 1975, by Educational Level
Region of Destination.

Destination	Educational Level		
	Low(a)	Medium(a)	High(a)
Iraq, Lebanon, Syria	8.4	17.1	4.8
Saudi Arabia, Yemens(b)	11.3	6.0	14.3
Gulf States (c)	32.3	6.9	19.1
Egypt, Sudan	.9	8.1	5.7
North-Africa	10.2	4.0	12.7
USA, Canada	7.0	7.8	17.8
W-Europe	27.7	32.0	17.2
E-Europe	.4	11.0	3.8
Others(e)	1.8	7.1	4.1
All destinations(f)	30.4	59.2	10.2
<p>(a) Percentage of all men abroad according to region of destination.</p> <p>(b) Yemen Arab Republic and P.D.R. of Yemen.</p> <p>(c) Kuwait, Qatar, Bahrain, Abu Dhabi, other Emirates.</p> <p>(d) North-African Arab countries except Egypt and Sudan.</p> <p>(e) Dominated by other Asian destinations.</p> <p>(f) Percentage of all men abroad according to educational level.</p>			

Source: The Multi-purpose Household Survey (Amman, Jordan: Department of Statistics, 1976), vol. 1975, table 3-3E, pp. 21-37.

Thus it appears that especially men with levels of education which are characterized by high unemployment have gone abroad. (57) However, not all go for employment reasons; part go for educational and other reasons.

It is of course possible that those who are attracted by the higher salaries abroad (especially in the Gulf areas, where most of the low - and highly-educated go) were not the unemployed in Jordan. But the empty places they leave behind can be occupied by those who otherwise would have stayed unemployed. Up to the point at which these open places still can be filled, this migration is advantageous to Jordan. According to Ecevit (58) however, this drain of skilled labor from Jordan has reached such a high level that the government was forced to import labor to avoid further bottlenecks in its development programme.

(57) The strong selectivity of the medium educated with regard to going abroad is also apparent from the educational distribution of the Jordanian male population: in 1976 a high 85.1 percent of men in the age group 12-64 years were low educated, while only 10.8 percent were medium educated and 4.1 percent were highly educated. The Hashemite Kingdom of Jordan, Department of Statistics, The Multi-Purpose Household Survey (Amman, 1977), vol. 1976, pp.126-131.

(58) Ecevit, op.cit., p.11.

It is useful to estimate the total number of unemployed in the Jordanian population. This has been done here using the ratio estimation method. A 1975 estimate of the Jordanian (East-Bank) population by five year age groups and sex (59) has been linked to the sample survey data on population and unemployed by five year age groups and sex. By dividing the sample population for each age group and sex into the population estimate for each age group and sex, and by multiplying the resulting factors with the sample unemployed for each age group and sex, age- and sex-specific estimates of the number of unemployed Jordanians result. Summing these numbers over the age groups gives a total of 1,162 unemployed women and 5,849 unemployed men. (Table 9) (60)

(59) U.S. Department of Commerce, Bureau of the Census, The Country Profile of Jordan 1976. (Unpublished)

(60) The population estimate of the Bureau of the Census is the only available age- and sex-specific distribution for the Jordanian population. It should be noted that this estimation is based upon a population census held 15-years ago, in 1961. Besides, the estimation assumes that no migration took place after 1972. An estimation based on more adequate data obviously will yield a better estimation of unemployment.

What are the future prospects for the Jordanian unemployment? Presently the levels of unemployment and the number of unemployed are low, creating even labor shortages in some fields. Unemployment is primarily avoided by employment opportunities abroad for men and low participation rates for women. On the dark side however are the predominantly low and unevenly distributed levels of income. With the high dependency ratio, caused by a continuing very rapid population growth, not much scope is left savings and investment and for the creation of new jobs. (61) Also, the potential labor force is huge: while labor force participation rates are low (73.3 percent for men and 8.4 percent for women), the participation rates for women are increasing, as is their educational level. Besides, it is recommended that their participation be officially encouraged and expanded. (62) Probably unemployment will increase if more jobs are not created at a faster rate, if education and labor supply are not planned together, and if the employment opportunities abroad for men should decline.

(61) ECWA, 1977, op.cit., p.5.

(62) Report of the Seminar on Population, Employment and Development, 4-7 April 1977, Amman (op.cit.), p.9

Table 9 - Estimated Number of Unemployed Men and Women
in Jordan, 1976.

<u>MEN</u> Age	Sample population *	Total population **	Sample unemployed *	Total unemployed (a)
15-19	7,012	102,117	54	786
20-24	3,390	81,177	102	2,442
25-29	2,818	62,892	40	893
30-34	2,553	53,455	26	544
35-39	2,597	49,694	15	287
40-44	2,438	41,363	20	339
45-49	2,036	31,041	13	198
50-54	1,620	23,889	10	147
55-59	964	18,433	8	153
60-64	982	14,746	4	60
15-64	26,410	478,807	292	5,849

Continuation of Table 9:

<u>WOMEN</u> Age	Sample population *	Total population **	Sample unemployed *	Total unemployed (a)
15-19	6,287	94,444	23	346
20-24	3,893	79,694	32	655
25-29	3,367	67,879	8	161
30-34	3,040	56,358	--	-
35-39	2,915	47,626	-	-
40-44	2,495	38,966	-	-
45-49	1,900	30,381	-	-
50-54	1,452	23,776	-	-
55-59	807	18,272	-	-
60-64	944	14,750	-	-
15-64	27,100	472,146	63	1,162
(a) Total: Unemployed equals (total population divided by sample population) times sample unemployed.				

* Source: See table 2, reference, table22, pp

** Estimated by the U.S. Department of Commerce, Bureau of Census, The Country Profile of Jordan 1976 (Unpublished). Adjusted to reflect the East-Bank population only.

BIBLIOGRAPHY

- Azar, W.Y., " The Population Position of Jordan", in First Regional Population Conference, Beirut, February-March 1974 (Beirut: ECWA, 1974).
- Cairo Demographic Center, Demographic Aspects of Manpower in Arab Countries (Cairo, 1972). Research Monograph Series, no. 3.'
- Cairo Demographic Center, Demographic Aspects of Socio-economic Development in Some Arab and African Countries (Cairo, 1974). Research Monograph Series, no.5.
- Ecevit, Zafer, Labor Migration in the Middle East and North Africa and its Economic Implications. Paper, presented to the UN/ECWA Seminar on Population and Development, Amman, November 25, 1978.
- Edwards, Edgar O.(ed.), Employment in Developing Nations (New York: Columbia University Press, 1974).
- El-Shafei, A.M.N., " The Current Labour Force Sample Survey in Egypt", International Labour Review 42-5 (November 1960), pp.432-449.
- the Hashemite Kingdom of Jordan. Department of Statistics, First Census on Population and Housing, 18 November 1961 (Amman, 1964).
- the Hashemite Kingdom of Jordan, Department of Statistics, the Multi-purpose Household Survey(Amman, 1974, 1976, 1976 1977), vols. for 1972, 1974, 1975, 1976. (Text in Arabic, tables in English).

the Hashemite Kingdom of Jordan. Department of Statistics,
Population Census and Internal Migration for Amman,
Jerusalem, Zarga, Ruseifa, Irbid, and Aqaba (Amman,
1967) (Text in Arabic).

the Hashemite Kingdom of Jordan. Ministry of Culture and
Information and the National Planning Council, the
Concise Jordanian Development Plan 1973-1975 (Amman,
no date) (In Arabic).

the Hashemite Kingdom of Jordan. Ministry of Culture and
Information, Economic Development of Jordan 1954-
1971 (Amman: Jordanian Press Foundation, 1972).

the Hashemite Kingdom of Jordan. The National Planning Council, Five-
Year Development Plan 1976-1980 (Amman, 1977) (In
Arabic).

the Hashemite Kingdom of Jordan. The National Planning Council,
the Follow-up Study for the Graduates of Secondary
Schools, Vocational and Training Institutes in the
East-Bank 1971-1975 (Amman, no date) (In Arabic).

the Hashemite Kingdom of Jordan. The National Planning Council
and the International Labour Office, Report of the Seminar
on Population, Employment and Development, 4-7 April, 1977, Am
(Amman, June 30, 1977) (Partly in English, Partly in
Arabic).

the Hashemite Kingdom of Jordan. Report on the Labor Force in Jordan. Paper submitted to the Jordanian Development Conference, May 13-June 4, 1976. Document no. JDC76 (In Arabic).

International Labour Office, Yearbook of Labour Statistics 1975 (Geneva, 1975), pp.427-429.

International Labour Office, Yearbook of Labour Statistics 1977 (Geneva, 1977), pp. 449-508.

Mazur, Michael P., "Economic Development of Jordan", in C.A. Cooper and S.S. Alexander (ed.), Economic Development and Population Growth in the Middle East (New York: American Elsevier Publishing Co., 1972), pp.211-279.

Meier, Gerald M., Leading Issues in Economic Development (New York: Oxford University Press, 1976).

Shryock, H.S. and J.S. Siegel, The Methods and Materials of Demography (Washington D.C.:U.S. Bureau of the Census, 1975),ch.12.

United Nations, The Determinants and Consequences of Population Trends(New York, 1973), chs. IX and XIII-C.

United Nations, Studies on Social Development in the Middle East, 1969 (New York, 1970),pp. 19-88.

United Nations. Economic Commission of Western Asia, Demographic and Related Socio-economic Data Sheets for Countries of the Economic Commission of Western Asia,no.2(Beirut,January 1978).

United Nations. Statistical Office, Handbook of Household Surveys

(New York, 1964). Studies in Methods, Series F, no.10,

pp.75-78.

U.S. Department of Commerce. Bureau of the Census, The Country

Profile of Jordan 1976 (Unpublished).