The Arab Labor Force in Israel

Yoram Ben-Porath

THE MAURICE FALK INSTITUTE FOR ECONOMIC RESEARCH IN ISRAEL

The Maurice Falk Institute for Economic Research in Israel, affiliated to the Kaplan School of Economics and Social Sciences, is an independent nonprofit organization whose purpose is to encourage research, with particular emphasis on the economy of Israel.

ABOUT THE AUTHOR

Yoram Ben-Porath is a graduate of the Hebrew University, Jerusalem (*History of Moslem Countries* and Economics). He obtained his doctorate at Harvard University, and is currently teaching economics at the University of Chicago.

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SYMBOLS AND ABBREVIATIONS

Abstract	Statistical Abstract of Israel
Bulletin	Statistical Bulletin of Israel
CBS	Central Bureau of Statistics, Prime Minister's Office, Jerusalem
GNP	Gross national product
LFS	Labor force survey
..	Not available
–	Zero

PREFACE

This study, completed in 1963, mostly uses data up to 1961, and it has not been possible, for technical reasons, to engage in any systematic data collection and analysis of the developments of later years. A few more recent figures have been added to some of the tables: the structure of the Arab labor force as presented here does not appear to have changed fundamentally, nor does there appear to have been any reversal of the trends indicated. Still, new data, particularly on incomes and internal mobility, should certainly be examined.

In the course of the research many individuals and institutions helped me with data and advice, among them: the Central Bureau of Statistics, the Research Department of the Bank of Israel, the Arab Section of the Ministry of Labor, the army authorities, the Office of the Adviser on Arab Affairs (Prime Minister's Office), the Histadrut, the archives of the *Haaretz* newspaper, the Egged bus cooperative, the Hired Agricultural Workers Insurance Fund, and the Building Workers Insurance Fund. In particular, I am grateful to E. Ben-Amram, who helped me at all stages of the study; to W. Bogler; to Y. Havushi and David Zeharya who put at my disposal basic material prepared by them; and to I. Finkelstone who let me see his notes on various aspects of the Arab sector.

An early draft of the study was read by M. Hartmann, Aharon Laish, Michael Roman, Benjamin Shidlowsky, M. Sicron and Zvi Sussman, and I owe much to their valuable comments. I am greatly indebted to Dr Nadav Halevi, Professor Simon Kuznets and Professor Don Patinkin, from whose guidance I benefited throughout, much beyond the scope of this work. I also received important comments from Professor R. Bachi.

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Susanne Freund whose work went much beyond the editorial and contributed significantly to improving the manuscript.

It goes without saying that the opinions expressed in the study do not necessarily coincide with those of the persons and institutions cited, and that I alone am responsible for the conclusions and defects of the work.

An earlier version of the study was submitted as a master's thesis to the Hebrew University, Jerusalem.

YORAM BEN-PORATH

INTRODUCTION

Improving our knowledge of the economics of the Arab sector in Israel is necessary for several reasons. Not only is it vital for the formulation of economic and general policies towards this community, but it is increasingly significant for an understanding of the whole economy. In addition, the connections formed between the Arabs and the Jewish economy, related as they are to what might be called the economics of minority groups, are of general economic interest. Relations between the Arab and the Jewish sectors indeed dominate the present study of a situation where the economic and cultural gap between Jews and Arabs is further complicated by political and security problems.

A few words on the way the establishment of Israel has affected the relations between the sectors will provide an introduction to the more specific topic.

In the mandatory period the Jewish and Arab sectors constituted virtually separate economic units. Direct economic ties between them included the sale of agricultural products by Arabs to Jews, the employment by Jews of Arabs, and land purchases by Jews. These ties were less important, especially from the standpoint of the Arab sector, than might have been expected under normal conditions in a country so small in size and population; this emerges from the small volume of intersectoral trade relative to total production and from the existence of wide price and wage differentials between the sectors. The Jewish sector was much more developed than the Arab in terms of income level, industrial structure, and standard of education. It had developed a public and semi-public apparatus for financing and directing economic development, regulating the labor market, and marketing the inputs and outputs of agriculture, all consistent with the political authority of the Jewish Agency. This institutional system was distinctly Jewish, and it helped to preserve the separate, though not entirely independent, economic development of the two sectors.

Free economic exchange between the urbanized, capitalistic, and skilled Jewish sector and the rural, underdeveloped and unskilled Arab sector

would very likely have meant the specialization of Arab productive units in agriculture and of Arab labor in manual jobs, and of Jews in the capitalist functions of the economy. This pattern clashed with the Jewish national objectives. For the Jews, it was essential to develop agriculture in order to get a firm hold in the country. This reinforced a social philosophy calling for the employment of Jews in manual jobs in general, so as to create a balanced Jewish employment structure. Even more important was the volume of employment: absorbing immigrants and providing them with a reasonable standard of living required that the demand for labor generated in the Jewish sector should be geared to the employment of Jews. All this meant that autarkic and protective policies had to be pursued.

For their part, the Arab leaders tried to do what they could to curtail relations between the sectors. Several factors made this policy feasible. First, there was a non-Jewish government which provided public services to the Arab population, partly parallel to the services provided by the Jewish Agency and the local authorities in the Jewish sector; this government also employed Arab labor. Second, there were untrammelled economic ties with the neighboring Arab countries. Third, Arab industry and economic institutions began to develop in the growing Arab urban centers and supplied the Arab sector with local and international commercial services. Last, the low level of income of the Arab rural population and the structure of Arab agricultural production reduced the need for commodity trade with the non-rural economy.

The establishment of Israel in 1948 changed the situation. The Arab population found itself reduced in size and stripped of political leadership and power. The economic elite—the urban population of Haifa and Jaffa—fled, the economic institutions were dissolved, ties with the Arab countries were severed, and the government, needless to say, passed into Jewish hands. For the Arab population, absence of ties with the Jewish sector would have meant a very low income and very high unemployment. Commodity trade would not have solved the problem: trade in factor services was necessary. There have thus been strong incentives, from the Arab viewpoint, for integration into the Jewish economy.

With the establishment of the State the Jewish sector acquired on the one hand greater power to pursue whatever policies it chose, and on the other, the responsibility of a welfare state towards a minority group. The fact that the Arab areas have been under military rule meant that for some years the government and other civilian institutions were virtually inactive there, thus in effect perpetuating the institutional separation. Over the years government bodies and the Histadrut began to include the Arab areas in

their routine activities, the private sector following slowly. Policies towards the Arabs have gradually been relaxed, and barriers to economic activity and to ties with the Jewish sector have become fewer. The change occurred because some of the earlier policies had outlived their usefulness and because the passage of time made possible a process of adjustment. The change in the economic situation, and the pressures generated in the market probably also had some effect. It is in the labor market that ties with the Jewish sector seem to have been most important. Our discussion of the Arab labor force in Israel is largely devoted to the penetration of Arab labor into the Jewish market and to its effects.

CHAPTER 1

THE ARAB POPULATION AND THE ARAB LABOR FORCE

There were about a quarter of a million non-Jews in Israel at the end of 1962, consisting chiefly of Arabs, Druse and Circassians. Seventy per cent of non-Jews are Moslems, about 20 per cent Christians, and the remainder Druse. The European non-Jews are outside the scope of our discussion but are included in some of the statistics on non-Jews. Their number is, however, relatively small, and so is the bias they introduce.[1] In the course of this study we include Druse and Circassians among the Arabs and use the terms Arabs and non-Jews interchangeably.

1. *The size of the Arab population*

At the end of 1947 the Arab population (excluding Bedouin) in all of Palestine was 1,269,000, while in the area that is now Israel there were about 763,000. At that time, the Jewish population was about 630,000, so that the Arabs were about two thirds of the population of Palestine, or 55 per cent of the population in the area that is now Israel.[2] With the establishment of the State the proportion of Arabs in Israel territory declined, both because of the flight of Arabs and because of the large immigration of Jews.

In 1949 the mean Arab population of Israel was 158,000 (including Bedouin), or 14.9 per cent of the country's population. During the period of mass immigration the proportion of Arabs declined, but since 1951–52 it has remained at about 11 per cent (Table 1–1). This is of great importance in view of the fact that the net balance of Jewish migration during 1951–64 was about 560,000 (from May 15, 1948 to the end of 1964 it was about

[1] In 1961 there were in Israel 3,404 Christians born in Europe or America. This was 6.8 per cent of the Christian population in Israel and 1.4 per cent of the total non-Jewish population. See CBS, *Moslems, Christians and Druzes in Israel,* Census Publication No. 17, Jerusalem, 1964, p. 36.

[2] A. Hovne, *The Labor Force in Israel,* Falk Project, Jerusalem, 1961, p. 29, Table 8 (Arab population) and p. 13, Summary Table (Jewish population).

1,060,000)[3] and led to a relatively large increase in the Jewish population. For the Arab population migration has been insignificant. In the middle of 1949 a large part of the Little Triangle[4] became Israel territory, and in the first few years after the War of Independence there was some net immigration of refugees into Israel, mainly under the family reunion scheme; a significant number of Arab infiltrators was also allowed to remain in the country. Since 1952 net migration has been negligible, and the Arab population has grown through natural increase, at a more or less stable rate, in contrast to the irregular growth of the Jewish population resulting from waves of immigration. It is the difference between the rates of natural increase of the Jewish and the Arab populations that has offset the influence of Jewish immigration since the early 1950s and prevented a decline in the proportion of Arabs. The rate of natural increase of the non-Jewish population has risen from an average of 35.9 per thousand in 1951–52 to 42.8 per thousand in 1960–62, while the Jewish rate of natural increase declined during this period from 25.8 to 17.1 per thousand.[5] This means that only Jewish immigration at an accelerated rate can preserve the share of Jews in the population.

TABLE 1–1. *The Non-Jewish Population: 1949–52 and 1961*

	Mean population (thousands)	*Per cent in total population*
1949	(158.0)[a]	14.9
1950	163.7	12.9
1951	170.3	11.4
1952	176.4	11.0
1961	247.9	11.3

[a] Estimate for population within present borders of Israel.
SOURCE: CBS, *Abstract 1965*, No. 16, p. 20.

The trend in the rate of natural increase among Arabs is a result of both a rising birth rate and a declining death rate. The difference between the sectors stems mainly from the difference in birth rates, which is only slightly

[3] CBS, *Abstract 1965*, No. 16, pp. 20, 21.
[4] The region, populated mainly by Arabs, east of the coastal plain north of Tel Aviv.
[5] CBS, *Abstract, 1964*, No. 15, p. 46.

offset by the small difference in the death rates.[6] In spite of the significant decline of infant mortality among the Arabs (from 58.3 per thousand in 1951–52 to 48 per thousand in 1961) Jews and Arabs still differ significantly in this respect (in 1961, Jewish infant mortality was 24.3 per thousand).[7] The birth rate of Israeli Arabs is similar to that in many countries in Asia and Africa: the averages for the two continents have been estimated at 41 and 47 per thousand respectively. In 1960 birth rates in some Arab countries were (per thousand): Egypt, 42.7; Jordan, 46.3; and the Lebanon, 39.0.[8] It is difficult to make international comparisons of death rates, since there is often under-registration of deaths, but there seems to be no doubt that the death rate of Israeli Arabs is lower than is usual in underdeveloped countries. The rate of increase of Israeli Arabs, one of the highest in the world, thus stems from a combination of the birth rate of an underdeveloped, with the death rate of a developed country. The birth rate of the Arabs of Palestine was high during the mandatory period, and it has risen further under the State. The death rate has declined steadily: from about 19 per thousand during the second world war, it dropped to 9.7 in 1953–54 and to 7.3 in 1961.

As one would expect, the birth rate in villages (52.2) is higher than in towns (42.7).[9] In part, however, this reflects differences in the birth rates of the religious groups. Moslems and Druse have a higher birth rate than Christians, and Christians are more heavily represented in the urban areas. The weighted average of the birth rates of the different communities (weighted by the share of each community in the non-Jewish urban population) did not differ appreciably from the observed urban birth rate, and the same is true for the rural birth rate. The communal birth rates cannot however be 'explained' as weighted averages of the birth rate by type of settle-

[6] From 1951–52 to 1960–62 the Arab birth rate rose from 46.1 to 50.1 per thousand, and the death rate declined from 10.1 to 7.2 per thousand. In 1961 the birth rate was 49.3 per thousand for Arabs, and 22.5 per thousand for Jews, and death rates were 7.3 and 5.7 per thousand, respectively (CBS, *Abstract 1965*, No. 16, pp. 56–57). However, there may be under-reporting of Arab deaths, so that the figures quoted here probably somewhat exaggerate the difference.

[7] *Ibid., loc. cit.* The decline in Arab infant mortality is connected with the increased proportion of hospital births: the rate declined from 48.0 in 1960 to 42.6 per thousand in 1964, while the proportion of hospital births (as per cent of all live births) rose from 54.5 to 78.9 (*ibid.*, p. 149). However, the registration of Arab infant deaths is probably incomplete.

[8] UN, *Demographic Yearbook 1961*, Table 2 (for continent averages) and UN, *Demographic Yearbook 1962*, Table 14.

[9] CBS, *Abstract 1962*, No. 13, p. 67.

ment, and it is thus likely that type of settlement *per se* has little effect on the birth rate.[10]

2. *Geographical distribution*

There is at all levels a considerable degree of residential separation of Arabs from Jews. In the 1961 population census only 11.3 per cent of Arabs were reported as living in mixed towns, and less than 3 per cent lived in other Jewish settlements.[11] This separation is not only by locality,

TABLE 1–2. *Population by Subdistrict:*[a] *1948 and 1961*
(per cent)

	Distribution of non-Jewish population		*Non-Jews as per cent of total population in subdistrict*		*Jewish population, relative growth of subdistricts: 1948–61*[b]
	1948	*1961*	*1948*	*1961*	
	(1)	*(2)*	*(3)*	*(4)*	*(5)*
Acre	31.2	31.7	89.0	61.2	4.2
Jezreel	22.4	21.7	59.2	44.5	1.0
Hadera	11.7	11.9	36.9	31.3	0.6
Beersheba	8.3	7.4	91.9	18.8	38.9
Kinneret	3.3	3.2	26.1	18.2	0.8
Sharon	6.6	7.0	28.2	17.0	1.3
Other subdistricts	16.5	17.1	4.2	2.7	1.5
Total	**100.0**	**100.0**	17.9	11.3	1.0

[a] The division into subdustricts for 1948 is in accordance with their definition in 1961, including areas joined to Israel only in 1949. Population is estimated population living in the subdistrict in 1948 including repatriated refugees who returned after 1948.

[b] Per cent increase in each subdistrict divided by per cent increase in total population.

SOURCE: CBS, *Demographic Characteristics of the Population—Part I,* Census Publication No. 7, Tables 16, 17, pp. 38–41.

but also by region, the majority of Arab settlements being clustered together. About 65 per cent of Israeli Arabs live in the north, including Haifa, about 20 per cent in the Little Triangle, and the remainder in Tel Aviv and its environs, the south and Jerusalem. The present form of geographical concentration has its origin in the highly segregated form of settlement in

[10] See *ibid.*, pp. 63, 67; and CBS, *Demographic Characteristics of the Population—Part I,* Census Publication No. 7, p. 86.

[11] CBS, *Moslems, Christians and Druzes in Israel,* Census Publication No. 17, p. 18.

the pre-State period, and it was reinforced by the unequal rates at which Arabs evacuated the country during the War of Independence. Table 1–2 shows that in the Beersheba and Acre subdistricts, which were the most heavily Arab-populated until the establishment of the State, the Jewish population increased proportionately more than it did in the whole country [column (5)], so that the proportion of Arabs declined to a greater extent.

There has been no significant tendency for Arabs to move from Arab districts to the more Jewish parts of the country. Residential mobility of Arabs in general has been relatively small: in the 1961 Census of Population 95.3 per cent of heads of Arab households reported that their place of residence was the same as it had been five years before.[12] This probably somewhat underestimates total residential mobility to the extent that young single men who had moved were still recorded as attached to their parents' household.

There is also no evidence of significant rural-urban migration. Calculation of net migration[13] as the difference between actual and natural increase in the population, shows that there was some net Arab migration to Haifa and Acre, but also some emigration from other mixed towns. In 1961 only 25.7 per cent of the non-Jewish population (16.9 per cent of the Moslems and 61.4 per cent of the Christians) lived in towns and urban settlements. Half of the 63,000 Arab town-dwellers lived in the Arab towns of Nazareth and Shfaram (actually a large village without which the urban ratio drops to 22.8 per cent); in Haifa there were less than 10,000 Arabs, in Jaffa about 6,000 and in other mixed towns—Acre, Ramla and Lydda—about 10,000.[14] The 74.3 per cent rural population includes 11 per cent Bedouins.

The per cent of urban population is lower among Israeli Arabs than in the Arab countries (Iraq, 39.2 in 1957; Syria, 38.7 in 1960; Jordan, 43.8 in 1961; and Egypt, 38.0 in 1960).[15] It is also lower than it was among the Arab population in Palestine toward the end of the mandatory period (36 per cent in 1944).[16] The Arab flight affected cities more than villages

[12] *Ibid.*, p. 91.

[13] I am indebted to M. Roman and E. Ben-Amram for this calculation.

[14] CBS, *Demographic Characteristics of the Population—Part I*, Census Publication No. 7, pp. 102–103, and *Moslems, Christians and Druzes in Israel*, Census Publication No. 17, pp. 102–107.

[15] UN, *Demographic Yearbook 1963*, Table 5, and *Demographic Yearbook 1964*, Table 27. Definitions of urban population differ among countries, but the one used in Israel is not particularly restrictive, and cannot account for these differences.

[16] W. Pinner, *How Many Arab Refugees?* McGibbon and Kee, London, 1959.

and most of the Arab urban centers of the mandatory period ceased to exist as such.

3. *Level of education*

The level of education, absolutely and compared with that of the Jewish population, is fundamental in determining the type of labor supply originating in the Arab population and in shaping the industrial and occupational structure of Arab employment.

In Table 1–3 we present various data on the educational level of Jews and Arabs. The Arabs rank lower by all the criteria, and lag far behind the new immigrants from Asia and Africa[17] who have the lowest level of education among the Jewish population. The ranking of the different groups and the wide gaps between them, especially in the percentage of persons who had some secondary or higher education [columns (3) and (4)], should be kept in mind in the following discussion. Within the Arab population the gap between men and women is much wider than in the Jewish population, especially in literacy and primary education. The fact that the gap is narrower in higher education reflects a greater inequality in the distribution of education among women. Among men, level of education and age are negatively associated (Table 1–4). Again, this pattern may be related to some labor force characteristics.

The illiteracy rate among Israeli Arabs is lower than in most of the Arab countries. The rate of 32 per cent among Arab men aged 14+ compares favorably with 59.5 per cent in Egypt (aged 15+) in 1960; 49.9 in Jordan (aged 15+) in 1961; 46.5 in Syria (aged 10+) in 1960; and 73.1 (aged 5 +) in Iraq in 1957.[18] In addition, we have roughly comparable data for Jordan on years of schooling. These show that in Jordan 64 per cent of the men aged 15+ did not have more than 4 years of primary school, compared with only 48 per cent among Israeli Arabs. The superiority of the Israeli Arabs in this respect exists at all age groups, but the gap has narrowed somewhat in recent years.[19] There is however a significantly higher proportion of people with some secondary education in Jordan, a superiority which was achieved fairly recently: 36 per cent of men aged 15–29 in Jordan had some secondary education, compared with approximately 16 per cent among Israeli Arabs aged 14–29; the corresponding

[17] See note b to Table 1–3 for the veteran-new immigrant distinction. The continent-of-origin terminology used in this table is also frequently used in the text.

[18] UN, *Demographic Yearbook 1963*, Table 13.

[19] The figures for age 25–29 are 62 per cent and 40 per cent respectively, and for age 15–19, 30 per cent and 22 per cent respectively.

TABLE 1–3. *Level of Education of Jews and Non-Jews: 1961*

	Median years of schooling[a]	*Per cent of population aged 14 +*		
		Literate	*11 + years of schooling*	*13 × years of schooling*
	(1)	*(2)*	*(3)*	*(4)*
Men				
All Jews	8.9	88.0	29.7	11.9
Israel-born	10.7	99.0	45.9	14.7
Born in Europe-America	9.5	98.3	35.1	16.1
Born in Asia-Africa	6.9	81.8	14.0	4.5
Immigrated up to 1947[b]	7.2	86.7	16.3	5.4
Immigrated 1948–54	6.9	82.3	13.6	4.1
Immigrated 1955–61	6.8	77.2	14.1	5.4
Non-Jews	5.2	68.0	6.5	2.0
Women				
All Jews	7.9	83.0	22.6	7.8
Israel-born	10.4	97.1	42.6	15.9
Born in Europe-America	8.8	96.2	27.0	9.4
Born in Asia-Africa	3.7	56.6	6.2	1.5
Immigrated up to 1947[b]	3.7	59.2	8.9	2.5
Immigrated 1948–54	3.3	55.7	5.2	1.1
Immigrated 1955–61	5.0	58.0	8.0	2.2
Non-Jews	0.7[c]	28.5	3.5	1.1

[a] Population aged 14 and over.

[b] In subsequent tables 'immigrated up to 1947' are referred to as 'veterans' and 'immigrated 1948 and after' are referred to as 'new immigrants'.

[c] The published figure of 0.7 assumes a straight-line distribution from 0 to 0.9 years of attendance. In fact, 69 per cent of non-Jewish women did not attend school.

SOURCES: CBS, *Abstract 1963*, No. 14, pp. 659, 663–64; *1964*, No. 15, pp. 25–26; and *Moslems, Christians and Druzes in Israel*, Census Publication No. 17, p.53.

TABLE 1–4. *Median Years of Education of Non-Jewish Population Aged 14 and Over, by Age-group: 1961*

	Men	*Women*[a]
Total	5.2	0.7
14–19	6.8	1.7
20–24	6.3	0.8
25–29	5.7	0.7
30–34	4.6	0.6
35–39	3.9	
40–44	2.8	
45–49	1.5	
50–54	0.9	
55–59	0.9	
60–64	0.8	
65 +	0.7	

[a] See note c in Table 1–3.

SOURCE: CBS, *Moslems, Christians and Druzes in Israel, op.cit.*, Table 42, p. 53.

figure for people over 30 is around 8 per cent in both countries.[20] In part, this is due to the operations of the United Nations Relief and Welfare Agency, but it seems to be true that proportionately more is done in secondary and higher education in other Arab countries as well, although the percentage of people who get some primary education is higher among Israeli Arabs.

TABLE 1–5. *Population Aged 5–25 who are Students, in Selected Countries: 1961/62*
(per cent)

Egypt	31
Iraq	36
Jordan	41
Lebanon	48
Israel: non-Jews	46
Jews	72

SOURCES: Israel—CBS, *Abstract 1963*, No. 14, pp. 38, 41, and 634. Other countries—UNESCO, *International Yearbook of Education 1962;* UN, *Demographic Yearbook 1963*, Table 5.

4. *The ratio of earners to population*

The concept of earner raises many difficulties and may be defined in various ways. The Israeli statistics are based upon labor force surveys, which define as belonging to the labor force employed persons[21] (including those temporarily absent from work) and persons actively seeking work in the survey's determining period. The use of this definition gives rise to a number of difficulties, some of which are particularly important when an agricultural rural population is discussed. One difficulty is that the determining period is generally brief; the labor force participation figures are thus subject to considerable seasonal fluctuations which are particularly sharp in agriculture and construction, where Arabs are primarily employed.

[20] The figures for Jordan were derived from data of the 1961 Census of Population as published in UN, *Demographic Yearbook 1964*, Table 35. The figures for Israeli Arabs are from CBS, *Moslems, Christians and Druzes in Israel*, Census Publication No. 17, Tables 41, 42 and 43. Vocational and agricultural schools were regarded as secondary.

[21] This is the term used in the official statistics and includes self-employed as well as employees.

Where there is no organized labor market, the distinction between unemployed and nonparticipants is not always clear, and some of the unemployed slip out of the labor force. A problem of definition also exists with regard to employed persons mainly because many do not go through the market but work without payment on the family farm. In particular it is difficult to distinguish between women's work as housewives and on the family farm. Unpaid family workers should be included in the labor force, but because of the above difficulties the figures obtained are likely to be too low. While these problems are general, they appear to be particularly important in the Arab sector, owing to its form of settlement, industrial structure, and level of education. A further problem of this type is the dependence of the rates of labor force participation on the demand for labor, so that they cannot correctly reflect the supply of labor. A negative correlation between the rates of participation and unemployment is evidence that the problem exists, and there is such a correlation for the Jewish labor force and among male Arabs.[22] These difficulties make it necessary to treat with suspicion temporal comparisons of rates of participation and cross-section comparisons, especially between different economies in which different methods of measurement and definitions have been used.

In 1961 the ratio of labor force to total population was 25.3 per cent among Arabs (43.5 per cent for men); for the Jewish population the figures are 36.8 and 53.1 per cent respectively, and these cannot be considered high, either.[23] Among the Arabs of Palestine in 1931 the proportion of active population was also higher. In most European countries, the active population constitutes over 40 per cent of the total population (over 60 per cent of men), and in Africa and South America over 30 per cent (over 50 per cent of men). Among the countries included in the international comparison of participation rates prepared by Kuznetz there is only one (Puerto Rico) where the rate was less than 30 per cent.[24] Even if unpaid family members are excluded, the labor force proportion is still generally higher than among Israeli Arabs.

[22] The coefficient of correlation among the Arabs was 0.57, significant at a level of 0.05. It was calculated from data on participation and unemployment by subdistrict which appear in CBS, *Labour Force—Part I*, Census Publication No. 9, Table 14. On the correlation among Jews see A. Hovne, *op. cit.*, pp. 48–49.

[23] CBS, *Labour Force—Part I*, Census Publication No. 9, pp. 3–4; and *Demographic Characteristics of the Population—Part I*, Census Publication No. 7, p. 5.

[24] S. Kuznets, "Quantitative Aspects of the Economic Growth of Nations II. Industrial Distribution of National Product and Labor Force," *Economic Development and Culture Change*, V (supplement to No. 4, July 1957), 106–107.

The main reason for the low ratio among the Israeli Arabs is the age structure (see Table 1–6). The Arab population in Israel today is one of the youngest in the world, especially in comparison with the old countries of Europe (illustrated by Denmark in the table). Israeli Arabs are younger than Israeli Jews today, and they are also younger than the Arabs of Palestine were in 1931. A relatively large part of the Arab population is outside the working ages; and a large proportion of the over-14 population is in the younger working-age groups, with a low rate of participation.

Table 1–7 presents the age and sex specific participation rates of the Arab and Jewish population (aged 14+) and of new immigrants from Asia and Africa.[25] Here and in the following discussion, when comparing Israeli Arabs to the Jews we make a separate comparison with Jews who immigrated from Asia and Africa. Most of them have come from the Arab and Moslem countries of the Middle East and North Africa. In general the rate of participation of the Asia-Africa immigrants deviates from the average for the total Jewish population in the same direction, although not to the same extent, as that of the Arab population.[26]

The main features brought out by Table 1–7 are:[27] (a) the participation rate of all men is roughly the same in the three population groups; (b) at age 14–34, the rate is higher for Arab than for Jewish men; (c) at 35 and

[25] Most of the data on non-Jewish manpower used in this study come from the Labor Force Surveys carried out by the Central Bureau of Statistics since 1954, and from the Census of Population and Housing 1961. The following remarks apply to most of the data on Arabs cited from these sources.

The Labor Force Surveys: The number of non-Jews in the samples was very small until 1963 (except for 1954), and the CBS refrained from publishing separate figures on non-Jews because of the high sampling errors, which reflect the unreliability of the figures. The data presented in this study were in many cases derived by taking the difference between figures for total population and for Jews. They are presented because of our reluctance to lose whatever grains of information they may hold on something that we know so little about. Still, both reader and writer should be aware of their serious limitations and should handle them with the utmost caution.

The Census of Population and Housing 1961: Data on the labor force come from the second stage of the census which was based on a 20 per cent sample of households; sampling errors are therefore not a source of concern here. However, they probably suffer more than the LFS data from response errors and seasonality. Affected most are the employment figures for women and for agriculture, which is generally underestimated.

[26] As noted by Hovne, *op. cit.*

[27] The table is based on an average of the 1961 labor force surveys. The slightly different data from Stage B of the 1961 population census lead to the same conclusions.

TABLE 1–6. *Age Structure of the Population: Israel and Selected Countries*
(per cent)

	Total	*0–14*	*15–29*	*30–44*	*45–64*	*65 +*	*Median age*
Israel (1961)							
Jews	100.0	34.8	21.2	18.7	20.0	5.3	25.6
Moslems	100.0	48.6	26.1	12.3	9.0	4.0	15.6
Christians	100.0	39.7	25.9	15.8	13.5	5.1	20.5
Total non-Jews	100.0	46.7	25.9	13.2	10.0	4.2	
Palestine (1931)							
Moslems	100.0	41.5	24.8	18.0	11.3	4.4	
Christians	100.0	34.7	29.2	17.8	13.0	5.3	
Other countries							
Egypt (1960)	100.0	42.7	22.6	17.9	13.3	3.5	
Iraq (1957)	100.0	44.9	21.2	16.1	12.7	5.1	
Sudan (1960)	100.0	46.7	26.9	15.1	9.3	2.0	
Cambodia (1959)	100.0	44.6	25.3	16.2	11.6	2.3	
Uganda (1959)	100.0	41.5	25.8	19.0	11.6	2.1	
Denmark (1960)	100.0	25.1	21.1	19.6	23.6	10.6	

SOURCES: Israel—CBS, *Abstract 1962*, No. 13, p. 45.
Palestine—E. Mills, *Census of Palestine 1931*, Vol. I: Report, 1933, p. 155.
Other countries—UN, *Demographic Yearbook 1961*, Table 5, and *Demographic Yearbook 1963* Table 5.

TABLE 1–7. *Labor Force Participation of Jews and Non-Jews, by Age and Sex: 1961*[a]
(per cent)[b]

	Jews		*Non-Jews*[d]
	Total	*Asia-Africa new immigrants*[c]	
Men			
Total	79.0	77.4	79
14–17	38.0	45.0	58
18–34	79.2	84.4	94
35–54	96.6	93.5	90
55–64	86.1	72.3	65
65 +	36.8	23.1	14
Women			
Total	29.4	22.7	11

[a] The data are based on a sample, and the significance of small numbers is low.
[b] Per cent of persons in each cell belonging to the labor force.
[c] See note b to Table 1–3.
[d] The figures for non-Jews were calculated by subtracting Jews from total population (see also note 25 on p. 13).

SOURCE: CBS, *Abstract 1962*, No. 13, pp. 384–85, 402 (LFS data).

over, the rates are higher for Jews than for Arabs, the difference increasing with age; (d) the participation rate of Arab women is lower than that of Jewish women. In most of these comparisons the group of Jews from Asia-Africa stands midway between all Jews and Arabs.

We shall try to give the background of these differences and speculate about the reason for them. Let us start with the participation rate of men: the participation rate of youths (aged 14–17) is not exceptionally high in comparison with other countries, but it is much higher than among Jews. It complements the low percentage of students of this age among the Arab population (23 per cent for boys and 11 per cent for girls in 1961, as compared with 58 per cent for both sexes among the Jewish population).[28] One reason for this is the difference in the availability of post-primary education facilities for the Arab population. Post-primary education in Israel is run by quasi-public, private and municipal bodies and not by the State. The activity of such bodies in the Arab sector (except for the missions to the Christian population) is limited; it is more difficult and expensive to establish and maintain post-primary schools in small villages than in crowded urban areas. A second reason for the low rate of secondary-school attendance may have to do with the demand for investment in education: it is not unreasonable to assume that investment in general education is often not worth while for the Arab youth.

In the 18–34 age group the difference in school attendance still exists, and in addition, the Jews serve in the army, while Arabs do not, and this also contributes to the higher participation rate of the Arabs.

In the older age groups the participation rate declines to a low level: Table 1–8 shows that the rate for old Arab men is low even when compared with the rates of highly developed countries, and it is certainly much lower than the rate in some of the less developed countries of the region. The explanation may lie in a combination of family structure and market conditions. The average Arab family is quite large, and, as well as the elderly potential earner there are younger ones who are active members of the labor force (remember also the young age of entry). Owing to the rapid increase in incomes and the lag in the adjustment of consumption levels, the incomes of the younger earners are more than enough for the family, and the elders feel free to retire quite early. This tendency is strengthened by the character of the demand for hired labor, which, as we shall see, comes mostly from the Jewish sector. There, the older Arab's lack of

[28] For age 14–19; CBS, *Languages, Literacy and Educational Attainment—Part I*, Census Publication No. 15, pp. 54, 64, 81–82.

education and skill put him in a very weak position, weaker than in underdeveloped countries where the skill-demanding modern sector is relatively smaller. Where the opportunities in the labor market are poor for all ages, it may pay the family to send all its potential earners to look for work—one explanation for the high rate of participation in underdeveloped countries. But when the young earner receives a high wage the family can enjoy an income higher than its permanent consumption expenditure without sending the old men to work. A factor operating in the opposite direction is that when the chief breadwinner goes to work outside the village the care of the farm becomes the job of other members of the family—the women, the children, and the older men; it may well be that this is not fully expressed in the data.

TABLE 1–8. *Labor Force Participation of Men Aged 65 and Over: Israel and Selected Countries*
(per cent)

Netherlands (1960)	19.9
Belgium (1961)	9.8
United States (1960)	30.5
Greece (1961)	43.7
Turkey (1960)	85.6
Egypt (1960)	62.5
Syria (1960)	39.2
Jordan (1961)	40.6
Iraq (1957)	70.3
Israel (1961)	
Jews, total	36.8
Jews, Asia-Africa new immigrants	23.1
Non-Jews	13.6

SOURCES: Israel—Table 1–7 above.
Other countries—UN, *Demographic Yearbook 1964*, Table 8.

Part of the very low participation rate of Arab women is generally attributed to response error—the failure of women working on the family farm to report as unpaid family workers; nevertheless, part of it can plausibly be attributed to the limited market opportunities open to them. Their low level of education often closes the door to many jobs performed by Jewish women, such as teaching and clerical work. And the distance from town is an obstacle to working in urban jobs which do not require education, such as domestic service. Consequently, Arab urban women, who are probably better educated, have a higher rate of participation than Arab

village women. Even in agriculture, the demand in one's own village is very limited; and Jewish agriculture, which is part of the market, is often far from the Arab areas.

Two other factors are of particular importance for Arab women: the first is the low marriage age and large family size. Even though the percentage of married women is slightly lower among Arabs than among Jews, the former marry earlier (at a median age of 19.5, compared with 21.7 for Jewish girls),[29] a fact which may explain why the participation rates of Arab women decline at an earlier age. An explanation of the difference in the participation rates as such is to be found in the difference in the fertility rates and family size. Fertility rates (per thousand) were 241.6, 163.2 and 102.1 for Arab women, Jewish Asia-Africa women, and all Jewish women, respectively. There were 5.4 persons in the average Arab family, and 4.9 and 3.8 for Jewish Asia-Africa immigrants and all families respectively (the figures include single persons).[30] This situation imposes household tasks on the women that make it more difficult for them to leave home. The high fertility rate may be the explanation for the greater decline in participation rate of Arab women after marriage; according to the 1961 census the ratio of participation rates between single and married women was 2.2 : 1 among the Arabs, as compared with 1.6 : 1 among the Jews.[31]

Second is the fact that traditional societies frown on women, particularly married ones, working outside the home, and *a fortiori* outside the locality of residence. This attitude undoubtedly also affects many of the Jewish immigrants from Moslem countries.

A comparison over time (Table 1–9) shows that the participation rate of men began to rise in 1958, and there is a similar trend for women. Among the Jewish population, changes from one year to the next are smaller, and it is difficult to detect any clear trend.[32] As Table 1–10 shows, the source of the rise in the participation rate among the Arabs are the the young and the old age groups, while the rate is stable in the intermediate age groups. The increased participation of the young and old may reflect the improvement of employment opportunities, either directly in the Jewish market or as replacements in the Arab sector for the members of the main working-age groups who have entered the Jewish labor market.

[29] In 1960 (CBS, *Abstract 1963*, No. 14, pp. 73–74).

[30] Fertility rates (1960) from *ibid.*, pp. 89, 92. Figures on family size (1961) are from *Abstract 1962*, No. 13, pp. 58–59.

[31] Unpublished CBS data.

[32] See CBS, *Abstract 1963*, No. 14, p. 488.

TABLE 1–9. *Labor Force Participation of Non-Jewish Men: 1954–64*[a]

	Population aged 14 + (thousands)		*Per cent of population aged 14 + in labor force*			
	Total	*Belonging to labor force*	*Total*	*Excluding unpaid members of family*	*Two-year moving averages*	
					Total	*Excluding unpaid members of family*
1954 (June)	49.9	37.8	75.8	67.3		
1955 (November)	53.0	41.4	78.1	70.9		
1957 (November)	56.7	43.0	75.8	68.1		
1957	56.3	42.3	75.1	68.6		
1958	62.3	45.3	72.7	67.1	73.9	67.8
1959	64.6	48.4	74.9	69.5	73.8	68.3
1960	67.2	50.7	75.4	70.4	75.2	70.0
1961	69.8	55.0	78.8	72.8	77.1	71.6
1962	72.8	58.4	80.2	75.0	79.5	73.9
1963	72.8	59.6	81.8	79.1	81.0	77.0
1964	74.9	61.4	82.0	..	81.9	..

[a] The first three lines are based upon one-time samples subject to seasonal influence. The figures are therefore less reliable than the later ones, which are based on averages of two samples (1957) and four samples (1958–64), the latter being taken continuously over three-month periods. See also note d to Table 1–7.

SOURCES: 1954—CBS, *Labour Force Survey June 1954*, Special Series No. 56, pp. 2, 52.
Other years from CBS *Abstracts* as follows:
November 1957—*1957/58*, No. 9, pp. 292, 298.
Average 1957—*1958/59*, No. 10, pp. 292, 297.
1958, 1961—*1962*, No. 13, pp. 380–82, 398–99.
1959, 1962—*1963*, No. 14, pp. 486–88, 512–13.
November 1955, 1960, 1963, 1964—*1965*, No. 16, pp. 294–96, 322–23.

Among the Jewish population there is no uniform trend in the 14–17 age group; the reason seems to be that the improvement in the labor market is irregularly offset by the expansion of post-primary education. In the higher age groups there is a trend of increasing participation among immigrants from Asia and Africa. Thus, over the years, the gap in participation rates between Arabs and Jews has widened in the low age groups and narrowed in the high age groups.

TABLE 1–10. *Labor Force Participation of Non-Jewish Men, by Age: 1958–63*[a]
(per cent)

	14–17	*18–34*	*35–54*	*55+*
1958	41.5	90.1	88.6	32.4
1959	49.2	92.0	86.8	36.9
1960	49.7	92.9	86.9	39.9
1961	58.4	93.9	90.0	40.3
1962	60.7	94.4	91.4	41.4
1963	60.6	94.8	93.6	45.5

[a] See note d to Table 1–7.

SOURCES: 1958–61—CBS, *Labour Force Surveys 1955–1961*, Special Series No. 162, pp. 6–7
1962—CBS, *Labour Force Surveys 1962*, Special Series No. 152, pp. 7, 10–11.
1963—CBS, *Labour Force Surveys 1963*, Special Series No. 176, p. 7.

Another feature of the age structure, brought out by the age-specific participation rates, is that the Arab labor force is much younger than the Jewish, more than half of it being below 35.

To sum up: among Arabs, the ratio of labor force to population is low for demographic reasons, mainly the young age structure. Among adult men (aged 14 and over) the high participation rates in the lower age groups offset the age structure and the low participation of the very old. No such factor operates to reduce the difference in participation between adult Arab and Jewish women. As to the quality of the labor supply, we have noted the great gap in the level of education between the two groups. Both in quantity and in quality of labor supply, Jews from Asia-Africa stand between the rest of the Jews and the Arabs.

CHAPTER 2

THE INDUSTRIAL AND OCCUPATIONAL STRUCTURE OF EMPLOYMENT

The employment structure of Israeli Arabs is here presented mainly through a comparison with the structure of Jewish employment. Among the Jews, we distinguish, as in the preceding chapter, between those from Asia-Africa and the rest.

We begin with a distinction that underlies all of the following discussion: Arab employment in the Arab sector, and Arab employment in the Jewish sector. By Arab and Jewish sectors we mean the groups of firms (in the economic sense, the productive units) owned respectively by Arabs and Jews. It is vital to the understanding of the structure of Arab employment to remember that there is only partial correspondence between the employment of Arabs and the income of the Arab population, on the one hand, and the employment opportunities and income generated by Arab-owned productive units, on the other. The present description of the structure of employment is to be understood in conjunction with the description of intersectoral relations.

The data that would best serve our purpose would distinguish between Arabs employed by Arabs and Arabs employed by Jews. We have been able only to distinguish between Arabs working in the locality of their residence (non-mobile) and those working elsewhere (mobile). Considering the marked degree of residential segregation of Jews from Arabs already noted, this is not a bad approximation to the desired distinction. Its only shortcoming is that Arabs in mixed towns who work for Jews are included in the non-mobile category as well as Arabs who work in the Arab sector. The effect is to understate the agricultural character of the latter group, and to overstate the weight of farmers among those employed in the Jewish sector.

Table 2–1 gives the occupational distribution of Arabs and Jews.[1] The following salient facts emerge from the table:

[1] In these comparisons we shall use both the Labor Force Surveys (LFS) and the 1961 Census of Population and Housing. See note 25 on p. 13.

a. The percentage of farmers[2] is much higher among Arabs than among Jews. The percentage of farmers among the Asia-Africa immigrants is higher than among all Jews but lower than among the Arabs. The percentage of members of the professions, administrative workers, clerks, merchants, and service workers is higher among Jews than among Arabs.

b. The percentage of workers in manufacturing, construction and crafts is approximately the same for Arabs and Jews; however, in 1961 only one tenth of Jews in this group were unskilled laborers, while for Arabs the proportion was about one third. While this is the direction of the difference for both men and women, the difference between Jewish and non-Jewish women is greater (see the index of differentiation in Table 2–1). The percentage of manual workers among Asia-Africa immigrants is higher than among total Jews, but lower than among Arabs.

c. There are fewer Jews in technical and professional[3] than in managerial, administrative and clerical occupations; among the non-Jews the order is reversed. This difference reflects the fact that relatively few Arabs are employed as civil servants and that a substantial part of the Arab labor force is employed by firms in which Jews are owners and managers. New immigrants from Asia-Africa show the same pattern as all Jews in this respect, and it is of some significance that Arabs and Asia-Africa Jews differ.

d. Comparison of the sexes shows that a much higher percentage of Arab women is engaged in agriculture.[4] Also, a higher percentage of Arab women is employed in the professions; this reflects the large number of women engaged in teaching. It is interesting that Arab women, who are so heavily concentrated at the bottom of the occupational ladder, are at the same time represented more than Arab men at the top of it, in the professional group. This ties in with the fact that the gap between Arab men and women is much narrower in the proportion of highly educated persons than at the lower educational levels, reflecting some kind of inequality of distribution of education among Arab women. Among Jews, too, the percentage of professional women is higher than for men (however, the percentage of Jewish women in agriculture is lower than that of men).

[2] I.e., farmers, fishermen and related workers. This category of the occupational classification does not differ much from the agriculture, forestry and fishing category of the industrial classification.

[3] I.e., 'professional, scientific and technical workers' in the occupational classification.

[4] Because of both sampling and response errors the figures on the employment structure of Arab women are even less reliable than those for men. While it seems that the remarks that follow are tenable, not much reliance should be placed on the figures.

TABLE 2–1. *Employed Persons by Occupation:*[a] *1963*
(per cent)

	Both sexes			*Men*		*Women*	
	Non-Jews	*Jews*		*Non-Jews*	*Jews*	*Non-Jews*	*Jews*
		Total	*Asia-Africa new immigrants*[b]				
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*
Professional, scientific, technical and related workers	5.5	12.9	4.8	3.8	9.5	16.8	21.6
Administrative, executive, managerial and clerical	2.0	16.8	7.1	1.9	16.3	2.7	18.3
Traders, agents, salesmen	4.7	8.4	6.1	5.0	8.3	2.5	9.0
Farmers, fisherman and related workers	38.0	11.8	19.1	34.2	12.1	63.7	11.0
Workers in transport and communication occupations	4.3	5.5	4.0	5.0	7.2	–	0.8
Construction, quarrymen, miners, craftsmen, production process, and related workers	39.3	32.1	42.8	43.8	38.8	8.7	14.9
Service, sport and recreation workers	6.2	12.5	16.1	6.3	7.8	5.6	24.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Index of differentiation[c]	$D_{12} = 0.334$	$D_{13} = 0.199$		$D_{45} = 0.271$		$D_{67} = 0.527$	

[a] In subsequent tables the CBS description of occupational categories (though followed throughout) is given in shortened form.

[b] See note b to Table 1–3.

[c] The index of differentiation is $D_{ij} = \frac{1}{2} \sum_g \left| P_{ig} - P_{jg} \right|$, where P_{ig} is the proportion of persons in group i employed in occupation g, and P_{jg} is the proportion of persons in group j employed in occupation g; in other words, it is half the sum of the absolute horizontal differences between any pair of columns, divided by 100. The index ranges from 0 (when distributions are identical) to 1.

SOURCE: CBS, *Labour Force Surveys 1963*, Special Series No. 176, p. 50 (new immigrants from Asia-Africa); p. 52 (all Jews); and p. 53 (non-Jews).

TABLE 2–2. *Employed Men by Industry:*[a] *1961 and 1963*[b]
(per cent)

	Non-Jews		*Jews*						
	1961	*1963*	*Total*		*From Asia-Africa (1961)*				*Others (1961)*
			1961	*1963*	*Total*	*Veterans*[c]	*New immigrants*[c]		
							1948–54	*1955–61*	
Agriculture, forestry and fishing	41.5	34.9	12.8	12.4	16.9	8.0	16.6	24.3	10.9
Manufacturing (mining, quarrying, industry)	17.9	17.8	28.2	28.3	27.2	24.9	28.1	25.8	28.7
Construction	16.1	25.6	10.9	12.2	15.2	11.3	15.5	16.9	8.9
Public utilities	0.9	0.9	2.7	2.3	3.2	5.1	3.0	2.5	2.5
Commerce, banking and insurance	7.2	6.4	12.4	13.0	10.2	17.7	9.5	7.2	13.5
Transport, storage and communication	4.6	5.0	8.0	9.3	6.2	8.6	6.5	3.7	8.8
Services	11.8	9.4	25.0	22.5	21.1	24.4	20.8	19.6	26.7
Public and business services	*8.6*	*6.6*	*21.1*	*18.7*	*18.0*	*19.4*	*18.2*	*16.2*	*22.5*
Personal services and recreation	*3.2*	*2.8*	*3.9*	*3.8*	*3.1*	*5.0*	*2.6*	*3.4*	*4.2*
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total in thousands	46	58	483	540	155	21	105	29	328
Index of differentiation[d]—Non-Jews and others			0.339	0.359	0.256	0.383	0.261	0.181	0.378

[a] In subsequent tables the CBS description of industrial categories (though followed throughout) is given in shortened form.

[b] See pp. XXXVI–XXXVII of the 1961 source on divergences between Census and LFS results.

[c] See note b to Table 1–3.

[d] See note *c* to Table 2–1.

SOURCES: 1961—CBS, *Labour Force—Part I*, Census Publication No. 9, pp. 94, 148–51.
1963—CBS, *Labour Force Surveys 1963*, Special Series No. 176, p. 25.

Table 2–2 presents the industrial structure of men's employment in 1961. The main features of the occupational comparison are also reflected here: Arabs are under-represented in government, public and commercial services, and in manufacturing industries, and are concentrated in agriculture and in construction. Within agriculture the Arabs are concentrated mainly in field crops and in vegetable growing.[5] Here too there is some similarity between Arabs and Asia-Africa immigrants, and the more recently the latter have immigrated, the greater the similarity. The same pattern is to be found in most of the industries: the percentage of farmers is low among Asia-Africa veterans, higher among new immigrants, and highest among Arabs; the ratio of construction workers to workers in manufacturing and crafts also rises as we move from Jews who are not from Asia-Africa, to Asia-Africa veterans, to new Asia-Africa immigrants and finally to Arabs. On the other hand, the percentage of workers in trade and in government and commercial services declines as we move from Asia-Africa veterans to new immigrants, and then to Arabs. The Asia-Africa veterans group is very similar in its industrial structure of employment to Jews from other countries, and is thus unlike the Arabs in employment structure. The differences in the industrial distribution of Jews and Arabs are also reflected in Table 2–3, which shows the per cent of Arabs engaged in each industry.

In Table 2–4 we try to distinguish between Arabs working in the Jewish sector and those working in the Arab sector. The mobile workers have an employment structure midway between the Jews and the rest of the Arabs. However, the percentage of mobile Arab workers engaged in construction is much higher than among both the rest of the Arabs and the Jews, and the percentage of mobile Arabs engaged in public services is somewhat lower than the already very low figure for the non-mobile. Thus, there is a concentration of mobile labor in manual jobs, a phenomenon which has been observed in migrant labor elsewhere.[6]

We have already referred to the fact that the mobile and non-mobile categories do not reflect exactly the employment of Arabs in the two sectors. The wage-earners category [column (4) of Table 2–4] is no better an indicator of those employed in the Jewish sector than the mobile category,

[5] CBS, *Moslems, Christians and Druzes in Israel*, Census Publication No. 17, p. 63.

[6] D. J. Bogue and M. J. Hagood, "Differential Migration in the Corn and Cotton Belt," in Bogue and Others, *Subregional Migration in the United States 1935–40*, Vol. II, Scripps Foundation Studies in Population Distribution, No. 6, Oxford, Ohio, 1953; D. G. Johnson, "Comparability of Labor Capacities of Farm and Non-Farm Labor," *American Economic Review*, XLIII (June 1953), 296–313.

TABLE 2–3. *Non-Jewish Employed Persons as Per Cent of all Employed Persons, by Industry: 1961 and 1963*

	Both sexes		*Men*	
	1961	*1963*	*1961*	*1963*
Agriculture	22.1	22.0	23.3	23.2
Manufacturing	4.9	5.4	5.8	6.3
Construction	13.5	18.0	13.8	18.3
Other industries	3.4	3.6	4.5	4.7
All industries	7.9	8.1	9.2	9.7

SOURCES: 1961—CBS, *Labour Force Surveys 1955–1961*, Special Series No. 162, pp. 42, 44.
1963—CBS, *Labour Force Surveys 1963*, Special Series No. 176, p. 25.

TABLE 2–4. *Non-Jewish Employed Men, by Industry and Employment Status: 1961*
(per cent)

	Total	*Mobile*	*Non-mobile*	*Employees*	*Self-employed*	*Others*[a]
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Agriculture	41.5	33.8	48.9	29.1	62.8	85.6
Manufacturing	17.9	22.0	14.0	22.3	9.9	4.5
Construction	16.1	25.1	7.4	22.2	4.2	1.5
Public utilities	0.9	0.7	1.0	1.2	0.1	0.2
Commerce	7.2	4.7	9.7	4.9	13.8	3.7
Transport	4.6	3.3	5.9	4.6	5.2	2.1
Services	11.8	10.4	13.1	15.7	4.0	2.4
Public and business	*8.6*	*7.0*	*10.1*	*12.2*	*1.2*	*1.2*
Personal	*3.2*	*3.4*	*3.0*	*3.5*	*2.8*	*1.2*
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total (thousands)	46	24	22	30	12	4

[a] Unpaid family members and employment status not known.
SOURCE: CBS, *Moslems, Christians and Druzes in Israel, op. cit.*, pp. 68, 76.

but its deficiencies are different. Wage (and salary) earners include all Arabs working in their own locality for the government (clerks, teachers, etc.) the Histadrut, banks owned and operated from the Jewish sector, and the like. But the category also includes those working for other Arabs and excludes those who sell their services to Jews on a basis other than wage or salary. Most of these discrepancies cancel out, and significant differences arise only in government, public and commercial services, and in agriculture. The figures given for wage earners in services can safely be regarded as the upper limit for services workers in the Jewish sector. Similarly, the figure for wage earners in agriculture is the lower limit for the percentage of Arabs employed in the Jewish sector who are engaged in agriculture. Column (5) gives some idea of the structure of employment in the Arab sector by presenting the industrial distribution of entrepreneurs.

TABLE 2–5. *Industrial Structure of Employed Non-Jews in Villages, by District: 1961*
(per cent)

	Total	*Agri-culture*	*Manu-facturing*	*Construc-tion*	*Other industries*
Mobile					
Northern district	100.0	21.6	22.4	33.5	22.5
Haifa district	100.0	42.9	18.9	21.0	17.2
Haifa subdistrict	100.0	19.6	28.4	25.7	26.3
Central district	100.0	67.9	9.9	5.3	16.9
All districts	100.0	34.3	19.5	25.9	20.3
Non-mobile					
Northern district	100.0	61.1	9.0	7.3	22.6
Haifa district	100.0	59.7	4.6	5.0	30.7
Central district	100.0	63.4	5.0	2.5	29.1
All districts	100.0	61.7	7.5	6.1	24.7

SOURCE: Based on unpublished data of the 1961 Population Census.

Further understanding of the structure of Arab employment and the nature of mobility can be gained by examining the figures for villages. Data on the rural labor force are better suited to our purpose because they do not include the population in mixed localities, where Arabs who work for Jews are not recorded as mobile. Table 2–5 shows that the industrial structure of employment of non-mobile labor does not vary much between districts, approximately 60 per cent of non-mobile employed persons working in agriculture. This, however, is not true of mobile workers: the proportion of persons engaged in agriculture in the Northern district and

in the Haifa subdistrict is significantly lower than in the Central district. A more detailed geographical classification (not presented here) shows greater regional variations, but the variation remains higher among mobile than among non-mobile workers. Furthermore, there seems to be no association between the structure of employment of mobile and non-mobile workers. This reflects the fact that employment in the village is determined by factors which do not vary significantly between regions, while the employment structure outside the village depends on the structure of demand in the general labor market, which does vary geographically. In the northern part of the country there is a large continuous Arab area with very few employment opportunities in the Jewish sector; consequently, most of the mobile labor goes to non-agricultural employment in Haifa. Villages in the Central district and in the Hadera subdistrict are situated near Jewish agricultural settlements that absorb a large proportion of Arab mobile labor, and this accounts for the high proportion of mobile agricultural workers in this area.

Table 2–6 is an attempt to detect differences in employment structure between Christian and other Arabs (Moslem and Druse). The percentage in agriculture is lowest among the Christians, the difference being more pronounced among mobile workers. When only one region, the Acre subdistrict, is considered, the difference between communities persists, although it is weakened. It is interesting to note that the Christian literacy rate is significantly higher than that of Moslems.[7]

From Table 2–7, which shows the industrial distribution of Arab men by age, it is clear that the employment structure of youths differs significantly from that of the other age groups. Mobile youths are concentrated in agriculture, commerce and personal services, while relatively few are employed in construction and public services; among the non-mobile, youths are concentrated in agriculture. Both in agriculture and in construction the greatest difference is between the 14–17 and the 18–34 age groups, while older people tend to conform to the level of the young. There is a concentration of Arab youths in low-income industries and almost certainly in low-wage jobs within industries. This is also true of Jewish youths, however. In fact, when Arabs and Jews are compared by age, the smallest difference[8] is found in the younger age groups.

It is quite difficult to make statements about changes over time in the industrial or occupational structure of employment, since no revolutionary

[7] However, it must be remembered that not all the Christians are Arabs, and that the published literacy data do not distinguish between rural and urban population.

[8] According to the index of differentiation defined in Table 2–1 above.

TABLE 2–6. *Industrial Structure of Non-Jewish Rural Employment, by Religion: 1961*
(per cent)

	All villages	*Villages with no Christians*		*Villages with Christians*		*Villages with 30 per cent or more Christians*
		All	*Acre sub-district*	*All*	*Acre sub-district*	
Agriculture	45.5	53.9	47.5	31.8	34.0	27.5
Manufacturing	14.6	12.5	19.0	18.0	17.4	21.0
Construction	17.8	14.4	16.1	23.4	23.7	24.0
Other industries	22.1	19.2	17.4	26.8	24.7	27.5
Total[a]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total (thousands)	30.2	19.5	4.2	10.7	7.0	5.7
Per cent in agriculture[b]						
Mobile	34.3	45.2	30.2	17.6	19.9	10.0
Non-mobile	61.7	65.7	68.3	54.5	16.1	47.3

[a] Figures may not add owing to rounding.

[b] I.e., Agricultural mobile (or non-mobile) as per cent of total mobile (or non-mobile).

SOURCE: Based on unpublished data from the 1961 Census of Population.

TABLE 2–7. *Non-Jewish Employed Men, by Industry and Age: 1961*
(per cent)

	Total	*Age groups*			
		14–17	*18–34*	*35–44*	*45 +*
Mobile					
Agriculture	33.8	45.2	31.3	33.7	38.7
Manufacturing	22.0	21.3	23.0	20.7	17.5
Construction	25.1	13.4	26.8	27.1	23.7
Commerce	4.7	9.1	4.2	3.6	4.8
Public services	7.0	0.4	7.6	8.0	8.9
Other industries	7.4	10.6	7.1	6.9	6.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Non-mobile					
Agriculture	48.9	68.4	42.4	49.8	53.7
Manufacturing	14.0	17.6	16.4	11.4	9.6
Construction	7.4	3.7	8.3	7.8	6.9
Commerce	9.7	5.9	9.8	8.8	11.5
Public services	10.1	2.0	10.3	11.8	11.7
Other industries	9.9	2.4	12.8	10.4	6.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

SOURCE: CBS, *Moslems, Christians and Druzes in Israel, op. cit.*, pp. 66, 78.

TABLE 2–8. *Non-Jewish Employed Men by Occupation:*[a] *1954–63*[b]
(per cent)

	Total	*Professional and administrative*	*Traders*	*Farmers*	*Transport workers*	*Manufacturing and construction*	*Services workers*
1954	100.0	6.0	6.5	53.7	2.3	27.2	4.3
1955	100.0	7.2	7.7	48.0	4.3	28.8	4.0
1956	100.0	7.1	7.3	50.7	3.7	26.5	4.7
1957	100.0	5.4	5.4	46.0	2.8	35.5	4.9
1958	100.0	5.4	7.0	40.7	4.1	37.5	5.3
1959	100.0	5.6	6.8	43.2	3.8	34.0	6.6
1960	100.0	6.0	6.6	45.5	4.4	31.3	6.2
1961	100.0	5.1	5.3	42.9	3.9	36.0	6.8
1962[c]	100.0	5.2	5.8	44.0	5.1	34.6	5.3
1963	100.0	5.7	5.0	34.2	5.0	43.8	6.3

[a] See note a to Table 2–1. The first two categories in Table 2–1 are here combined.

[b] The figures for 1954–56 are based upon one-time samples; those for 1957 are an average of June and November surveys; from 1958 on the data are averages of four samples taken continuously over three-month periods. The 1963 data are based on a larger sample than the earlier LFS: in itself this cannot explain the considerable difference between 1963 and the earlier years, but it may be due to a change in the representation of rural districts. See also note d, Table 1–7, and note 25, p. 13.

[c] A new classification was introduced i n1962; see CBS *Abstract 1963*, No. 14, pp. 508–11, which shows 1961 figures calculated in both ways.

SOURCES: 1954—CBS, *Labour Force Survey June 1954*, Special Series No. 56, p. 33.
1956—CBS, *Labour Force Survey June 1956*, Special Series No. 68, p. 53.
1955, 1957–61—CBS, *Labour Force Surveys 1955–1961*, Special Series No. 162, pp. 90, 92.
1962—CBS, *Abstract 1963*, No. 14, pp. 509–11.
1963—CBS, *Labour Force Surveys 1963*, Special Series No. 176, p. 53.

changes could possibly occur in the short period that we describe here, and since sampling errors tend to obscure whatever changes did occur. Table 2–8 summarizes the data available for the period since the establishment of the State. No trends are readily discernible, but if the period is divided into two and the arithmetic averages for each period compared (Table 2–9) some significant changes are observed. The percentage of farmers[9] declined, while the percentage of workers in manufacturing, construction and transportation and in services increased. The percentage of

[9] See note 2 on p. 21.

TABLE 2–9. *Occupational[a] Structure of Non-Jewish Employed Persons—Change from 1954–56 to 1957–63, and Comparison of Mobile and Non-Mobile in 1961*
(per cent)

	Total[b]	*Professional, administrative workers and traders*	*Farmers*	*Manufacturing, construction and transport*	*Services workers*
Period average (men)					
1954–56	100.0	13.9	50.8	30.9	4.3
1957–63	100.0	11.4	42.4	40.3	5.9
Direction of change		–	–	+	+
Structure in 1961 (both sexes)					
Non-mobile	100.0	19.7	49.5	24.3	6.5
Mobile	100.0	10.0	34.0	49.4	6.6
Sign of difference (mobile *less* non-mobile)		–	–	+	+

[a] See note a to Table 2–1.
[b] Figures may not add owing to rounding.
SOURCES: Period averages calculated from Table 2–8; structure in 1961 from CBS, *Moslems, Christians and Druzes in Israel*, Census Publication No. 17, pp. 72, 80.

TABLE 2–10. *Non-Jewish Employed Persons in Agriculture: Selected Years, 1931–45*
(per cent)[a]

1931	57
1931 (adjusted)[b]	65
1936	62
1944	51
1945	50

[a] Per cent of total employed persons.
[b] The adjustment is designed to include unpaid family labor, but the result may be an overstatement.
SOURCES: 1931—E. Mills, *Census of Palestine 1931*, Government of Palestine, 1933. 1936, 1944, 1945—A. L. Gaathon, "National Income," *Encyclopaedia Hebraica*, Vol. VI, pp. 731–32, Table 3 (Hebrew).

white-collar workers declined somewhat. The second part of the table, which compares mobile and non-mobile labor in 1961, may, together with the figures on industrial distribution in Table 2–4, provide an explanation for the change over time because of the similarity in the sign of the differences between mobile and non-mobile and between the earlier and the later period. The differences between mobile and non-mobile workers are much greater than the changes over time; it is thus possible that changes over time were brought about by changes in the weight of these two groups accompanied perhaps by some changes in the structure within each group. During the mandatory period (Table 2–10) the proportion of those engaged in agriculture also declined,[10] but the drop was then accompanied by a significant rise in the urban-rural ratio. The decline during the State

TABLE 2–11. *Non-Jewish Employed Men, by Industry: 1958–64*[ab]

(per cent)

	Total	*Agriculture*	*Manufacturing*	*Construction*	*Other*
1958	100.0	42.4	16.1	19.4	22.1
1959	100.0	44.0	17.2	14.8	24.0
1960	100.0	46.8	15.7	15.4	22.1
1961	100.0	44.0	16.7	18.0	21.3
1962	100.0	45.1	14.3	20.1	20.5
1963	100.0	35.0	17.7	25.6	21.7
1964	100.0	36.4	16.7	23.7	23.2

[a] The figures have been computed by deducting Jews from total employed persons.

[b] See note a in Table 2–2.

SOURCES: CBS *Abstracts*, as follows: 1958, 1961—*1962*, No. 13, pp. 388–91.
1959, 1962—*1963*, No. 14, pp. 498–501.
1960, 1963, 1964—*1965*, No. 16, pp. 306–309.

period was apparently brought about without any substantial residential mobility. What the data on industrial distribution (Table 2–11) add to our knowledge is that the source of the observed rise in the share of manufacturing, crafts and construction (Table 2–10) probably occurred more in construction than in manufacturing. The decline in the relative importance of agriculture in employment is again somewhat sporadic.

Among the Jews, however, there has been a regular decline in the percentage engaged in agriculture, particularly among the new Asia-Africa

[10] See, e.g., H. Rosenfeld, "Changes in the Employment Structure of the Arab Village," *Mibifnim*, Bulletin of Hakibbutz Hameuhad, XXII (October 1959), (Hebrew).

TABLE 2–12. *Jewish Employed Men in Agriculture: 1958–63*
(per cent of total Jewish employed men)

	All Jews	*Asia-Africa new immigrants*
1958	16.5	29.0
1959	15.3	25.8
1960	15.3	24.2
1961	14.7	22.2
1962	13.0	..
1963	12.4	..

SOURCES: 1958–61—CBS, *Labour Force Surveys 1955–1961*, Special Series No. 162, pp. 60–65.
1962, 1963—CBS, *Abstract 1964*, No. 15, p. 262.

TABLE 2–13. *Share of Non-Jews in Agricultural Employment: 1958–64*[a]
(per cent)

	Total		*Excluding non-Jewish unpaid family labor*	
	Both sexes	*Men*	*Both sexes*	*Men*
	(1)	*(2)*	*(3)*	*(4)*
1958	16.8	18.7	13.3	15.5
1959	19.4	20.8	15.1	17.6
1960	19.2	21.7	15.1	18.8
1961	22.1	23.3	16.1	19.8
1962	28.9	27.0	20.2	23.9
1963	22.0	23.2	17.5	22.0
1964	23.6	25.5	..	..

[a] Calculated as 100 *less* the share of Jews. See note 25, p. 13.

SOURCES: 1958–61—CBS, *Labour Force Surveys 1955–1961*, Special Series No. 162, pp. 42, 44, 66.
1962—CBS, *Abstract 1963*, No. 14, pp. 498, 500.
1963, 1964—CBS, *Abstract 1965*, No. 16, pp. 306, 308, 322–23 (including 1962 data on unpaid family labor).

immigrants. We have already seen from a cross-section comparison based on the 1961 census that the per cent of Asia-Africa immigrants in agriculture declines with duration of residence (Table 2–2). The time series data of Table 2–12 confirm this decline. Of the immigrants who arrived in 1948–54, 14.7 per cent were farmers in 1961 (according to the 1961 Census) whereas 28.3 per cent of them had been farmers in 1954 (according to the 1954 LFS).[11] True, there is reason to believe that the 1961 Census understates the per cent in agriculture, while the 1954 LFS overstates it, but this could scarcely account for the difference. The policy of settling new immigrants on the land immediately upon their arrival is counteracted by forces operating in the course of time which provide an incentive for Jews to leave agriculture; this is shown by both time-series and cross-section data. The per cent of Asia-Africa immigrants engaged in manufacturing, construction has in fact risen.

The result of these developments was a significant increase in the proportion of Arabs among those engaged in agriculture (Table 2–13). Because the reporting of unpaid family labor in the labor force surveys has improved over the years, we have also calculated the figures without this group [columns (3) and (4)], but the trend also exists here. In general, the employment structure of new immigrants from Asia-Africa has become more like that of the rest of the Jews [Table 2–14, columns (3) and (6)], while the Arab employment structure has become less like that of Jews in general and new immigrants in particular.

We shall not enter into a detailed international comparison of the employment structure of the Israeli Arabs. However, there is one marked difference from the Arab and Middle Eastern countries: the distribution of non-agricultural workers. The proportion of Israeli Arabs is higher in manufacturing and in construction and lower in services than in these countries. This difference can be attributed to the relation with the Jewish sector, which supplies the Arab population with (mainly government) services, while a national economic entity supplies these for itself. The share of agriculture in employment of Israeli Arabs is lower than in most Arab countries (Lebanon being an important exception), and this is obviously a result of the employment in the Jewish sector.

The effect of the intersectoral relations on the Arab employment structure affects the economic value of post-primary education for the younger generation of Arabs. The profitability of investment in secondary education

[11] CBS, *Labour Force—Part I*, Census Publication No. 9, p. 144, for 1961, and *Labour Force Survey June 1954*, Special Series No. 56, Jerusalem, 1957, p. 29, for 1954.

by itself (without continuing to higher education) is questionable for Jews.[12] One can see why this should apply even more to Arabs under present conditions, and the same can to some extent also be said of higher education.

TABLE 2–14. *Indexes of Differentiation[a] of the Occupational and Industrial Structure of Jewish and Non-Jewish Employed Men: 1958–63[b]*

	Occupation			*Industry*		
	Non-Jews with Asia-Africa immigrants[c]	*Non-Jews*	*Asia-Africa immigrants[c]*	*Non-Jews with Asia-Africa immigrants[c]*	*Non-Jews*	*Asia-Africa immigrants[c]*
		with all Jews			*with all Jews*	
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1958	0.149	0.249	0.202	0.134	0.329	0.204
1959	0.191	0.283	0.196	0.182	0.315	0.172
1960	0.199	0.302	0.182	0.226	0.351	0.148
1961	0.207	0.282	0.187	0.239	0.359	0.131
1962	0.243	0.309	0.177	..	0.402	..
1963	0.152	0.271	0.194	..	0.360	..

[a] See note c to Table 2–1.

[b] The figure for non-Jews were calculated by deducting Jews from total population. See also note 25 on p. 13.

[c] New immigrants, i.e. those who arrived from 1948 on.

SOURCES: *By occupation*

1958–61—CBS, *Labour Force Surveys 1955–1961*, Special Series No. 162, pp. 90, 92, 97, 99.

1962—CBS, *Abstract 1963*, No. 14, pp. 509–11; and *Labour Force Surveys 1962*, Special Series No. 152, pp. 104, 106.

1963—CBS, *Labour Force Surveys 1963*, Special Series No. 176, pp. 50, 52, 53.

By industry

Non-Jews—see sources to Table 2–11.

All Jews—CBS, *Abstract 1965*, No. 16, pp. 308–309.

Asia-Africa immigrants—CBS, *Labour Force Surveys 1955–1961, op. cit.*, pp. 61, 63, 65.

The present structure of the Arab sector proper is such that it generates only limited demand for educated manpower and the potential source of demand is the government and the Jewish sector. The government in fact employs the bulk of Arab educated manpower, mainly as teachers but also in various administrative and clerical jobs. But, as noted, much of the

[12] R. Klinov-Malul, *The Profitability of Investment in Education in Israel*, Falk Institute, Jerusalem, 1966, Chapter 6.

government and public services supplied to the Arab population emanate from central offices staffed by Jews and situated in Jewish districts. In many areas of government activity security reasons can be expected to restrict opportunities for advancement so that the stream of expected income for someone entering a given government job is probably relatively flat. In jobs generally associated with some education, the competitive position of an Arab is weak in the Jewish sector. It is likely that a prospective employer will expect a migrant worker, rooted in a different language, culture and social background to be less effective in many of the white-collar jobs than his Jewish equivalent, and this is beyond any outright discrimination that may exist.

In an otherwise tight labor market the opportunity cost of general secondary education may be too high, and the rewards too low. We have noted (Chapter 1) that Arab youths get relatively little secondary education and although we do not try to evaluate the importance of the supply side of educational services, the demand side should not be neglected. Vocational training, on the other hand, prepares for jobs which are traded in much more impersonal markets and in which cultural background and the like are of little consequence. It is conceivable that vocational post-primary education makes more economic sense from the private short-run view of the Arab youth than academic secondary education. According to the Ministry of Labor and the Histadrut, vocational courses given by them attract many high school drop-outs, a fact which indicates adaptation. With this adaptation there is some frustration for those who find that the economic and social value of the education they have acquired does not measure up to their expectations.

One ought to emphasize that these speculations apply only to the private short-run calculation; from the social point of view secondary education, if coupled with other social changes, may eliminate some of the causes of the short-run private problem.

CHAPTER 3

ARAB AGRICULTURE AND EMPLOYMENT

One of the most interesting developments in the employment structure of Israeli Arabs has been their integration into the Jewish labor market and the corresponding decline in the relative importance of the Arab sector as an employer of Arabs. An exhaustive treatment of the subject would require an analysis of the Arab sector, of the demand stemming from the Jewish sector and of intersectoral relations. Only little of this could be achieved here; our discussion of the Arab sector is limited to certain aspects of agriculture.

The value of the gross output of Arab agriculture in the last few years has been about 5 to 6 per cent of the total value of the country's agricultural output (Table 3–1). The share of Arab agriculture in field crops and vegetables is higher than the average, while its share in egg and milk production is lower. Tobacco, sesame seed and olives are crops produced almost only by Arabs, who also contribute a very high share of the total output of mutton and goat meat, milk, and water melons. These few products constitute about two fifths of the value of Arab agricultural output.

The real agricultural product of the Arab sector has increased appreciably, although there have been some violent fluctuations (due mainly to droughts). Production rose faster in the early years of the State than in the rest of the period; this may be explained partly by post-war recovery after 1948–49 and partly perhaps by the improved reporting that followed the relaxation of government control over the supply and prices of food. Except in the first few years of the period, agricultural production has risen about as fast as the rural population. In the Jewish sector it rose faster, and as a result the share of Arab agricultural product in the country total has declined since the early 1950s. The only important change in composition was the increased share of meat and milk: the increase in meat output was the main source of the increase in total Arab agricultural product. Since 1954/55 the share of meat has been greater in the Arab than in the Jewish sector.

TABLE 3–1. *Agricultural Production from Non-Jewish Farming: 1950/51–1961/62*[a]

	Agricultural production:[b] *non-Jewish farming as per cent of total* (1)	*Index 1953/54 = 100*		
		Agricultural production at 1953/54 prices (2)	*Rural population*[c] (3)	*Agricultural production per capita* (2) ÷ (3) (4)
1950/51	8.2	45.5	90.6	50.2
1951/52	11.0	81.6	93.9	86.9
1952/53	9.2	81.1	96.4	84.0
1953/54	8.6	100.0	100.0	100.0
1954/55	6.4	77.1	103.5	74.5
1955/56	7.8	115.9	107.6	107.7
1956/57	6.8	115.9	111.9	103.7
1957/58	5.8	108.2	115.8	93.4
1958/59	5.9	127.8	120.6	106.0
1959/60	5.4	114.8	126.0	91.1
1960/61	5.9	140.9	131.4	107.2
1961/62	5.3	129.2	136.6	96.8

[a] Agricultural years beginning October 1st.

[b] At current prices.

[c] On December 31st. Includes Bedouin and persons in institutions.

SOURCES: Agricultural data—CBS *Abstracts* as follows: *1962*, No. 13, pp. 206, 208; *1963*, No. 14, pp. 238, 240; *1964*, No. 15, pp. 328, 330; *1965*, No. 16, pp. 378–81.

Population data—CBS, *Abstracts 1951/52*, No. 3 to *1956/57*, No. 8, respectively, pp. 7, 8, 8, 8, 9, 9; *1958/59*, No. 10, p. 15; *1961*, No. 12 to *1963*, No. 14, respectively, pp. 33, 39, 25.

The figure for December 1961 was extrapolated from census figures (May 1961) according to CBS, *List of Settlements, Their Population and Signs*, Technical Paper No. 12, Jerusalem, 1962 (Hebrew).

We have no direct information on income originating in Arab agriculture. Inputs purchased from other sectors are roughly 45 per cent of the country's total agricultural output.[1] There is no doubt that in Arab agriculture the percentage is lower, but we do not know by how much. It is likely that the ratio of purchased inputs to value of total output has risen somewhat, so that value added rose less than total output over the period.

[1] CBS, *Abstract 1963*, No. 14, p. 191.

TABLE 3–2. *Agricultural Production: 1961/62*[a]

	Non-Jewish farming	*Jewish farming*
Area (thousand dunams [b])		
Total crop area	850	3,180
Irrigated area	30	1,385
Weighted area[c]	880	4,565
Employed persons[d]	21,476	104,424
Production and value added		
Total production (IL thousands)	45,669	790,694
Total value added (IL thousands)[e]	36,535	434,882
Production (IL)		
per dunam	54	249
per weighted dunam	52	173
per employed person	2,127	7,572
Value added (IL)		
per dunam	43	137
per weighted dunam	42	95
per employed person	1,701	4,165

[a] Agricultural year.

[b] Metric dunam equal to 0.1 hectare (approximately 1/4 acre).

[c] When physical area is compared a ratio of 4: 1 is generally used to weight dry and irrigated land; we have here used a ratio of 2: 1, since we are dealing with crop area.

[d] 1962 figures, adjusted for mobility, on the assumption that 41 per cent of non-Jews employed in agriculture are mobile (according to the 1961 census). The unadjusted figures are 89,500 and 36,400, for Jews and non-Jews respectively.

[e] For non-Jewish farming, 80 per cent of total production; for Jewish farming, 55 per cent of total production.

SOURCES: Area—CBS, *Abstract 1965*, No. 16, p. 364.
Employment—CBS, *Abstract 1963*, No. 14, p. 249; the mobility adjustment is according to CBS, *Moslems, Christians and Druzes in Israel*, Census Publication No. 17, p. 76.
Production—CBS, *Abstract 1963*, No. 14, p. 249.

In comparing Arab and Jewish agriculture we assume, for the sake of illustration, that value added is respectively 80 per cent and 55 per cent of output. In spite of this difference, which may well be exaggerated, there is still a wide gap between the net agricultural product per capita or per unit of land in the two sectors (Table 3–2).

The purpose of the following discussion is to indicate that there were forces in the rural Arab economy that generated pressure for increased ties with the Jewish economy. Our argument is simple and we are aware of its limitations: given that employment and income in the Arab rural sector depend on agriculture, a high proportion of rural population to land

at any time, and an increasing proportion over time, create pressure either to 'import' land or to export labor, or both. We shall first indicate the connection between types of land and employment in agriculture, then survey the relationship between population and land over time, and discuss the land market; we conclude by speculating about the possible effects of labor market developments on land and agricultural product.

Our discussion is restricted to the relationship between population and land. Still, account must be taken of the key role played by water in determining the volume of agricultural employment. The following equations present estimates obtained from regressions of agricultural employment in 86 Arab villages: [2]

(1) $x_0 = 0.061x_1 + 0.013x_2 + 0.020x_3$,
(2) $x_0 = 0.060x_1 + 0.018\ (x_2 + x_3)$,

where x_0 is non-mobile persons engaged in agriculture; x_1 is irrigated land (dunams); x_2 is orchards (dunams); and x_3 is dry land (dunams).

In spite of the obvious shortcomings of this calculation we can get from it a rough idea of the relative importance for employment of dry and irrigated land. The ratio of the respective coefficients is about 3 : 1, and this is close enough to the commonly used 4 : 1 ratio to make it unnecessary to depart from the latter. When variables representing the supply of labor in the village (either the 14+ population or the labor force) were incorporated in the equations, they were found to be not significantly different from zero. This confirms the impression that the coefficients obtained relate to the demand for labor in agriculture. If the village labor-supply variables had been significant, it would have indicated relatively closed labor markets in the villages and the existence of disguised unemployment; also, it would not have been possible to interpret the coefficients as representing input requirements.

The main deterioration in the population-land ratio occurred during and immediately after the war in 1948. The data available (Table 3–3) compare 1945 and 1951.[3] The Arab villages existing in Israel today were better off in 1948 as regards the land/village-population ratio than villages in the area that were abandoned during the War of Independence and no longer exist; but after the establishment of the State the situation of the former deteriorated and there was a large reduction both in total and per capita

[2] For details see the Appendix, pp. 85–86.

[3] We have relied on D. Simon, "Arab Agriculture in Israel: Its Scope and Composition, and its Place in the Country's Economy," M.A. thesis submitted to the Hebrew University, Jerusalem, 1954 (Hebrew).

cultivated area. On the one hand, the population of these villages increased as a result of an influx of refugees, and on the other hand, cultivated area declined. The decline had several causes, of which the main one was the expropriation of absentees' land. Apart from the land of Arabs who had fled from Israel territory and never returned, expropriation also affected lands of Arabs now resident in Israel who, at the time of the 1948 war,

TABLE 3–3. *Population and Cultivated Area in the Non-Jewish Sector: 1945 and 1951*[a]

	Palestine 1945		*Israel*
	All villages in present territory of Israel	*Villages still existing in Israel*	*1951*
Population (thousands)	372	96	104
Cultivated area (thousand dunams)			
Total	2,752	801	553
Orchards	434	117	74
Cultivated area per capita (dunams)	7.4	8.3	5.3

[a] The data do not include land or population in Beersheba subdistrict, or cultivated land in towns.

SOURCE: Haim Halperin, *Changes in Israel Agriculture*, Tel Aviv, 1956, Chapter 5. The ultimate source of the data is cited as M. Noam, *Census of Agriculture 1949/50—Part A*, CBS Special Series No. 8, but neither Halperin nor Simon (from whose paper cited in note 3, p. 39 above, this table is taken) explains what adjustments have been made in the data.

were either abroad or in a part of Palestine then in enemy hands. This category now includes: (a) infiltrators whose residence in the country has been legally recognized; (b) persons who returned under the reunion of families scheme; and (c) those residents of the Little Triangle (which was annexed to Israel after the war) who had owned land in the area that was originally in Israel (part of the land previously owned by these people was left in Jordan territory).[4] The total area expropriated from absentees who are now residents of Israel and entitled to compensation is estimated at 250,000 to 300,000 dunams.[5] Compensation for part of this land has

[4] On this subject see A. Liskovsky (Laish), "Resident Absentees in Israel," *Hamizrah Hahadash—The New East*, X (1960), 186–92 (Hebrew).

[5] An estimate obtained from the Israel Lands Administration.

been paid in kind or in money (although the rate of compensation has generally been far below the market price). In addition, there was a considerable amount of land of which the State claimed legal ownership and which was held by Arabs. It is also possible that some land was sold by Arabs before the 1948 war.

The changes in the amount of Arab-owned land since the 1950 agricultural census have been less drastic. The Jewish National Fund continued to try to buy land from the Arabs and succeeded in acquiring about 18,700 dunams (3,800 dunams in exchange for other land). There were also several expropriations for specific purposes, e.g., land required for the route of the national water carrier and for the establishment of the new towns of Carmiel and Upper Nazareth. Purchases and expropriations together probably did not exceed 30,000 dunams. On the other hand, compensation in kind for previously expropriated land amounted (up to February 1963) to about 36,000 dunams.[6]

In Table 3–4 an attempt has been made to compare land ownership in 1950 and 1961. The table shows that a rise of 52 per cent in the village population and a decline of about 10 per cent in the cultivated area resulted in a decline of about 43 per cent in the cultivated area per capita. It is likely that in the 1961 figures there was a stricter check of legal ownership by villagers and the decline in total ownership may thus be somewhat exaggerated.

The expansion of owned irrigated area offset somewhat the decrease in total cultivated area. Even so, there was a decline of about 34 per cent in per capita weighted area. The development of irrigated areas in the Arab sector was concentrated in the Little Triangle. The water supply for irrigation is from privately drilled and owned wells, or from wells owned by cooperatives aided by the Ministry of Agriculture or the Histadrut. The Mekorot Water Company, the main supplier of water to Jewish agriculture, has in the past few years undertaken to supply water to a number of Arab villages, but this has been only drinking water. Irrigated area has grown considerably, but its share of total Arab area is still low—3.3 per cent of the crop area (6.5 per cent without Beersheba subdistrict), against over 40 per cent in the Jewish sector (Table 3–6). The amount of water used by the Arab sector is estimated at 10 million cubic meters a year, compared with about 1,000 million cubic meters consumed by all agriculture.[7]

If we go beyond the total we see that of 12,619 farms in 1950 only 5,284

[6] *Idem.*

[7] See CBS, *Abstract 1962*, No. 13, p. 224.

TABLE 3–4. *Land Owned by Non-Jewish Farmers:*[a] *1950 and 1961*

	1950[b]	*1961*	*Per cent change 1950 to 1961*
1. Rural population	91,451	139,018	52.0
2. Farm-owning population	61,562	84,201	36.8
3. Farm-owning population as per cent of rural population	67.3	60.6	
4. Number of farms	9,865	12,013	21.8
Total area (dunams)			
5. Cultivated	362,207	323,987	–10.6
6. Irrigated	4,549	17,905	293.6
7. Weighted[c]	375,854	377,702	0.5
8. Orchards	63,876	78,096	22.3
Cultivated area (dunams)			
9. Per head of rural population	4.0	2.3	
10. Per head of farm-owning population	5.9	3.8	
11. Per farm	36.7	27.0	
Weighted area (dunams)			
12. Per head of rural population	4.1	2.7	
13. Per head of farm-owning population	6.1	4.5	
14. Per farm	38.1	31.4	
Irrigated area			
15. Per farm (dunams)	0.5	1.5	
16. Per cent of cultivated area	1.3	5.5	
Orchards			
17. Per farm (dunams)	6.5	6.5	
18. Per cent of cultivated area	17.6	24.1	

[a] Figures refer to 78 villages for which both 1950 and 1961 data were available.

[b] The following adjustments were made to source data:

Line 1. Source gives rural population of sample villages on 31.12.51 (96,572); since the other data refer to the first part of 1950, this figure has been taken back 18 months by applying the rate of natural increase in the villages of 3.7 per cent per annum.

Line 4. The data for the sample villages were adjusted as follows:

	Total	*Deduction*	*Adjusted figures*
Farms with no land	369	369	–
Farms with 1–4 dunams	1,585	70	1,515
Farms with 5 + dunams	8,734	384	8,350
Total	*10,688*	*823*	**9,865**

The deduction takes account of farms with no owned land. The figures in the second and third lines are 4.4 per cent of total, according to Table 8, p. 38 of the source, which gives 450 'leasehold only' farms out of 10,229 farms with 5 + dunams.

Line 2. Farm population of sample villages in source (66,583) was adjusted to give farm-owning population as follows: Population per farm was calculated from Table 3, pp. 24–25 of the source, giving 5.9 (farms with no land); 5.2 (farms with 1–4 dunams); and 6.46 (farms with 5 + dunams). These figures were applied to the number of

farms in the deduction column of the adjustment to line 4, giving a population of 5,021 for landless and 'leasehold only' farms in the sample villages.

Line 5. It was assumed that all leased land is cultivated, and total leased area (53,645 dunams) was deducted from total cultivated area (486,389 dunams) to get total owned cultivated area. Cultivated area of the sample villages was 407,141 dunams, or 83.7 per cent of total. This ratio was applied to the 432,744 dunams of total owned cultivated area. (Data for all villages from source Tables 7 and 8, pp. 36–39.)

Line 8. The source gives a total orchard acreage of 77,193 dunams. According to CBS, *Abstract 1952/53* (No. 4, p. 69), 7,000 dunams of olives of the Custodian of Abandoned Property were cultivated by non-Jews. Since nothing is known about other areas of leased property, the orchard acreage of the sample villages (70,193 dunams) was reduced by 9 per cent (= 7,000 ÷ 77,193).

[c] Using a ratio of 4 dunams unirrigated = 1 dunam irrigated. This is the ratio generally assumed, and is somewhat higher than what emerges from our regression analysis (see Appendix, p. 85).

SOURCES: 1950—M. Noam, *Census of Agriculture 1949/50—Part A*, CBS Special Series No. 8, Jerusalem, 1952, Tables 1 and 4, and as detailed in note b above. 1961—unpublished data of the Unit of Rural Development of Minority Villages, Ministry of Agriculture, Nazareth

had an area of 30 dunams or more, their average area being about 85 dunams.[8]

In Table 3–5 we present additional evidence on the availability of land in relation to the rural population.[9] The area data in this table, unlike those in Table 3–4, refer to areas cultivated by Arabs irrespective of ownership. The table indicates that there has been a decline in weighted per capita area of 24 per cent from 1952/53 to 1960/61.

The above evidence suggests a growing pressure on land. A comparison with the Jewish sector (Table 3–6) gives a rough idea of why there is such a strong incentive for intersectoral trade in either land or labor. Another indication of the relative smallness of Arab land holdings is that according to the norms of the Ministry of Agriculture in its plans for the Arab village, the present land holdings of the Arab population, with at least double the annual supply of water, would support directly less than 25 per cent of the rural Arab population.

[8] M. Noam, *Census of Agriculture 1949/50—Part A. Farm Economy of Arabs, Druzes and Other Minority Groups*, CBS Special Series No. 8, Jerusalem, 1952, p. 24.

[9] The Beersheba subdistrict is responsible for the rise in total cultivated area, but it is not included here because the data for this region, which has frequently suffered from drought, are less reliable than the rest. Accordingly, Negev Bedouin are excluded from rural population.

TABLE 3–5. *Rural Population and Cultivated Area in the Non-Jewish Sector: 1952/53–1960/61*[a]

	Rural population[b] *(thousands)*	*Cultivated area*[c] *(thousand dunams)*			*Weighted area per head of rural population (dunams)*
		Total	*Irrigated area*	*Weighted area*[d]	
1952/53	111	470	12	506	4.6
1953/54	116	460	15	505	4.4
1954/55	120	456	17	507	4.2
1955/56	125	472	19	529	4.2
1956/57	131	485	21	548	4.2
1957/58	135	475	24	547	4.1
1958/59	141	481	26	559	4.0
1959/60	149	451	28	535	3.6
1960/61	154	448	29	535	3.5

[a] Agricultural years.

[b] Population on December 31st, excluding Bedouin and persons in institutions.

[c] Excluding Beersheba subdistrict. Figures relate to crop area, i.e., an area is included as many times as it is sown.

[d] Using a weight of 4: 1; as here applied to crop area, this can be regarded as a maximum ratio, somewhat exaggerating the importance of irrigated land.

SOURCES: Population—see source to Table 3–1.
Cultivated area—CBS, *Abstract 1959/60*, No. 11, p. 140; *1962*, No. 13, to *1965*, No. 16, respectively, pp. 184, 216, 314, 364.
Beersheba subdistrict—CBS, *Abstracts 1953/54*, No. 5 to *1962*, No. 13, respectively, pp. 59, 78, 74, 68, 134, 136, 146, 177, 189.

TABLE 3–6. *Land/Population Ratios: 1960/61*[a]

	Non-Jews	*Jews*
Rural population (31.12.60)		
Total	178,869	322,409
Excluding Beersheba subdistrict	162,869	297,863
Cultivated area (thousand dunams)		
Total	885	3,265
of which Irrigated	29	1,331
Weighted cultivated area[b]	914	4,596
Unweighted area excluding Beersheba subdistrict	448	2,669
Cultivated area per head of rural population (dunams)		
Total	4.9	10.1
Weighted	5.1	14.3
Unweighted excluding Beersheba subdistrict	2.8	9.0

[a] Agricultural year.

[d] Using a weight of 2: 1. This low weight for irrigated land is used to provide a lower limit for the gap between the ratios for the two sectors.

SOURCES: Population—CBS, *Abstract 1961*, No. 12, pp. 31, 33.
Area—CBS, *Abstract 1962*, No. 13, pp. 189, 194, 198; and *Abstract 1964*, No. 15, p. 314.

We turn now to the question of land trading possibilities. National ownership of most of the land in the Jewish sector effectively prevents the purchase of land by Arabs and is designed to prevent leasing to Arabs. The potential sources for the leasing of land are the State and its organizations directly, and individual Jews as sublessors. The official institutions dealing in land are prepared to make land available only on short-term (one year) lease, in the Negev, and, to a lesser extent, in the north of the country. There was at one time some difficulty on the demand side; the lands offered for lease in the central and northern parts of the country generally belonged to absentees and Israeli Arabs hesitated to rent it (the newspapers carried reports of injuries to lessees and of indemnity payments transferred to the other side of the border); however, it appears that in the course of time tenants have become less hesitant. According to data of the Israel Lands Administration, about 38,000 dunams in the northern and central parts of the country were on short-term lease to Arabs in 1963. This is less than was leased in previous years. One reason for this is that some of the area formerly leased has been transferred to Arab ownership as compensation for expropriated land; another is that grazing lands are no longer included in the leased area.

Jewish settlers are the second possible source for the leasing of land, but the institutional arrangements in the Jewish sector were designed to prevent this from happening. The land is given to the settler on long-term lease and remains the property of the Jewish National Fund or the State. Both the Jewish National Fund lease and the agreement between the Jewish Agency and the settler forbid the sub-letting of land, thus automatically preventing its lease to Arabs (Arab labor on this land is also forbidden). In the last few years these restrictions have apparently not been effective, and it has been estimated that 20,000 dunams of irrigated land and 15,000 dunams of unirrigated land were leased in this way in 1963. These developments have occurred mainly in the last few years; they were never strong enough to eliminate the pressure for the employment of Arabs in the Jewish sector.

The developments in the supply of land combined with the, probably more important, changes in the labor market (discussed in the next chapter) to alleviate to some degree the land shortage that has confronted the Arab sector. As indications that the pressure on land did decline somewhat, one could cite the unwillingness of Arabs to lease unirrigated land and olive orchards from the Custodian of Absentee Property, as well as an increase in fallow acreage observed in the Arab sector. In itself, this last development (if indeed it occurred) does not necessarily mean reduced

scarcity, since it may have two explanations neither of which is inconsistent with continuing scarcity. Many Arabs had made a point of cultivating rocky areas pending registration of land ownership and settlement, for the sole purpose of being able to claim ownership by presumption, and stopped cultivating them once registration was completed; land left fallow in such circumstances does not, of course, reflect a decline in land-shortage. Second, in the Little Triangle land was sometimes allowed to lie fallow because of excessive irrigation in earlier years, and this does not necessarily reflect reduced scarcity.

We conclude this chapter with some speculations about per-worker output in Arab agriculture. Table 3–1 shows that Arab agricultural production per head of rural population has declined somewhat. But if the percentage of the population dependent on Arab agriculture has declined, as is argued in Chapters 2 and 4, product per person engaged in or dependent on agriculture may have increased. This is not inconsistent with the figures in Table 3–4 (which showed a decline in weighted area per head of farm population) because reduced dependence on agriculture occurred not only in the decline of the proportion of farm population in rural population (Table 3–4), but possibly also in a reduced proportion of employed farm population engaged in local agriculture. It should also be noted that the weights of irrigated and dry land used in Table 3–4 were intended to reflect their relative labor demands and not their relative productivities; the actual ratio between the product per worker in these two types of land may actually be higher than 4 : 1, so that the reduction in the per capita weighted area may be smaller than shown. The increased use of machinery and chemical fertilizers and other changes in methods of production reported by Ministry of Agriculture officials may also explain why product per capita in Arab agriculture may have risen. A major factor, already mentioned, is the increase in meat production. Data on the number of livestock possessed by Arabs show an increase until 1959, with some decline thereafter. Data for 1954–60 show an increase of about 90 per cent in the number of cattle.[10] These data refer to the Arab sector as a whole, including Bedouin, but the increase was not limited to Bedouin livestock and occurred in the villages as well. The development of the herd can perhaps be regarded as a shift to a type of production which does not require cultivated land (as well as being a store of value); but eventually it encountered the land problem as Arabs felt the shortage of grazing lands as well.

[10] CBS, *Abstract 1954/55*, No. 6, p. 91, note and Table 12, and *Abstract 1961*, No. 12, p. 210.

CHAPTER 4

THE LABOR MARKET AND ARAB MANPOWER

In discussing Arab employment in the Jewish sector we first review briefly general developments in the Jewish market. We then describe the institutional framework that has regulated the ties of the Arabs with the general labor market, proceed to present evidence of their existence during the period, and follow this by a somewhat more detailed description of their characteristics in 1961.

1. *The general employment situation*

Since the establishment of the State, the Israeli economy has grown very rapidly. Gross national product, per capita income, population and labor force, and capital stock have all risen fast, although not at the same rate, and far-reaching changes have taken place in the labor market.[1] Immigration was the decisive factor in changing both the quantity and quality of the labor supply. On the other side, there have obviously been major changes in the level of aggregate demand and in the demand for labor. One aspect of these developments is reflected in the data on unemployment (Table 4–1); although not entirely reliable, particularly for the early years of the State, they do indicate the general trend. Unemployment was higher in 1949, both absolutely and relatively, than in the two subsequent years. In 1953 and 1954 unemployment reached a level which has not recurred since, even in absolute terms. There was little change between 1955 and 1957. Since then all indexes indicate a steady decline in unemployment, and there is a full employment situation. Immigration in these years had a different influence, owing to its smaller size and to a new absorption policy which created considerable demand for labor, particularly through heavy building activity.[2]

Wages data for the period show a continuous rise (except in 1951 and

[1] See CBS, *Abstract 1965*, No. 16, pp. 21, 49, 181.

[2] See Meir Merhav, "Some Economic Consequences of a Large-Scale Renewal of Immigration," *Bank of Israel Bulletin*, No. 17 (January 1963), pp. 3–38.

TABLE 4–1. *Estimates of Unemployment of Jews: 1949–64*[a]

	According to LFS definition		*Labor exchange data*	
	Annual average (thousands)	*Per cent of labor force*	*Daily average registered (thousands)*	*Per cent unemployed 19 or more days a month*
	(1)	*(2)*	*(3)*	*(4)*
1949	29.6	9.5	6.4	14
1950	28.2	6.8	5.9	7
1951	29.3	5.8	6.3	5
1952	38.0	7.0	9.4	11
1953	61.3	11.0	17.7	18
1954	49.2	8.7	13.5	15
1955	41.7	7.3	10.7	12
1956	46.1	7.5	12.3	10
1957	46.7	7.5	12.5	9
1958	36.5	5.6	9.3	9
1959	33.3	5.0	7.4	7
1960	26.6	3.9	6.0	6
1961	24.1	3.4	5.1	5
1962	27.2	3.6	4.6	5
1963	27.9	3.6	4.0	3
1964	27.5	3.4	3.4	3

[a] In 1949–52 the actual rate of unemployment was higher than indicated by the figures, since manpower in immigrant camps is not included.

SOURCES: Columns (1) and (2)—1949–57: A. Hovne, *The Labor Force in Israel*, Falk Project, Jerusalem, 1961, p. 27.
1958–64: CBS, *Abstract 1962*, No. 13, p. 382 [column (1), 1958 and 1961]; *Abstract 1963*, No. 14, p. 488 [Column (1), 1959 and 1962]; *Abstract 1965*, No. 16, p. 296 [column (1), 1960, 1963, and 1964, and column (2), 1958–64].
Columns (3) and (4)—CBS, *Abstract 1965*, No. 16, pp. 330–34, except for 1950 in column (4), from *Abstract 1964*, No. 15, pp. 284–85.

1952) in real wages,[3] although the share of wages in national income has declined. A reasonable interpretation which has been advanced is that wages, at least in the earliest years of the State and in the years of high unemployment, were above the equilibrium level, and that in the course of time equilibrium was approached.[4]

[3] See U. Bahral, *The Effect of Mass Immigration on Wages in Israel*, Falk Project, Jerusalem, 1965, Table C–3, p. 74.

[4] See M. Bruno, "Factor Productivity and Remuneration in Israel 1952–1961," *The*

It is important to note here that throughout the period a large segment of the Jewish labor force was new in the country and in the labor market. Their occupational characteristics and working habits in many cases required a drastic change (Table 4–2). During the years 1950–61, about 40 per cent (and in no single year less than 30 per cent) of male immigrant

TABLE 4–2. *Jewish Employed New Immigrants,*[a] *by Occupation*[b] *in Israel: 1954*
(per cent)

Occupation in Israel	*Per cent with same occupation abroad*
All occupations	41.3
Liberal professions	82.1
Administrative workers	26.2
Clerical workers	56.5
Traders	64.5
Farmers[c]	7.1
Transport workers	40.6
Manufacturing and construction workers	69.7
Service workers	19.6
Unskilled laborers	18.7

[a] I.e., immigrated in 1948–54.

[b] See note a to Table 2–1.

[c] Excludes unskilled laborers. Persons who changed from 'unskilled' to 'unskilled agricultural' are included in the per cent with occupation unchanged in the last line of the table.

SOURCE: Calculated from CBS, *Labour Force Survey June 1954*, Special Series No. 56, Jerusalem, 1957, pp. 48–49.

earners declared that they had had professional, clerical or commercial occupations abroad. Only 4.9 per cent of the immigrants had previously worked in agriculture, and only about 3.8 per cent in construction.[5] This occupational composition did not correspond with the structure of demand or with absorption policy, particularly in the early period, when the long-range goal was absorption in agriculture and population dispersal; this policy created demand for labor mainly in agriculture, construction, and various public works, and this demand had to be met principally from persons who had had other occupations abroad.

Economic Quarterly, X (No. 37–38, March 1963), 41–56 (Hebrew); Bahral, *op. cit.* The conclusion that, at least in the early 1950s, wages were above equilibrium reflects the fact that Jewish labor was highly organized.

[5] CBS, *Abstract 1959/60*, No. 11, pp. 76–77, and *Abstract 1962*, No. 13, p. 102.

In these circumstances the fact that Jewish labor was highly organized has significant implications for the Arab sector. The unorganized Arab job-seeker was prepared to accept wages below the official Histadrut tariff (which was probably above an equilibrium rate), and below even the government relief-work rate, but which were more than he could command in the Arab sector. He was also prepared to work longer hours and to perform auxiliary services (as a night watchman, for example). We have already seen that the situation in the market, especially in the first years of the State, forced many new immigrants into manual jobs. Arabs probably had an absolute advantage in these occupations, being used to the country's climatic conditions. Thus, it is very likely that, under conditions of free entry into the Jewish market, Arabs would have found it easier than new immigrants to find jobs.

In the course of time, as we have seen, unemployment declined, and the industrial structure of the economy changed. As unemployment declined and incomes rose, and as capital was used more intensively, job opportunities for new immigrants outside agriculture and construction also increased. Unemployment had initially shifted job-seekers down the occupational ladder, but with the transition to full employment there was an upward shift. With the passage of time the new immigrants acquired experience; they gained command of the language and got to know their way around the labor market. Over the period 1958–62 the per cent of Jewish men engaged in agriculture declined (Table 2–12), primarily among immigrants from Asia and Africa, who are the group most closely resembling the Arab labor force. Not only was there a change as regards the supply of Jewish agricultural labor (owing to the creation of other alternatives), but there also appears to have been a change in the structure of demand. Agriculture was becoming mechanized and specialized, with a shift to industrial crops, which may be a source of rising demand for seasonal workers at the same time as farm employment as a whole is declining.[6]

To sum up the facts and the speculations: (a) in the past few years unemployment has declined and there has been an improvement in the

[6] This is happening in the United States. The number of persons engaged in agriculture has declined, but the proportion of seasonal workers has risen. [S. T. Maitland and L. J. Ducoff, "The Farm Labor Force: Recent Trends and Future Prospects," *Journal of Farm Economics,* XLIII (December 1961), 1183–89.] In a number of southern states Mexicans have performed these tasks since the second world war. In five states where Mexicans work, the percentage of Mexicans among farm employees rose from 13 per cent in 1951 to 31 per cent in 1958. (J. W. Mamer, "The Use of Foreign Labor for Seasonal Farm Work in the United States: Issues Involved and Interest Groups in Conflict," *ibid.*, 1204–10.)

general labor market; (b) in the period of mass immigration and high unemployment those Arabs who had access to the Jewish market competed with Jewish new immigrants; they were probably better fitted to local conditions and were able and willing to be employed at a lower labor cost to the employer; (c) with absorption in train and with labor shortages gradually replacing surpluses, the pressure of Jewish supply on manual jobs subsided, and the implications and nature of Arab employment in the Jewish market changed. The changing economic conditions were reflected in the operation of the institutional system.

2. *The institutional framework*

We shall now describe the system by which it was sought to regulate the entry of Arabs into the Jewish labor market. The main motives for such regulation were: (a) protection of Jewish labor in general, with particular attention to the absorption of immigrants; (b) protection of Jewish labor in agriculture specifically, in the interests both of ensuring possession of land and of creating a strong Jewish agricultural sector; and (c) security considerations.

For a long time, the military government dominated the Arab sector, and was in fact the only form of government in the Arab districts in the early years of the State. Inevitably, its policy has been guided by general as well as security considerations, and whatever the motives, its activities obviously exerted an influence in the economic realm.

In the present context, the most important aspect of military government is its power to restrict movement, a course whose necessity has been explained on security grounds. The areas open to entry were circumscribed, and contact with the Jewish population was reduced. The entire Arab population was affected, more particularly so people living in border areas and elements regarded as clearly dangerous by the authorities. In addition, the military government was moved by considerations connected directly with the labor market. From 1949 until about 1958 the military government was guided, at least theoretically, by the aim of protecting Jewish labor in those localities and districts that lacked any other authority capable of affording such protection. The rapid growth of the Jewish population was accompanied by population dispersal and settlements inhabited almost entirely by new immigrants were founded. Organization of labor necessarily lagged behind this development, and the existing institutions of the veteran Jewish population did not expand quickly or effectively enough, particularly in the rural areas. Thus, in some districts, any protection enjoyed by Jewish labor derived from the military government, which in this task was guided

by and cooperated with the Ministry of Labor. One gets the impression that neither the military government nor the Ministry of Labor were entirely insensitive to the employment situation in the Jewish sector,[7] nor were they entirely unmoved by the appeals of labor councils even in the better established localities.

In the course of time substantial changes occurred in the restrictive influence of the military government. Civilian bodies enjoyed increased influence in the Arab districts, and the field of activity of the military government was curtailed. There was also deliberate relaxation of restrictions on freedom of movement. More travel permits were issued and the period for which they were valid was extended, while the areas for which a permit was required were reduced. In 1957 the military government lifted the restrictions on access to Afula, Acre, and Nazareth and its environs. In 1959 free movement by day to and from practically all the Jewish centers (except Jerusalem) was permitted. Since April 1962, the regulations have provided for annual permits valid for almost the whole country, with no specification of destination or route. These were the main formal changes, but, as may be imagined, the transition from one stage to the next was not sudden, each change in the regulations being preceded by a more liberal application of the old regulations. It seems that the turning point came in the period 1957–59. Since then military government has not been an important barrier to the entry of Arab manpower into the Jewish sector.

It is reasonable to assume that the change in the employment situation in the general market and progress in the absorption of immigrants played some part in this process; no doubt these factors also affected the public pressure exerted on the authorities.

The special conditions that governed Arab access to the general market shaped and guided also the operation of the civilian elements that regulate the labor market—the Ministry of Labor, the local labor exchanges, and the Histadrut. At the end of 1958, just before the Employment Service was established, there were nine labor exchanges for Arabs.[8] Of these, only three, all of them (run by the Ministry of Labor) in the Little Triangle, were in a rural area. In addition, there were several rural branches of Brit Poalei Eretz Yisrael (the Histadrut-affiliated Palestine Workers Union), which performed the functions of a labor exchange. The small number of labor exchanges in the villages was connected with a fear that opening

[7] In general, the military government did not grant travel permits for purposes of work without the approval of the government labor exchange.

[8] In Um el Fahm, Taibeh, Baka el Garbieh, Nazareth and the mixed towns of Haifa, Acre, Jaffa, Ramla and Lydda.

more would turn disguised into open unemployment.[9] Labor exchanges were, however, opened in the towns, where they were indispensable.

The exchanges did not deal with local employment brokerage, both because of the limited scope for hired labor in the Arab sector and because they were unable to channel such opportunities as did exist. Their functions were, first, to distribute the relief workdays allotted to Arab workers; from 1953 to 1963 over one million work days or about 93,000 work days a year, were allotted to Arabs.[10] Second, to see to it that Jewish employers in the Arab area employed Arab workers, particularly in public works. Third, to help regulate the movement of Arab labor to the Jewish market. The exchanges played no role in actually finding work for Arabs in the Jewish sector. Indeed, they were cut off from the general network of labor exchanges, which objected to Arabs entering the Jewish labor market. The Ministry of Labor, which to the Arab sector appeared to be restrictive, was in many cases seen by the Jewish labor exchanges and labor councils as favoring Arab workers and protecting their rights to employment in the Jewish sector.

The Arab worker would generally find work on his own, and only afterwards apply to the local exchange in order to obtain its consent to the issue of a travel permit. The decision of the exchange depended on the employment situation in the intended place of work and on the applicant's right to employment. Owners of land or persons who had obtained land on lease were disqualified from being employed in the Jewish sector (it is not clear whether a minimum amount of land was fixed for such disqualification and, if so, what this minimum was).[11] Since the permit system has begun to decline, the Arab job-seeker has had no reason to apply to the labor exchange.[12]

The fact that the labor exchanges did not provide conventional labor

[9] See S. Cohen, "The Employment of Arab Workers," *Monthly Review of Labour*, II (April 1950), 3–6 (Hebrew).

[10] In 1961 about 35 work days were allotted per unemployed person. In that year there were 3,700 Arab unemployed (according to the 1961 LFS) and a total of 130,000 days' relief work was provided (according to the Department of Arab Workers of the Ministry of Labor). The comparable figure for Jewish unemployed was an average of a little over 100 (CBS, *Abstract 1962*, No. 13, pp. 382, 417).

[11] Considerations of this kind also operated in determining priority of Jewish workers in the labor exchanges.

[12] According to the 1956 LFS, only 28 per cent of the non-Jewish work-seekers sought work through the labor exchanges even then. See CBS, *Labour Force Survey June 1956*, Special Series No. 68, p. 70.

market liaison might have impeded the movement of Arab labor into the Jewish labor market. The gap came to be partly filled by the *ra'is* (headman). He was often a person of stature who had connections with the authorities. This enabled him to go about in the Jewish sector seeking jobs and perhaps to obtain travel permits for the workers—mostly women—on whose behalf he acted. In addition to acting as agent, the *ra'is* bore the women's transportation and other expenses, recouping himself by deducting about one third of their wages.[13]

At the beginning of 1959 the Employment Service Law was passed. It set up the Employment Service, to which were transferred both the government and the Histadrut labor exchanges. The law required both workers and employers to resort to labor exchanges, and prohibited discrimination on grounds of, *inter alia*, religion, nationality or race.[14] Labor exchanges had to be established everywhere, and the Employment Service regulations recognized the link between the worker and the exchange in his place of residence, and gave priority and protection to local workers. This made it theoretically possible to restrict Arab workers, when desired, to the vicinity of their place of residence, but on the other hand it created an obligation to establish labor exchanges and to deal with Arab unemployment. It is difficult to believe that this instrument will or can be used to turn back the clock and reverse Arab penetration of the Jewish market. The Employment Service has not attempted to exploit the clause under which Arabs can be restricted to their villages; one of its first steps was in the direction of regularizing the position of Arabs with seniority working in the Jewish sector. The Employment Service is trying, within the general framework, to deal with seasonal Arab labor and Arab women's labor, and at the same time, to abolish the institution of the *ra'is*. Its success in gaining control over all Arab employment in the Jewish market is still very limited.

The principle of 'Hebrew labor' is as old as the labor movement in the country.[15] It served as a guide not only for the Histadrut as a labor union,

[13] A similar situation existed in the mandatory period, as well as in rural areas in some other countries. A general survey of the Arab worker in the mandatory period may be found in Y. Vashitz, *The Arabs in Palestine*, Kibbutz Artzi Hashomer Hatzair, Merhavia, 1947, pp. 149–83 (Hebrew).

[14] Section 42(a) of the law. There are some exceptions, covered by Section 42(b): "It shall not be considered discrimination if the character or nature of the task or considerations of State security prevents or prevent a person's being sent to or engaged for some particular work." (Employment Service Law 1959, *Laws of the State of Israel*, Vol. 13, p. 34.)

[15] This slogan originated in the early days of Jewish settlement in Palestine, when Jewish employers preferred the cheaper services of Arab workers.

but for practically all Jewish national institutions. Thus we have seen that both the Jewish Agency and the Jewish National Fund prohibited Arab labor on their land. Automatically this rule also applied to the various settlers movements. When the State was established in 1948 the organizational separation of the Jewish and Arab sectors was preserved. The labor exchanges were originally designed to serve the local Jewish labor market, and in the first few years of the State not only were they not geared to handle Arab labor, but it is doubtful whether they were adequate to handle the influx of Jewish immigrants.[16] They operated on the principle of priority for local labor, so that the geographical separation between Jews and Arabs effectively protected Jewish labor by protecting local labor. In the mixed towns, where this was not possible, the Histadrut exchanges refused to deal with Arab manpower, and the latter had to resort to the special government exchanges, which did not enjoy the cooperation of the Jewish exchanges. The Jewish exchanges tried to prevent the penetration of Arab labor from the outside by exerting pressure on the military government and on the Ministry of Labor, and by demonstrations, road-blocks and the like. It would appear that these measures were not very effective. As the employment situation improved, such activities became fewer and were eventually discontinued.

The general attitude of the Histadrut towards the Arab population and Arab manpower has undergone changes, although it is difficult to speak of *the* Histadrut attitude, since there are bound to be all sorts of conflicting views and interests within so complex an organization. The institutions operating on the local level were naturally the most sensitive to Arab competition and were ready to fight it aggressively. The upper ranks, on the other hand, have been moved by other considerations as well. During the mandatory period the Histadrut tried to organize the Arab worker in trade unions. The most important step was the establishment of Brit Poalei Eretz Yisrael in 1932; there were also a number of joint Arab-Jewish strikes and other activities in the field of work conditions.[17] The efforts were to organize the Arab worker outside the Histadrut, since, as indicated by its

[16] The criteria for giving applicants priority in job allocation were based on the characteristics of the veteran Jewish population. Thus, we find: number of years of employment in the country (i.e., seniority), service in the Israeli and British armies, "a year of imprisonment or banishment in the Diaspora, or carrying out a task for a Zionist movement which led to a delay in immigrating to the country," etc. See Center of General Labor Exchanges, *The Labor Exchange Constitution: The Work Priority Constitution*, Tel Aviv, 1954, pp. 12–13 (Hebrew).

[17] See Vashitz, *op. cit.*

former name—the General Federation of Hebrew Workers in Palestine—it was an organization whose social goals were an integral part of Jewish national aspirations. With the establishment of the State, it was proposed to affiliate Arab workers to the Histadrut, but this was rejected. The Arab trade union organizations were the Communist Congress, the Christian A-Rabita, and Brit Poalei Eretz Yisrael. In 1951 the last two unions amalgamated and at the end of 1953 the Histadrut decided to accept Arab workers in its trade unions; the Congress voluntarily disbanded a few months later. In 1959 the Histadrut adopted a resolution admitting Arab workers as members with equal rights. By the middle of 1962, about 16,000 dues-paying Arabs had joined the Histadrut. In 1962 responsibility for dealing with the trade union problems of Arab workers was transferred from the Histadrut Executive to the labor councils.[18] Thus, in the course of time, the Histadrut became readier to grant Arab workers equal status; at the same time Arab membership in the Histadrut insurance funds increased.

The separation of the labor exchanges and the closing of the trade union were direct measures taken to protect the Jewish labor market in the early years and were only partly effective. The organization of the Arab workers may in the long run affect some of the characteristics of the Arab labor supply and modify the type of Arab competition as regards wages, fringe benefits and hours of work.

Other developments that may have facilitated Arab access to the Jewish labor market can be mentioned briefly. The number of vehicles owned by Arabs increased during the period, and to a large extent they served to transport workers from the Arab to the Jewish sector. Public transportation serving Arab areas has also expanded. The Ministry of Labor, in cooperation with local councils, paved a large number of access roads to villages (176 km. during 1953–61). Vocational training was intensified by the Ministry of Labor and various Histadrut bodies. The proportion of Arabs with a knowledge of Hebrew increased as a result of the rise in school attendance since the establishment of the State, and owing to greater contact with the Jewish population.

One gets the impression—but of course it is nothing more than that—that less tangible factors have also been working to reduce barriers to intersectoral mobility. This was not unconnected with the security situation. Infiltrators and *fedayun* were very active just before the Sinai Campaign

[18] Histadrut, *Digest of Information on Histadrut Activities Among the Arabs*, Arab Department, August 1962 (Hebrew).

of 1956. In that period not only the security authorities, but employers as well, particularly in agricultural districts, hesitated to employ Arabs. After a short transition period following the Sinai Campaign this hesitation apparently lessened.

The main point which this section has emphasized is that in the early years of the State there was a network of institutions which attempted to protect the Jewish market, and as the years went by there was less interference with intersectoral mobility, parallel with the increased demand for Arab labor.

3. *Arab employment in the Jewish sector*

Most of the figures presented in this section were taken from government reports and newspaper articles. The definitions of the concepts and the measures used are not available now, and some of them were probably quite vague when the data were collected. Thus, we do not know whether the figures refer to workers outside their locality or to workers in the Jewish sector, we do not know what reference period and what frequency of work outside the village puts workers in one category or another. A much more systematic source is the 1961 census of population, which was accompanied by a 20 per cent sample with an expanded labor force questionnaire, including a question on the locality of residence and work in the last week before the census.

The 1961 census estimate of the number of mobile workers was 27,000; a Ministry of Labor estimate of Arab workers in the Jewish sector in 1961 is 18,000; and the Histadrut put the figure at 40,000 in 1962.[19] This may

[19] The difficulty can be demonstrated by the following: in 1961 there were 26,920 mobile Arab workers (according to the Census). If we deduct the number of mobile workers in Nazareth, Shfaram, and all the Arab villages we obtain a figure of 24,340 mobile Arabs in Jewish and mixed localities. To obtain an estimate of all Arab employed persons in the Jewish sector we should add the number of Arabs employed by Jews in the mixed towns. There were about 5,000 Arabs in Haifa, Jaffa, Acre, Lydda, and Ramla, many of them employed by Jews, and this gives us an estimate of 27,000 to 28,000. The Arab Department and the Histadrut conducted a survey in August 1962, and came up with an estimate of 40,000 Arab workers in the Jewish sector (Z. Schiff, "Arab Labor in Greater Demand," *Ha'aretz*, October 19th, 1962). The difference between this estimate and the one based on Census data may in part be explained by the fact that the former used a high Arab labor force estimate as its point of departure, of 65,000 men and 10,000 women (compared with the 58,400 men and 13,400 women, according to the 1962 LFS; see CBS, *Abstract 1963*, No. 14, pp. 486, 488); in part the explanation lies in the inclusion of Arab workers in the mixed towns. Or it may be that the estimates derived from the 1961 Census are too low, as suggested in the

be enough to show how hard it is to get a reliable figure for the volume of mobility in any one year and how dangerous it may be to combine figures from different sources to get a time series.

In Table 4–3 we present estimates of mobility in 1950–58 for Arab villages covering about four fifths of the settled Arab rural population; these estimates have the advantage of being derived from the same source. From 1950–53 to 1953–58 the ratio of mobile workers to population increased,[20] and the rate of increase in mobility declined, in all subdistricts except Jezreel. A comparison between 1958 and 1962 for a smaller number of villages (not presented here) shows a continuation of this deceleration. The figures from the 1961 census in Table 4–3 are for the same villages as the 1950–58 comparison, and show that the order of magnitude of the estimate is plausible.

In Table 4–4 we have put together various estimates of mobility from Nazareth and to Haifa. Nazareth is the chief Arab town and was a source of mobile workers in the mandatory period. Haifa is the Jewish city with biggest resident Arab population and is the locality attracting the greatest number of mobile workers.[21] In spite of their obvious deficiencies the figures can be relied upon as an indication of increased mobility.

An even rougher indicator for increase in mobility can be found in statistics on public bus transportation from Arab areas. Comparison of the number of passengers on the Nazareth–Haifa line (all companies) on one day in 1960 and on one day in 1962 showed an increase of about 15 per cent. A similar increase (14 per cent) was found in the number of passengers on three of Egged's lines to Arab villages in the same period. During 1958–62, traffic on these lines increased by about 25 per cent. The number of passengers using the Egged terminus in Nazareth (all lines) rose by about 50 per cent in 1951–58 and by a further 33 per cent in 1958–62, so that it doubled in the period 1951–62.[22] For the sake of comparison, it may

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introduction to CBS, *Labour Force—Part I*, Census Publication No. 9, p. XXXII. On the other hand, we found an estimate of 18,000 Arab employed persons in the Jewish economy in 1961 in the Ministry of Labor files. The same source has a 1953 estimate of 9,000 showing that the figure doubled from 1953 to 1961 (at a time when Arab population rose by one third), but the absolute magnitudes are not very plausible.

[20] The mobile workers are given here as a percentage of population, because there are no reliable time-series data on the size of the total labor force by district. The per cent of mobile workers among the employed is about four times as great.

[21] Some of the mobile workers in Haifa (500 out of 9,000, according to a Ministry of Labor estimate), find employment with Arab employers.

[22] The figures are from passenger counts taken by the Egged bus cooperative.

TABLE 4–3. *Mobile Workers from Non-Jewish Villages, by Subdistrict: Selected Years, 1950–61*[a]

	1950	*1953*	*1958*	*1961*	*Total population in 1961*[b] *(thousands)*
Total population[b](thousands)	**84.5**	**95**[c]	**116**[c]	**126**	**126**
Total mobile workers	**2,239**	**6,569**	**12,048**	**14,680**	
Acre	654	3,343	6,054	6,585	61
Jezreel	902	911	1,930	3,185	24
Safed and Kinneret	153	455	648	875	9
Hadera and Sharon	530	1,860	3,416	4,035	32
Ratio of mobile workers to population (per cent)	2.6	6.9	10.4	11.6	
Compounded annual rate of increase in number of mobile workers (per cent)					
1950–53	45.1				
1953–58	13.0				

[a] Includes villages for which there were figures in all four years; they cover about 80 per cent of the rural population (excluding Bedouin).
In the 1950–58 data, based on Ministry of Labor surveys, the unit of investigation is the village rather than the household; the number of workers outside the village was apparently estimated globally for each village, and the definition of 'worker outside the village' did not specify the period to which the data apply. The 1961 data (from Stage B of the Census) refer to a work-week at the beginning of June 1961.

[b] Estimate for villages entering the calculations. End-of-year figures, except for 1961.

[c] Calculated as 82 per cent of the rural population—according to the coverage found in 1950 and 1961.

SOURCES: *Rural population*
1950—extrapolated from end-1951 data in M. Noam, *Census of Agriculture—Part A*, CBS Special Series No. 8, Jerusalem 1952.
1953—CBS, *Abstract 1953/54*, No. 5, p. 8.
1958—CBS, *Abstract 1958/59*, No. 10, p. 15.
1961—CBS, *List of Settlements, Their Population and Signs*, Technical Paper No. 12, Jerusalem 1962 (Hebrew).
Mobile workers
1950, 1953, 1958—unpublished data of the Arab Workers Department of the Ministry of Labor.
1961—unpublished data from the 1961 Census of Population.

be noted that the number of mobile workers from Nazareth grew by more, in 1950–58, but this may be due to an under-estimate of mobility in 1950. During 1958–62 the relative increase in traffic was about the same as that in mobility from Nazareth.

TABLE 4–4. *Nazareth as a Source and Haifa as a Destination of Mobile Workers: Selected Years, 1950–63*

	Nazareth			*Haifa: number of mobile workers*
	End-of-year population	*Mobile workers*		
		Number	*Per cent of population*	
1950	20,000	350	1.75	..
1951	20,000	800	4.0	..
1953		..	..	800
1957	23,500	1,551	6.6	4,000
1958	24,000	1,752	7.3	5,000
1959	25,000	1,960	7.8	..
1961	25,300	2,495	9.9	7,200[a]
1963		..	..	9,000

[a] Revised upwards to take account of mobile workers whose place of work is not known.

SOURCES: Population of Nazareth—1950–59: CBS, *Abstract 1962*, No. 13, pp. 42–43; 1961: CBS, *List of Settlements, Their Population and Signs*, Technical Paper No. 12, Jerusalem, 1962, p. 39.
Mobile workers—Nazareth, 1950, 1957–59, and Haifa, 1963: Ministry of Labor files.
1951: G. Weigert, *The Jerusalem Post*, January 5, 1952.
1953: G. Weigert, *Haaretz*, March 11, 1953.
1957 (Haifa): Y. Gilboa, *Haaretz*, February 27, 1957.
1958 (Haifa): *Haaretz*, December 22, 1958.
1961: Unpublished data from the Census of Population and Housing.

All this evidence indicates a continuing increase in mobility over the period, very probably at a declining rate. It is interesting to note that the increase in relative terms was highest during the period in which institutional interference was described as substantial; the initial level of mobility was so low that any increase loomed large in relative terms. We have no means of evaluating directly the degree of effectiveness of such interference at any point in time. The above figures are consistent with a gradual relaxation of barriers, but they do not show any significant sensitivity of the volume of mobility at the precise dates at which these relaxations took formal shape.

4. *Wage differentials and working conditions*

The evidence presented here is even less reliable than that of the previous section. We nevertheless use it here because theoretically wage differentials are the best indicator of the existence of barriers to mobility in the market. Ideally we would like to have data on gross and net wages and fringe benefits paid for identical labor services. Then the existence of differentials between the earnings of Arabs in the Arab and in the Jewish sector would have indicated the presence of some barriers to the mobility of Arabs between the two sectors, whether physical (transportation), legal (regulations), or stemming from Arab preferences. The existence of differentials between earnings of Arabs and Jews for identical labor services would indicate the existence of some imperfection in the Jewish labor market, either lack of competition among employers or some kind of discrimination against Arab workers. In the following discussion we can reach no definite conclusions on this matter. In some cases we have no data at all, and in others we can only guess at the range of daily wages. Moreover, there is no assurance that the wages were paid for identical services, or even for work in the same industry.

During the mandatory period large differentials in wages and in working conditions existed between the two sectors. Although the second world war, the increase in government employment, and the unionization of Arab workers served to reduce differentials, these were still considerable when the Mandate came to an end. Roughly speaking, the daily wage in the Arab sector in the mid-1940s was about half that in the Jewish sector.[23] The daily wage of the Jewish industrial worker was about two and one-half times as great, with Arab industrial workers still struggling for a six-day week, an eight-hour day, and an annual vacation. It appears that the gap was particularly great between Jewish and Arab unskilled laborers. This, at any rate, was true in construction, where wages of Arab skilled workers lagged behind by about 10 per cent, and of unskilled workers by about 50 per cent.[24] Agricultural wages showed more or less the same pattern,[25]

[23] See Government of Palestine, *A Survey of Palestine*, Vol. II, 1946, pp. 735–45, 773–80.

[24] See Y. Shimoni, *The Arabs of Palestine*, Tel Aviv, 1948 (Hebrew).

[25] *Ibid.* Official sources (Palestine Department of Statistics, *General Monthly Bulletin of Statistics*, December 1945) estimate the daily wage of Arab agricultural workers in 1944/45 at: skilled workers, LP 0.30 to LP 0.75, and in citrus groves, LP 0.40 to LP 1.00; unskilled laborers, LP 0.30 to LP 0.60; women and children, LP 0.15 to LP 0.35. The daily wage of Jews in agriculture ranged from LP 0.60 to LP 2.00 (*ibid.*). The average of the upper and lower limits of the ranges given

but it should be noted that many agricultural workers in the Arab sector were not remunerated by a money wage. The agricultural worker was generally paid in food, clothing and pocket money, and he sometimes received a share of the crop.

Even less is known about wages in the Arab village since the establishment of the State. It seems that in the Little Triangle, which was annexed to Israel in the middle of 1949, the low wages of the mandatory period continued during the first few years.[26] In the following years village wages rose; the daily wage for unskilled workers fixed by Brit Poalei Eretz Yisrael rose from IL 3 in 1953 to IL 4.90 in 1956 and to IL 6.00 in 1957; but actual wages paid were apparently below these norms. Wages outside the village were higher; for 1956 daily rates of IL 6 to IL 7 were reported, and for 1957, IL 8.00. But the relative difference was much smaller than in the earlier years. In 1961, wages of unskilled laborers were estimated at IL 6.5 to IL 8.00.[27] The estimates we have cited for village wages refer mostly to Taibeh, which at best is representative of the Little Triangle. If we accept the data, the differential between the wage of the Arab worker in the village and outside of it narrowed considerably over the years, and this is an indication of the lessening restrictions on mobility between the sectors.

The second type of differentials that we want to evaluate is that between Jews and Arabs in the Jewish market. In the early years of the State there were large wage differences in the private sector between Arab and Jewish workers of all types. Moreover, even in government and public institutions, casual Arab and Jewish workers were paid on different scales. Only in 1952 did the government introduce complete wage equality for Arabs and Jews.[28] This fact must be understood, first of all, against the background of the

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is probably not representative of wage rates, since the upper limits sometimes refer to highly skilled grades whose rates were considerably above the rest.

In 1947 the daily wage of Arab farm workers was estimated at LP 0.30 to LP 0.50 for men, LP 0.20 to LP 0.40 for women, and LP 0.15 to LP 0.30 for children (Gabriel Baer in *Ha'aretz*, July 30, 1947).

[26] Data for Taibeh in 1949 show rates of about IL 0.50 for workers in the local quarries, and IL 0.30 for women (seminar project of N. Talli, files of the Department of Economics, Hebrew University). Another source speaks of wages of IL 0.30 to 0.70 for adults. Estimates of wages in 1950 of unskilled Arab laborers in the Jewish sector are not lower than IL 1.50, i.e., at least three times those in the Arab village. As late as 1952 mat-weavers in Taibeh were receiving only IL 0.24 to IL 0.55 a day (Ministry of Labor files). Wages in agriculture (according to an estimate of a Taibeh landowner) were then IL 0.50 to IL 0.60 a day (*Ha'aretz*, July 6, 1952).

[27] *Ha'aretz*, October 10, 1961.

[28] *Ha'aretz*, March 10, 1952.

mandatory pattern of wage differentials; one gets the impression that a substantial differential existed between Arabs and Jews even in mandatory government projects[29]—let alone in the private sector. It must also be seen against the background of the thinking then in vogue with regard to wage problems. It seems that the standard of living was considered the proper criterion for determining income.[30] For example, in a government memorandum (end of 1949) we found a recommendation "to preserve a certain proportion between productive capacity and standard of living on the one hand, and the level of wages on the other," and a proposal (which was never carried out) to create a fund which would devote the wage differentials to 'constructive' projects. Another justification for wage differentials was the argument that "one must take into account the various taxes and payments which must be met by the Jewish worker, namely union dues, insurance funds, and other funds and payments."[31] In reply to a parliamentary question, concerning the fixing of a lower wage in the Arab area by the Custodian of Absentee Property, the Minister of Finance declared that "living conditions, the level of prices, and the payment for services which prevail in this district justify local fixing of the nominal wage."[32] This shows what were considered relevant principles in wage determination.

The extent of the wage-gap in 1949–52 can be gauged from a number of estimates. From these it appears that Arab wages were roughly 35 to 70 per cent of Jewish wages for similar work.[33] The smallest gap was that between Jewish and Arab skilled workers.

[29] Government of Palestine, *A Survey of Palestine*, Vol. II, 1946, pp. 773–80.

[30] This attitude probably underlay the arrangement that remained in force until 1954 for the marketing of Arab agricultural produce, whereby a marketing company enjoying monopsonistic status would buy Arab produce at prices much lower than those prevailing in the market. The difference was designed to constitute a fund for constructive enterprises in the Arab village.

[31] Reply of the Minister of Labor to Mr I. Bar-Yehuda on wage differentials in the Public Works Department, 106th and 107th sittings of First Knesset, *Knesset Proceedings*, Vol. 3, p. 510 (Hebrew).

[32] 169th sitting of the Second Knesset, *Knesset Proceedings*, Vol. 13, p. 465 (Hebrew).

[33] a. Olive pickers (October 1949): Arabs, 25 mils/kg.; Jews, 40 mils/kg. In December 1949, Arab workers in Acre complained that they were being paid only half as much as Jews working with them (Ministry of Labor files).

b. Skilled seamen in Jaffa (beginning of 1950): Arabs, IL 1.60 per day; Jews, IL 2.50. Kafr Kassem quarries (same date): Arabs, IL 0.35/cu. m.; Jews, IL 125/cu. m. [Mr M. Erem, 123rd and 12th sittings of the First Knesset, *Knesset Proceedings*, Vol. 4, p. 924 (Hebrew)].

c. Unskilled laborers in the north (1950): Arabs, IL 1.50 per day; Jews, IL 2.30; and skilled workers: Arabs, IL 2.50; Jews, IL 3.50 (*Ha'aretz*, October 1950).

In 1952 the government decided to abolish wage discrimination in public institutions. Other wage differentials also appear to have narrowed at the time.[34] The wages of unskilled Arab workers were estimated at 70 to 80 per cent of those of their Jewish counterparts; and it has been estimated[35] that there was no wage gap at all for skilled workers. We cannot say what happened in the mid-fifties, after the initial narrowing of the gap. In 1957 one writer still estimated unskilled wage differentials at 30 per cent.[36] It should also be remembered that 1953–57 was a period of Jewish unemployment, and it is difficult to see any forces that could have led to a substantial narrowing of wage differentials. According to estimates from various sources,[37] differentials in daily wages between Arab and Jewish workers were small or non-existent in 1963. One can accept the view that the wage gap between Jews and Arabs has narrowed in the course of time, but there is no proof that the process continued throughout the period. In some industries and for some categories of workers wage differentials undoubtedly still exist today, although they have been eliminated in branches such as construction. Data of the Building Workers Insurance Fund show that the average payment from the vacation fund in 1962 was higher for Arab workers than for Jewish workers. The average sum collected by the fund was slightly higher in Nazareth than anywhere else in the country. This suggests that there is at least a reasonable possibility that the average annual income of an Arab building worker is higher, or at any rate not lower, than that of a Jewish worker.

There are two factors that narrow the gap in the real wage from the worker's point of view: the difference in the effectiveness of income tax collection in the two sectors and, possibly, intersectoral price differences, both of which reduce the real gap.

Partly from the point of view of the worker, but more so from that of the employer, wages also include fringe benefits. These payments—which include dues to workers associations, army reserve duty equalization funds, provident funds, social security, vacation pay, and the like—are not paid directly to the worker, who probably considers them less important than the rest of his pay. While some of these payments are the same in all industries, most of them are fixed by agreement between workers and employers in each industry separately. In 1961, fringe benefits were estimated

[34] See for example G. Weigert, *The Jerusalem Post*, January 5, 1952.

[35] By the Ministry of Labor.

[36] Y. Gilboa, *Ha'aretz*, December 27, 1957.

[37] Employment Service, Building Workers Provident Fund, Ministry of Labor; and newspaper reports.

at 9.9 per cent of nominal wages in agriculture, 13.5 per cent in construction and about 18 per cent in industry.[38] The Arab employment structure is heavily weighted by industries in which fringe benefits are small—either because they are fixed at a low rate by the labor agreements or because enforcement is deficient, even with regard to Jews. At the same time it is obvious that if the Arab worker is not organized, does not enjoy the services of a labor exchange, and is not a member of a workers insurance fund, it is easier for the employer to avoid paying fringe benefits which, from his point of view, makes the Arab worker cheaper to employ. It appears that employers in the private sector began to pay fringe benefits for their Arab employees only in the second half of the 1950s, the situation improving in recent years with the increased control exercised by the insurance funds and the Employment Service. In 1962 the Building Workers Provident Fund received returns from employers for over 8,000 Arab workers at a time when the total number of Arab building workers was 11,000, according to the LFS. Even though the figures do not have exactly the same coverage, there is no doubt that this is a substantial proportion. Control over agriculture is more limited. Although the payment of fringe benefits has become more widespread in recent years, one gets the impression that this still accounts for a gap in wages between Arab and Jewish workers, from the employer's point of view.

Another element in wage differentials concerning which we lack detailed information is hours of work and types of auxiliary tasks (watchman duty, cleaning up) for Arab workers as compared with Jewish workers.

Not everything that has so far been said applies to women and youths, the two secondary manpower groups. We have already mentioned the existence of the *ra'is* who acts as agent and supervisor in women's labor. The *ra'is* is responsible for the existence of a substantial difference between the wage paid by the employer and that received by the worker. A few years ago it was estimated that the worker received only IL 2 to IL 2.50 a day out of IL 5 to IL 6 paid by the employer.[39] In 1963 it seems that the employer paid about IL 8 a day, of which the worker received about IL 5.[40] Women workers are employed in seasonal work, mainly vegetable picking. Women's work in cotton has decreased with mechanization in this branch. As noted, the Employment Service has been trying to change the way in which the labor market for Arab women is organized. This change involves

[38] Bank of Israel, *Annual Report 1961*, pp. 140–42.

[39] E.g., *Ha'aretz*, July 14, 1960.

[40] Employment Service.

raising the wage paid by the employer as well as that received by the worker.

The second special group consists of youths. We have already noted (Chapter 2) their industrial structure. Their weak position in the labor market is also reflected in a high rate of unemployment (29 per cent of male youths, compared with 11.3 per cent of all Arab men in the labor force)[41] and in their wages. The *weekly* wage of Arab youths in Nazareth employed in garages, workshops, etc., ranged from IL 2.00 to IL 2.50 in 1963.[42] The situation of youths working as shepherds in villages is little better. In 1963 a boy could earn about IL 200 a year and a daily meal.[43] If we compare these figures with those cited for the end of the mandatory period and the early years of the State, we see that there has been much less change, relatively, than in the wages of other groups. In the Jewish sector the wages of Arab youths are higher. An estimate for 1957 gives a range of IL 1.50 to IL 4.00 a day.[44] At the time, starting pay for a Jewish boy was IL 2.50 to IL 3.50 a day in most occupations. In other words, the wage differential could not be very large. The difference apparently existed in hours of work and in the fringe benefits. There was a very great difference in living conditions; Arab boys working in Jewish localities lived in dismal conditions—there is no lack of newspaper descriptions at this period—but this is not pertinent to the question of wage differentials between Jews and Arabs. The existence of the particularly large differential between Arab youths in the Jewish and the Arab sectors is evidence of restrictions on mobility in this group.

5. *Arab labor mobility in 1961*

As emphasized earlier, the employment of Arabs in the Jewish sector means in most cases a change in the locality of work. One interesting aspect of the phenomenon is that Arabs have gone to work in the Jewish areas without moving their residence. They cannot be described as internal migrants but neither are they daily commuters. The divorce of the place of work from the place of residence is not necessarily a transitory stage on the way towards complete migration. It is not difficult to find an economic rationale as well as non-economic factors for making this a permanent state of affairs.

We have seen (Chapter 1) that in the mandatory period urbanization

[41] CBS, *Moslems, Christians and Druzes in Israel,* Census Publication No. 17, p. 57.
[42] Employment Service.
[43] Ministry of Labor files.
[44] *Ha'aretz,* November 19, 1957.

was under way among the Arab population, as in other countries of the Middle East. In Israel this process has been greatly weakened, at the very least. One reason may be the rapid increase of the Jewish urban population and the rising cost of moving to the city. But it would appear that another factor is at work. There is no Arab town today that can absorb the Arab villagers. The chief Arab town, Nazareth, has always been a town of mobile workers—officials in the mandatory government, employees of international firms, and construction workers. In Jewish localities where Arab mobile workers are employed, the resident Arabs are swallowed up by the environment. Haifa was always a mixed town, but its Arab population now plays a much smaller role, numerically and socially, than it used to. There is no doubt that the Arab villager who is considering whether to move his place of residence is not indifferent to this situation. The ordinary difficulty involved in moving from village to town and in cutting oneself off from one's customary society and surroundings is compounded by the difficulty of moving from an Arab locality to a Jewish one. Employment incentives are strong; preference for work with an Arab rather than a Jewish firm cannot have a substantial influence. But when it comes to moving house the incentives are not so strong, and the absence of an Arab community combines with the other factors that militate against a change of residence. In the long run this may change: Arabs who have worked among Jews since they were young, before they had families, may have a different attitude from those who become mobile workers later in life. It may also be assumed that one of the factors that influence a man to remain in the village is the ownership of property there, particularly land. Young people who own no land will have fewer inhibitions about moving to the city. We have no data on the expense involved in moving to town, but land prices in the Arab villages have been rising steadily, and this may well influence young men in deciding where to live. On the other hand, seasonally mobile workers are not very likely to move. The situation is unlike that of the migrant laborer in Africa who goes to off-farm jobs for a time to earn extra income, and then comes back to the farm. However, the ties of the seasonal worker with the outside job seem to be less regular and permanent than those of the suburban commuter. The job mobility of Arabs is very great compared with that of Jews, and it is only partly accounted for by the prominence in Arab employment of agriculture and construction, the two industries with the highest rates of turnover.[45]

[45] CBS, "Seniority and Mobility of Labour (I–III 1960)," supplement to *Bulletin*, Part B (economic statistics), XII (March 1961), 272–74 (Hebrew); and CBS data from the January–March 1962 LFS.

This job mobility is undoubtedly associated with the intersectoral mobility that we are discussing.

The following discussion of mobility by demographic and geographic groups is based almost entirely on the findings of stage B of the 1961 Census of Population.[46] Here also, it should be remembered that the census dealt only with the localities of residence and work. The influence of seasonality apparently caused an under-estimate of the number of mobile workers, particularly women, but it is difficult to determine whether this also exerted a downward bias on the rate of mobility (the ratio of mobile workers to all employed persons); it may even be biased upward. From a comparison of the population census and the corresponding LFS,[47] it appears that not all unpaid family members were counted as employed persons in the census. This understatement of a group of non-mobile workers raises the estimate of the percentage of mobile workers in total employed persons. The 1961 census estimated the total number of mobile workers at 27,000 or 50.3 per cent of all Arab employees.

It is not surprising to find that the mobile workers are mostly men and that they are younger than the non-mobile workers (76.4 per cent of the mobile, and only 57.5 per cent of non-mobile men were below the age of 35). The rates of mobility presented in Table 4–5 show a rough similarity to the pattern of age and sex specific rates of internal migrants in the United States. One is somewhat surprised at the small difference in mobility rate between the sexes among Israeli Arabs; perhaps the mobility rate of women is biased upward because of the possible understatement of the number of unpaid family members. The decline of mobility rates with age was to be expected. The young possess such advantages as knowledge of Hebrew, more education and physical ability to move about; they are a new element in the labor market, often without land in the village, and the ties binding them to the locality where they live are weaker. The bachelors among them are less restricted in movement, and are anxious to free themselves from the patriarchal system and its economic authority; they are more sensitive than their elders to the difference between the way of life in their conservative Arab environment and in the Jewish town; they are less concerned about such factors as housing conditions in the place of work. While the

[46] The CBS prepared a series of tables on Arab mobility for, among others, the present study. They are published with other data on the Arab population in CBS, *Moslems, Christians and Druzes in Israel*, Census Publication No. 17, Jerusalem, 1964.

[47] The enumeration in the Census of Population was done by relatively inexperienced interviewers, whereas the LFS have experienced permanent staff.

internal migration data for the United States show that the 14–17 age group have a rate of migration less than half of that of the 18–34 group,[48] among the Israeli Arabs the rates of mobility for the two are almost equal. Unlike in the United States, the distances involved in Israel are very short, and mobility does not entail any serious separation from home; this facilitates the mobility of youths. Arab mobility in Israel is partly within the rural area—from Arab to Jewish rural districts—and involves agricultural work which enables the youngest and the oldest age groups to find their place.[49]

TABLE 4–5. *Rate of Mobility[a] of Non-Jews, by Age and Sex: 1961*
(per cent)

	Both sexes	*Men*	*Women*
Total	50.3	51.3	44.3
14–17	55.6	57.3	48.3
18–34	56.7	58.6	43.1
35–44	43.5	43.7	42.5
45–64	32.5	30.5	42.7
65 +	40.2	34.7	55.7

[a] The rate of mobility is the per cent of mobile workers out of total employed persons in the cell.

SOURCE: CBS, *Moslems, Christians and Druzes in Israel, op. cit.* pp. 66, 79.

These data on the demographic structure of mobile workers are from a cross-section; when we spoke of the rate of mobility declining with age, for example, we relied on the behavior of various age groups at one point of time. It should be remembered that there is a time-trend towards greater mobility; in future years the adults will have had considerable experience as mobile workers, as well as better education and richer non-agricultural occupational experience than the adults of today. Consequently, the decline

[48] D. J. Bogue and M. J. Hagood, "Differential Migration in the Corn and Cotton Belt," in Bogue and Others, *Subregional Migration in the United States 1935–40,* Vol. II, Scripps Foundation Studies in Population Distribution, No. 6, Oxford, Ohio, 1953. The rates have been calculated from Table 1, p. 10. See also Larry A. Sjaastad, "The Costs and Returns of Human Migration," *Journal of Political Economy*, LXX (supplement, October 1962, 80–93.

[49] The percentage of agricultural workers among the mobile is higher in these groups than at 18–34. Again, there may be an upward bias in the estimate of the mobility rates in the outer age groups, where unpaid members of the family who are not mobile are generally concentrated.

in the mobility rate with age may be more moderate than it appears from the cross-section.

We have also compared the rate of mobility of Moslem and Christian Arabs; since there were differences in occupational structure, mobility rates could also have been expected to differ. However, on the basis of the available data we could not confirm any such difference.

As was to be expected, the lowest rate of mobility was found among Arab workers who live in mixed towns (23.4 per cent) because for them employment in the Jewish sector does not involve mobility. It is much higher in the Arab towns of Nazareth and Shfaram (48.4 per cent) and higher still in the rural forms of settlement (56.0 per cent).[50]

TABLE 4–6. *Non-Jewish Mobile Workers, by Type of Settlement of Residence and Employment: 1961*
(per cent)

Location of place of residence	*Total*	*Location of place of employment*					
		Total	*Urban types of settlement*				*Rural types of settlement*
			Total	*Tel Aviv*	*Haifa*	*Nazareth and Shfaram*	
All types of settlement	**100.0**	100.0	69.9	9.8	26.7	2.4	30.1
Urban types	*21.5*	100.0	80.2	6.9	50.0	1.9	19.8
Urban town or settlement	8.3	100.0	74.4	17.3	13.9	4.5	25.6
Non-Jewish town	13.2	100.0	82.6	2.5	65.2	0.8	17.4
Rural types	*78.5*	100.0	67.2	10.5	20.6	2.5	32.8
Rural settlement	68.7	100.0	70.8	11.4	22.3	2.7	29.2
Bedouin	9.8	100.0	37.6	2.9	6.4	1.4	62.4

SOURCE: CBS, *Moslems, Christians and Druzes in Israel, op. cit.*, pp. 84–85.

A large part of the movement is from village to town (Table 4–6): 78.5 per cent of mobile workers in 1961 came from rural areas, but only 30.1 per cent were employed in villages. There is some positive association between the form of settlement in which the home is located and that in which the place of employment is located. The percentage of workers in towns is higher among town-dwellers than among rural workers (80.2 per cent as against 67.2). The main single destination was Haifa, which employed about a quarter of all Arab mobile workers. We also examined the regional

[50] CBS, *Moslems, Christians and Druzes in Israel*, Census Publication No. 17, p. 75.

differences in the rates of mobility of rural workers, dividing the country into 13 regions. The rates ranged from 44.2 to 79.4 per cent. The lowest rate of mobility was found to be in the Northern district: Kinneret, Safed and Western Upper Galilee. As we go south and approach the urban areas the rates of mobility rise. But this is not a consistent trend: in the Little Triangle villages, for example, the rate of mobility is very high, and in the Hadera subdistrict it is very low. We could find no general explanation for the regional differences.

There is also the problem of the pattern of dispersion. When the country is divided into 36 geographical regions, only about 27 per cent of mobile workers remain in their own geographical region. The rest do not necessarily go to the neighboring regions. The percentage of mobile workers who leave their region is significantly negatively correlated with the percentage of Jews in the region, the latter suggesting itself as a variable representing the proximity of the market. The pattern of dispersion is probably too complicated to allow other generalizations. The data show that in particular villages the mobile workers by-pass nearby Jewish settlements in favor of obtaining work in Haifa. It may be that some Jewish settlements are pre-empted by the adjacent villages, so that other mobile workers in the neighborhood cannot find work there. It is reasonable to assume that in a district where there are only small Jewish settlements and a large Arab population the Arab jobseeker believes that his chances of finding work in the city are greater and justify the additional time and expense involved.

A regression analysis of the volume of mobility by village is presented in the appendix.[51] It shows that the size of the labor force in the village provides the greatest contribution to the explanation (in the statistical sense) of the variation in mobility among villages. There is a significant negative correlation between volume of mobility and land, particularly irrigated land, available in the village. Given the size of the village labor force, one may expect more land to be associated with a higher marginal productivity of labor in the village agriculture, and a correspondingly smaller attractiveness of employment outside the village. The land variable can also represent a negative wealth and status effect on mobility; this interpretation gets some support from the negative correlation between mobility and the proportion of landowners and their families in the population. A positive, though less significant, correlation exists between mobility and the percentage of Jews in the subdistrict, perhaps indicative of the intensity of demand in the vicinity of the village.

[51] Below, p. 86.

The relationship between volume of mobility and availability of land, particularly irrigated land, in the village is probably the most interesting aspect of this analysis. It is plausible to assume that the rate of increase of mobility may be affected by the development of water resources in the village; the question of actual reversal is much more complicated, and there is likely to be greater responsiveness to a decline in demand outside the the village than to increased demand inside it.

CHAPTER 5

UNEMPLOYMENT, INCOME AND STANDARDS OF LIVING

We conclude our study with a discussion of Arab economic activity in terms of unemployment, income and standards of living. It is here that the gaps in our knowledge concerning non-agricultural activities in the Arab sector and Arab ownership of assets other than farm land are particularly great.

The concepts discussed here are all considered to be indicators of the well-being of the population. But their welfare interpretation is in general quite vague; this is particularly true when comparisons are made between ethnic groups that differ as much in their culture as do the Arab and Jewish populations, or when conditions change rapidly in a relatively short span of time, as they have in Israel.

The available information does not allow us to discuss the internal structure of Arab income; in particular the question of income inequality is omitted here. There is, however, some information on regional differences. The Northern district, particularly the Acre subdistrict, has a higher unemployment rate than the central part of the country, and a lower labor force participation rate (Table 5–1). Data on *mohar* (the price paid by the bridegroom to the bride's father) also indicates that in the Northern district income is somewhat lower than in the rest of the country (Table 5–7), and this is confirmed by income tax data.[1] Opposing forces are at work here. On the one hand, mobile labor in the north is not concentrated in agriculture, as it is in the central district and, correspondingly, there is a greater concentration in better paying occupations (see Table 2–5). Mobility in the north started earlier than in the Central district, and mobile labor in the north was known already in the mandatory period for its skill in construction; mobile labor in the Central district, even in non-agricultural occupations, seems to be less skilled. On the other hand, Arab agriculture seems to be better off in the Central district. As Table 5–2 shows, the average land endowment per Arab engaged in agriculture is higher in the

[1] See p. 75 below, note 4 and text.

TABLE 5–1. *Non-Jewish Employed Persons, by District: 1961*
(per cent)

	Per cent of labor force	*Per cent of population aged 14 +*
Northern district	87.3	34.6
Haifa district	89.5	36.5
Tel Aviv, Jerusalem and Central districts	91.1	47.1
Southern district	96.7	62.2
Total	89.5	39.0

SOURCE: CBS, *Moslems, Christians and Druzes in Israel, op. cit.*, pp. 58–59.

TABLE 5–2. *Cultivated Area per Head of Non-Mobile Worker Engaged in Agriculture in Villages, by District: 1961*
(dunams)

	Total cultivated area (1)	*Irrigated area (2)*	*Weighted area[a] (3)*
Northern district	62.9	0.6	64.7
Haifa district	38.2	3.1	47.5
Central district	32.0	10.0	62.0

[a] 4 dunams dry: 1 dunam irrigated.

SOURCES: Employment—unpublished CBS data from the Census of Population and Housing 1961.
Area—unpublished data of the Unit of Rural Development of Minority Villages, Ministry of Agriculture.

TABLE 5–3. *Unemployment Rates of Non-Jews and Jews: 1961*[a]
(per cent)

	Both sexes	*Men*	*Women*
All Jews	5.2	4.1	8.2
Jews born in Asia and Africa	7.9	6.2	13.8
Immigrated up to 1947	5.1	4.2	9.3
Immigrated 1948–54	7.7	6.2	12.8
Immigrated since 1955	10.3	7.4	19.2
Non-Jews	10.5	11.3	5.4

[a] The level of unemployment in the Census data is affected by seasonal factors, but because of the larger sample these data are superior to the labor force surveys for the purpose of comparisons among different groups.

SOURCE: CBS, *Labour Force—Part I*, Census Publication No. 9, pp. 92–93 (Jews), and p. 15 (non-Jews).

north [column (1)], but most of the irrigated areas of Arabs are located in the Central district. Per capita area can be translated into comparable terms by using a weight of 4 : 1 for dry and irrigated land; if a higher weight is assigned to irrigated land (which seems plausible, judging by the price and rent ratios) the Central district emerges richer in agricultural land. In addition, irrigated land privately let by Jews to Arabs is concentrated in the Central district.

Comparison of all Arabs and Jews shows that the latter are better off in terms of the various available indicators of income, standard of living, and unemployment.

The unemployment rate is higher among Arabs than among Jews; according to the 1962 LFS the rates were 3.6 per cent for Jews, and 4.6 per cent for Arabs (3.1 and 5.5 per cent, respectively, for men).[2] Table 5–3 shows the same ranking of the several population groups in terms of unemployment as was observed elsewhere in this study. The industrial structure of Arab employment, with its emphasis on agriculture and construction, makes the Arabs particularly vulnerable to seasonal and other fluctuations in employment.

Because of the different age-structures of Jews and Arabs there is a wide gap between their ratios of employed persons to total population. In 1962, only 26.6 per cent of Arabs were employed, compared with 35.4 per cent of the Jewish population;[3] this means that even if incomes per employed person were equal, Arab per capita income would be 75 per cent of Jewish per capita income.

The only direct information we have on income of Arab earners is from a sample taken from income tax reports. Owing to the small size of the sample and the biases inherent in income tax returns in general the reliability of the data is questionable. According to this sample the annual income of an Arab earner is about 55 per cent of that of a Jewish earner.[4]

A survey of urban wage-earners showed that in 1956/57 the monthly expenditure of an Arab family was 76.6 per cent of what was spent by a Jewish family, and 85.3 per cent of what was spent by an Asia-Africa new immigrant family.[5] Another indicator of differences in standards of living

[2] CBS, *Abstract 1965*, No. 16, pp. 294–96.

[3] CBS, *Abstract 1963*, No. 14, pp. 15, 486, 488.

[4] Unpublished survey of taxpayers' income in 1960/61, prepared by the Office of the Commissioner of State Revenue.

[5] 210 Arab families were included in the sample. See CBS, "Provisional Results of Urban Employees Families Expenditure Survey (1956/57)," supplement to *Bulletin*, Part B (economic statistics), IX (June 1958), 863–87 (Hebrew). In unpublished

is the ownership of household appliances (Table 5–4). The wide gap shown there between the groups reflects not only differences in income, but also differences in technological and market conditions. If a village is not connected to the electric grid or has no regular supply of bottled gas, this

TABLE 5–4. *Families Owning Household Appliances: 1959–62 and 1964 (per cent)*[a]

	Radio[b]	*Electric refrigerator*	*Gas range and oven*	*Electric washing machine*
All Jews				
1959	79.6	44.1	51.6	13.3
1962	88.7	63.5	78.6	20.8
1964	90.1	76.0	89.2	25.4
Asia-Africa veterans[c]				
1959	77.5	36.3	51.9	18.0
1962	90.3	60.9	83.1	29.6
1964	89.4	72.1	85.5	30.2
Asia-Africa new immigrants[c]				
1959	64.1	6.5	19.6	3.0
1962	80.8	28.5	60.8	10.3
1964	84.2	48.9	81.9	16.8
Non-Jews				
1959–60[d]	34.3	1.5	2.0	0.2
1961–62[d]	55.2	3.7	4.9	1.1
1964	79.4	5.4	20.8	2.2

[a] Per cent of all families in the population group.

[b] Including transistor radios.

[c] Veterans immigrated before 1948; new immigrants, from 1948 on.

[d] Figures for two years averaged owing to smallness of sample.

SOURCES: Jews—CBS, *Abstract 1965*, No. 16, pp. 215–16.
Non-Jews—unpublished CBS data.

affects the ownership of appliances and the standard of living but does not reflect the net income effect. The differences between the housing conditions of the two groups are substantial and probably more meaningful: average housing density is 3.6 persons per room among Arabs and 1.9

calculations for his work on consumption patterns in Israel, N. Liviatan found no significant difference between the composition of Arab consumption and that projected on the basis of income elasticities for new immigrants from Asia and Africa.

TABLE 5–5. *The Influence of Differences in the Industrial and Occupational Structure of Employment on Income Differentials: 1961*
(ratio of non-Jewish to Jewish incomes)

	Relative incomes[a] standardized for income differences within	
	industry	*occupation*
Both sexes		
All employed persons—non-Jews ÷ Jews	0.86	0.87
Mobile non-Jews ÷ all employed Jews	0.90	0.87
Men[b]		
Non-Jews ÷ all Jews	0.86	0.88
Non-Jews ÷ Asia-Africa Jews	0.87	0.94
Non-Jews ÷ Asia-Africa veterans[c]	0.85	0.91
Non-Jews ÷ Asia-Africa 1948–54 immigrants[c]	0.87	0.94
Non-Jews ÷ Asia-Africa 1955–61 immigrants[c]	0.90	0.98
Non-Jewish employees ÷ Jewish employees	0.89	..
Mobile non-Jews ÷ Jewish employees	0.86	..

[a] The standardized income of each population group has been computed by multiplying the country-average income in each industry (occupation) by the per cent industrial (occupational) distribution of the population group in 1961. For the by-industry calculation, average income per employed person in 1961 was used, and for the by-occupation calculation, average income per urban wage-earning family in 1956/57.

[b] Where coverage is not specified, the calculation refers to employed persons (i.e., employees plus self-employed).

[c] See note c to Table 5–4.

SOURCES: Average income—Bank of Israel, *Annual Report 1961*, p. 142 (by industry); CBS, *Family Expenditure Surveys (1950/51—1956/57—1959/60)*, Special Series No. 148, Jerusalem, 1963, pp. 98–99 (by occupation).
Industrial distribution—CBS, *Labour Force—Part I*, Census Publication No. 9, p. 94 (both sexes), p. 156 (Jewish employees); *Moslems, Christians and Druzes in Israel*, *op. cit.*, p. 76 (mobile non-Jews); and Tables 2–2 and 2–4 above (other lines).
Occupational distribution—CBS, *Labour Force—Part I*, *op. cit.*, pp. 174–75, 232–33; and *Moslems...*, *op. cit.*, p. 80.

among Jews.[6] The difference in the death rate and in the rate of infant mortality (see Chapter 1) also reflects a gap in the standard of living.

It is interesting to see what part of the income gap can be ascribed to differences in the industrial distribution of the labor force. Table 5–5 shows that the average income of all Arabs would be 14 per cent lower than the

[6] CBS, *Moslems, Christians and Druzes in Israel*, Census Publication No. 17, p. LVIII.

corresponding income of Jews if the incomes of Jews and Arabs were equal in each industry and the only difference was in industrial distribution. The income of Arab mobile workers would be 10 per cent lower than that of Jews, and the gap between Arab men and Jewish immigrants from Asia and Africa widens the longer the immigrants have lived in Israel. Weighting on the basis of average income of urban wage-earners by occupation shows approximately the same gap between Arabs and all Jews, except where the comparison is made with Asia-Africa immigrants: the income of Arab employed persons would have been approximately equal to that of Asia-Africa immigrants who arrived after 1955. On the basis of these estimates, the difference in the industrial distribution only partly explains the income differentials between Jews and Arabs. In international comparisons, it has been shown that the industrial structure of employment cannot give the full explanation for income differentials between countries.[7] It must therefore be concluded that income differentials exist within the same industry or the same occupation. We have mentioned the indications that there is a substantial gap between Jews and Arabs in average income in agriculture (Chapter 3). We also discussed wage differentials (Chapter 4), and concluded that for identical jobs they are now probably very narrow. What we did not take account of was the within-industry job distribution or the frequency of work.

We do not have sufficient data to take intersectoral price differences into account. Such differences may mean that the gap in real income between the two groups is narrower than would appear from the nominal income data. Likewise, we have neglected the impact of income tax which may also reduce the gap, both because it is progressive and because tax-collection is less effective in the Arab sector. The biggest omission is that we cannot even speculate about the gap in income from assets (except land).

We turn now to a discussion of changes in unemployment and income. The data of Table 5–6 indicate a decline in Arab unemployment over the period. Qualitative descriptions of the employment situation since 1948 support this conclusion. Just after the establishment of the State, unemployment was apparently very high.[8] The situation was particularly difficult in

[7] See Simon Kuznets, "Quantitative Aspects of the Economic Growth of Nations II. Industrial Distribution of National Product and Labor Force," *Economic Development and Cultural Change*, V (supplement to No. 4, July 1957), 7, 23, 27. See also a comparison of internal migrants and the absorbing population in the United States in D. G. Johnson, "Comparability of Labor Capacities of Farm and Non-Farm Labor," *American Economic Review*, XLIII (June 1953), 296–313.

[8] The estimates that follow are based on reports and records of the Arab Department of the Ministry of Labor.

Nazareth, Jaffa, and the Little Triangle. The Arabs of Nazareth were hard hit, because during the Mandate many of them had worked for the government or for international companies outside of Nazareth. In the Little Triangle, especially in Wadi Ara, the main cause of the difficulty was land scarcity. The armistice arrangements left some of the land of these villages on the other side of the border, while some was expropriated. In addition uprooted persons from abandoned and evacuated villages settled in other villages and in Nazareth. The military government restricted exit from the Arab area and even movement within it and this prevented the out-of-work Arab from seeking work in the Jewish areas in the north. After 1950 the situation in Nazareth improved rapidly; the average daily number of unemployed registered in the Nazareth labor exchange declined from around 530 in 1949, to around 370 in 1950, 150 in 1951, and 65 in 1952. Unemployment in the mixed cities dropped considerably. The Little Triangle still suffered, but less than in 1949. The year 1953 was one of record unemployment in the Jewish sector, and this was reflected in the Arab sector also; many Arab workers lost their jobs, and in Nazareth the number of registered unemployed rose again to an estimated 400. In the years that followed unemployment declined, as was to be expected, both because of the decline of Jewish unemployment and because Arabs entered the Jewish market.

For income we also have no direct time-series data, and we here use as an indicator a series on *mohar*. The advantage of these figures is that they extend over almost the whole of our period, and that on *a priori* grounds they are a plausible indicator of income. The series shows that real *mohar* rose considerably throughout the country, with the highest rate of increase in the Central district (Table 5-7). This district started off at the lowest level, a fact which is consistent with descriptions of the employment situation and wage level in the Little Triangle in 1949–51, compared with the Northern district. As the irrigated area grew, as mobility of labor increased, and as land was leased from neighboring Jews, the Central district showed the most rapid growth. The Northern district shared in the benefits brought about by increased mobility, but the income from its own agriculture suffered from the decline in the profitability of olives and tobacco, the two staple products of the region.

The rise in the standard of living is roughly indicated by the considerable building activity and the increase in the ownership of consumer durables. The latter reflects not only the rise in income, but also improved technical conditions, and perhaps the operation of some kind of demonstration effect from the Jewish population. The decline in the death rate (see Chapter 1),

TABLE 5–6. *Employment Ratios of Non-Jewish Men: 1954–64*[a]
(per cent)

	Employed men as per cent of	
	labor force	*population aged 14+*
1954 (June)	87.3	66.1
1955 (November	90.6	70.8
1956 (June)	89.9	70.4
1957	92.0	69.1
1958	92.7	67.4
1959	88.2	66.1
1960	85.8	64.7
1961	93.3	73.5
1962	94.5	75.8
1963	97.0	79.4
1964	96.9	79.4

[a] See note a to Table 1–9.

SOURCES: CBS, *Labour Force Survey June 1954*, Special Series No. 56, p. 3; *Labour Force Surveys 1955–1961*, Special Series No. 162, pp. 2, 4; *Abstract 1963*, No. 14, pp. 486, 488; *Abstract 1965*, No. 16, pp. 294, 296.

TABLE 5–7. *Average* Mohar, *by Bride's District of Residence: Selected Years, 1950–61*

	Whole country	*Northern district*	*Haifa district*	*Central district*
In current prices (IL)				
1950	229	237	257	200
1956	1,281	1,209	1,677	1,529
1958	1,603	1,486	1,792	1,880
1959	1,815	1,727	1,939	2,037
1961	2,048	1,974	2,066	2,451
In 1951 prices (index, 1950 = 100)[a]				
1950	100	100	100	100
1956	192	175	224	262
1958	218	195	217	293
1959	243	224	231	313
1961	252	234	226	345
Compounded annual average increase (per cent)[b]				
1950–56	11.5	9.8	14.4	17.4
1956–61	5.6	6.0	0.2	5.7
1950–61	8.8	8.1	7.7	11.9

[a] For want of a more appropriate index, the Counsumers' Price Index has been used to deflate the data.

[b] At constant prices.

SOURCE: Unpublished CBS data.

continuing a trend begun in the mandatory period, is another aspect of improved living standards.

As Table 5–7 shows, *mohar* has risen rapidly, and faster than the country's per capita GNP, which rose by about 5.5 per cent annually over 1950–60.[9] If the series is acceptable as an approximation of the rise in Arab incomes, this means that the gap between Jews and Arabs has narrowed. In fact, we have very little information, but from what there is we can make several assumptions that seem to us plausible, and combine them in the following calculation in order to test whether a narrowing of the gap is probable.

The variables in our calculation are the proportion of Arabs deriving their income from the Jewish sector; changes in Arab incomes in the Jewish and Arab sectors; and the initial differential between Arab incomes in the Jewish and Arab sectors.

Let K = the index of per capita Arab income at period t, based on period o

I_j = per capita income of Arabs from the Jewish sector

I_a = per capita income of Arabs from the Arab sector

w_j = proportion of Arab population deriving its income from the Jewish sector

Then $$K = \frac{(1 - w_{jt})\, I_{at} + w_{jt}\, I_{jt}}{(1 - w_{jo})\, I_{ao} + w_{jo}\, I_{jo}} .$$

We make the following assumptions:

a. $I_{at}/I_{ao} = 1.2$; and, setting $I_{ao} = 1$, $I_{at} = 1.2$; we know little about changes of income in the Arab sector, but in the light of our discussion of Arab agriculture (Chapter 3), 1.2 seems plausible.

b. I_{jo}/I_{ao} is assumed to vary between 0.8 and 1.3. Wage rates were certainly higher for those who worked in the Jewish sector, but this was partly offset by income from assets (mainly land) generated only in the Arab sector.

c. I_{jt}/I_{jo} may range from 2.4 to 2.8; if the ratio of Arab to Jewish earnings in similar jobs was about half at the beginning of the period, and about 0.9 at its end, and if Jewish per capita income at the end of the period was about 1.6 of what it had been at the beginning, we get a figure of 2.9 $\left(=\frac{0.9}{0.5}\ 1.6\right)$. However, incomes did not rise at the same rate in all industries and we know that the industrial distribution of Arabs in the Jewish sector

[9] CBS, *Abstract 1965*, No. 16, pp. 20, 162–63.

differed from that of Jews; on the whole, this factor probably moderated the average increase in Arab incomes, and we therefore allow I_{jt}/I_{jo} to vary below the upper limit of 2.9.

d. $w_{jo} = 0.1$; and $w_{jt} = 0.5$; these are roughly the mobility ratios apparent from Tables 4–3 and 4–6.

As stated, the index of the country's per capita GNP for the period was around 1.6; if our assumptions produce $K > 1.6$, then Arab incomes have increased more rapidly than Jewish incomes.

TABLE 5–8. *Illustration of the Determinants of Income Differentials between Non-Jews and Jews*[a]

	(1)	*(2)*	*(3)*
W_{jo}	0.1	0.1	0.1
W_{jt}	0.5	0.5	0.5
I_{ao}	1.0	1.0	1.0
I_{jo}	0.8	1.0	1.3
I_{at}/I_{ao}	1.2	1.2	1.2
I_{jt}/I_{jo}	2.4	2.6	2.8
K	1.6	1.9	2.4

[a] For explanation, see text, pp. 81–83.

Three alternative calculations are presented in Table 5–8, with K ranging from 1.6 to 2.4. If we accept the second column as a likely possibility, and the ratio between Arab and Jewish income per earner for the end of the period is 0.55, then the ratio at the beginning of the period was 0.46, and if the third set is accepted this ratio becomes 0.33. Admittedly, there is a fair amount of arbitrariness in the selection of the values in this illustration, owing to our limited information. All that we want to demonstrate is that a faster increase in Arab incomes was a likely possibility. Another outcome of this discussion is that there has been a reduction in the relative contribution of the Arab sector to the income of the Arab population (this conclusion depends solely on $w_{jt} > w_{jo}$ and $I_{jt}/I_{jo} > I_{at}/I_{ao}$). This is a process in which the Arab sector eventually loses its existence as a separate economic entity and becomes diffused in the general economy.

We shall conclude with one or two comments on possible future developments. In the past, Arab incomes appear to have risen rapidly, and the income gap between Arabs and Jews has perhaps even narrowed. Does this in itself promise anything for the future? The importance of the question lies in the fact that at present there is a very wide gap between the two groups. The discussion here suggests that the rise in Arab incomes resulted

mainly from the shift of labor to the Jewish sector and from a very rapid rise in incomes of those working in the Jewish sector. But these developments were effected to a large extent by the reduction of various barriers to mobility, thus bringing the economic relations between Jews and Arabs into the path of equilibrium. Once equilibrium is reached, this factor will cease to operate. The increase in Arab income and the decrease in Arab-Jewish income differentials will then depend more on factors such as the quality of manpower and the ownership of assets, factors which even in a perfect market will cause a gap in the incomes of the two groups. Changes of this kind are of a long-run nature and they depend on far-reaching social developments. It seems to us, although it does not in any way follow from this study, that one of these developments will have to be the residential integration of Arabs and Jews and the resulting integration in education and other social institutions. This is certainly going to be a long process.

APPENDIX

REGRESSION ANALYSIS OF MOBILITY IN 1961 [1]

In the appendix we attempt to test statistically some hypotheses regarding mobility. As the analysis of mobility is related to local employment opportunities we shall first present the results concerning the volume of employment in local agriculture mentioned in Chapter 3.

The unit of the discussion is the village and this is the level for which data are available. Included are 86 out of the 99 Arab villages for which there were data on the relevant variables. The data come from two main sources: (1) The Census of Population and Housing, 1961; and (2) An agricultural survey of Arab villages.

1. Stage A of the Census was a complete enumeration and is the source of information for the figures on adult population by village. Stage B was a 20 per cent sample of households which was the basis for a labor force survey. This is the source for data on employment in agriculture, on labor force participation and on mobility. Mobile workers are those who worked outside their village in the census week. Comparison with the current labor force surveys, which are based on a much smaller sample but are taken continuously, indicated that for seasonal and other reasons the census data understate the normal volume of employment in agriculture. The effect on the mobility figures is not known.

2. The survey was made by the Ministry of Agriculture in 1961–63, and is the source of the figures on Arab-owned cultivated land classified as dry land, orchards and irrigated land. The survey also gives the number of landowners and their families in each village as well as the total population.

In explaining the volume of employment in the local agricultural sector of the village the main and simple hypothesis is that it depends linearly on the amount of land available of each type. It will be noted that the basic unit in the calculations are village aggregates, so that only a homogeneous relationship could be completely meaningful. An intercept in the aggregate could be interpreted as reflecting either error of specification of the true

[1] The calculations were carried out at the Harvard Computation Center.

relationships or the existence of some kind of external effect. It was therefore encouraging to find that the intercept was not significantly different from zero when it was allowed in the regression and we therefore forced the regression through the origin. It is expected that irrigated land will be a more important factor in employment than dry land and the magnitude of the ratio between the coefficients of the two is in itself of some interest.

The most important exogenous variable determining the supply of labor is the size of the adult population or of the labor force. If what we are measuring is some combination of supply and demand one of these variables should prove significant. In fact they were both rejected, and this indicates that what is estimated is basically a demand relationship. Had either of the variables been significant the interpretation could have been that each village is a separate labor market, where local surpluses of labor may raise employment on the land beyond what alternative marginal productivities and wages in the rest of the economy would allow in a perfect market.

The results of two alternative formulations of the regressions are:

$$\text{(1a)} \quad x_0 = \underset{(0.0095)}{0.0607}\, x_1 + \underset{(0.0051)}{0.0132}\, x_2 + \underset{(0.0018)}{0.0197}\, x_3 \qquad \bar{R} = 0.8305$$

$$\beta \quad 0.379 \qquad 0.165 \qquad 0.632$$

$$\text{(1b)} \quad x_0 = \underset{(0.0095)}{0.0597}\, x_1 + \underset{(0.0012)}{0.0182}\,(x_2 + x_3) \qquad \bar{R} = 0.8304$$

$$\beta \quad 0.373 \qquad 0.713$$

where

x_0 = number of persons engaged in agriculture in their own village (source 1)

x_1 = irrigated land in dunams
x_2 = orchards in dunams
x_3 = dry land in dunams
} (source 2)

All coefficients are significant at 0.01, and their relative magnitudes are acceptable.[2]

[2] The β coefficient is the slope coefficient multiplied by the standard error of the corresponding variable and divided by the standard error of the dependent variable.

APPENDIX

We turn now to the explanation of mobility and this time begin by presenting the final equation, again in two versions: [3]

(2a) $x^* = \underset{(0.0096)}{-0.0292''}x_1 \underset{(0.0040)}{-0.0222''}x_2 \underset{(0.0020)}{-0.0002}x_3 \underset{(0.1729)}{-0.4739''}x_4 \underset{(0.0231)}{+0.6615''}x_5 \underset{(0.159)}{+0.3368'}x_6$

$\beta \quad -0.086 \quad -0.132 \quad -0.000 \quad -0.047 \quad 1.091 \quad 0.034$

$\bar{R} = 0.984$

(2b) $x^* = \underset{(0.011)}{-0.0283''}x_1 \underset{(0.0020)}{-0.0044'}(x_2 + x_3) \underset{(0.1969)}{-0.4644'}x_4 \underset{(0.0263)}{+0.6525''}x_5 \underset{(0.1810)}{+0.2965}x_6$

$\beta \quad -0.083 \quad -0.082 \quad -0.046 \quad 1.076 \quad 0.030$

$\bar{R} = 0.979$

where

x^* = number of mobile workers (source 1)

x_1 = irrigated land in dunams
x_2 = orchards in dunams
x_3 = dry land in dunams
} (source 2)

x_4 = ratio of farm population:: i.e., the ratio of the number of landowners and their families to total village population (source 2)

x_5 = labor force of the village (source 1)

x_6 = per cent of Jews in population of the subdistrict (source 1).

The first three variables were shown above to determine the opportunities for employment in local agriculture and in this way are here expected to be negatively related to mobility. One can see however, here expected to be effect on mobility is not symmetrical to the positive effect on employment in local agriculture. The ratio between the coefficients of irrigated and dry land is much bigger here than it was in (1a) and (1b). Also, when orchards and other dry land are separated [(2a)], the coefficient of dry land loses its significance, while in (1a) it was somewhat more important than orchards.

The differences between irrigated and dry land prices and between irrigated and dry land rents indicate that their values—in the market and as a source of income—differ much more than their labor requirements. Similarly, orchards represent greater wealth than other unirrigated land, although the labor requirement may be somewhat smaller. The ratio of farm population has here a significant negative coefficient; this may indicate that the mere ownership of land has an effect on the decision to leave the village for outside employment as a hired worker: a negative wealth and status effect on mobility seems plausible.

[3] Significant at 0.05 indicated by $'$; significant at 0.01 indicated by $''$.

An additional variable introduced here is the percentage of Jews in the district. The rationale for introducing this somewhat unusual variable is that outside employment for the mobile Arab is by and large in the Jewish sector; the higher the proportion of Jews in the district, the closer the market, in a sense. We have tried to incorporate the effect of distance on mobility in several ways. One way of doing so was to classify villages as near, far, or very far; this was done intuitively according to geographic location, road connections, etc. The analysis was carried out with dummy variables, but the distance effects did not even have the correct sign. As an alternative we introduced as a variable the linear map-distance between each village and either Haifa or Tel Aviv (the two largest cities), whichever was the nearer. The coefficient of this variable assumed the right sign, but was not statistically significant. The concept of 'distance from the market' is somewhat vague in general, and particularly so in the context of Israeli geography.

The β coefficients show that the main explanation of the variance of the volume of mobility is contributed by the size of the labor force in the village.

One should be cautious in interpreting the land variables in the mobility equations. We have speculated about whether these variables represent also a wealth effect on mobility, and if so, the size of the coefficients does not indicate what is the separate effect of a change in land compensated by other forms of wealth. A more general warning is against drawing unwarranted policy conclusions. It is reasonable to conclude from the calculations that if the Arabs had had more land in the past, the rate of mobility would have been somewhat lower. It does not follow, although it might be true, that the rate of mobility would decline if the Arab population were to be given more land today. The forces needed to bring labor back to the village, if this were thought desirable, are not necessarily symmetrical to those creating the incentive to go out.

This discussion does not claim to exhaust the causes of mobility. Both the cross-section framework and the lack of data prevent us from treating other economic and non-economic explanations.

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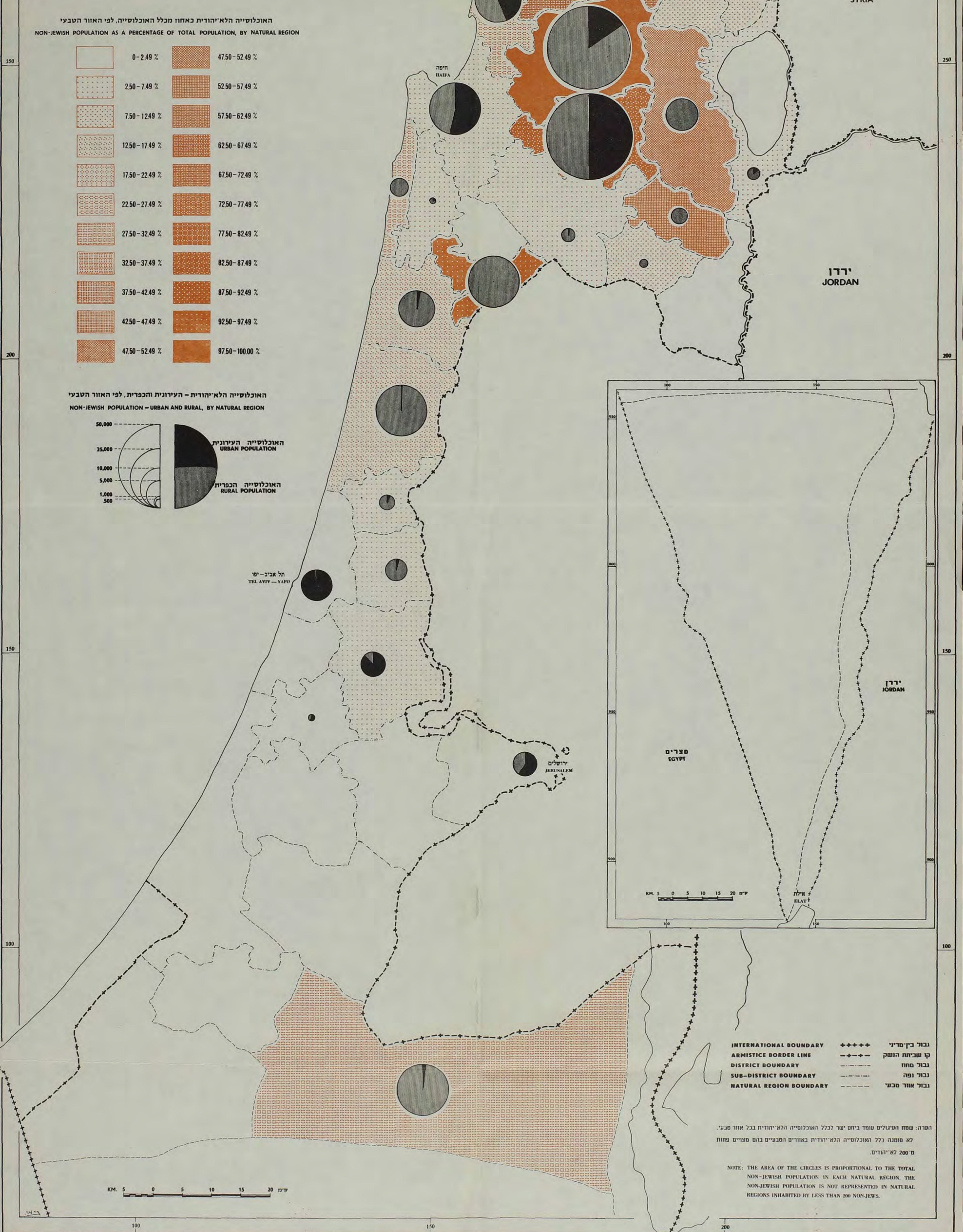

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The study surveys the structure and characteristics of the Arab labor force in Israel, and compares the occupational and industrial structure of Arabs and Jews in the light of factors peculiar to the Arabs of Israel. The extent of Arab penetration into the general labor market is described with its economic and institutional background, and the author attempts to evaluate the significance for the Arab population of this development.

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