Chapter 7
Welfare Issues and the Distribution of Income

- There are significant disparities in per capita disposable income between Arab and *Haredi* (ultra-Orthodox) households and non-*Haredi* Jewish households. The disparities between *Haredi* Jews and non-*Haredi* Jews are larger in the 25–44 age group than in the 45–64 age group, while the disparity between Arabs and non-*Haredi* Jews has narrowed in the younger group.
- The main causes of the gaps relative to non-*Haredi* Jews are low labor income in Arab and *Haredi* households and the fact that there are more members in those households. In the Arab sector, the gaps in labor income are primarily the result of the low labor force participation rates among women. In the *Haredi* sector, low labor income is primarily due to the difference in the proportion of university graduates and in employment rates among men.
- An examination of the trends in the older age group reveals a narrowing of gaps between Arab women and non-*Haredi* Jewish women both in education and in employment rates while among *Haredi* men the gap in education has widened while that in employment has narrowed somewhat.
- There are wage gaps between Arab and *Haredi* university graduates and non-*Haredi* Jewish university graduates. These gaps partly reflect a higher representation of Arabs and *Haredim* in occupations with low average wages, such as education, and underrepresentation in high-wage occupations, such as high-tech and managerial occupations.
- A high proportion of Arab university graduates are employed in occupations with a high percentage of positions in the public sector, particularly education and healthcare. In healthcare, significant proportions of Arab men and women are employed in the paramedical professions, which are characterized by a relatively low average wage. However, a high proportion of Arab men are employed in the medical profession, which is characterized by a high average wage.
- It appears that the geographic dispersion of the Arab population, which includes a significant concentration of population in the periphery, is not a major factor in the distribution of occupations among Arab university graduates.

ISSUE 1: THE DIFFERENCES IN PER CAPITA DISPOSABLE INCOME BETWEEN ARABS AND *HAREDIM* AND NON-*HAREDI* JEWS ON THE OTHER

There are significant disparities in per capita disposable income between Arab and Haredi households on the one hand and non-Haredi Jewish households on the other. The main reasons for these gaps is low labor income among Arab and Haredi households and the fact that they are larger.

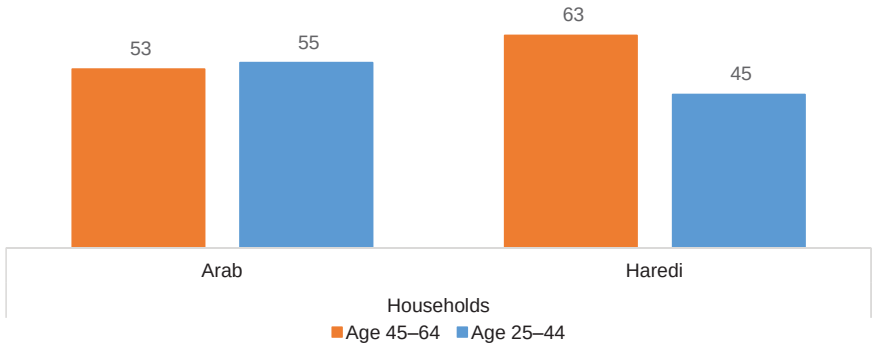
There are significant differences in standard of living—as measured by per capita disposable income—between the various population groups in Israel, particularly between non-*Haredi* Jews, Arabs and *Haredi* Jews. In 2019, the poverty rate was 37 percent among Arab households and 45 percent among *Haredi* households, compared to only 8 percent among non-*Haredi* Jewish households.[1] These differences have characterized Israeli society for many years. In order to determine whether there is a trend toward smaller income gaps between the groups among the younger generation or whether they are widening, we look at the difference in economic and demographic characteristics between younger households (aged 25–44) in the various groups. For some of the variables, we also examine the difference in parameters relative to the older age group (aged 45–64) in 2021 or in 2001 when the older group was young.[2]

Standardized per capita disposable income is a well-accepted index of income level. It reflects the quantity of resources available to the household while taking into consideration its relative size, and it is used to determine the poverty line, among other things. An examination of the differences in the index between the various population groups indicates that per capita disposable income among Arabs and *Haredim* is about half of that among non-*Haredi* Jews (the reference group) (Figure 7.1). As described below, the income gap between *Haredim* and non-*Haredi* Jews is primarily the result of low levels of employment and university graduates among *Haredi* men, alongside a larger number of children in *Haredi* families. In contrast, the main source of the gaps with respect to Arab households is the low employment rates among women and the low proportion of university graduates among men. A comparison between young and old households shows that the gap in disposable income between the young Arab population and the young non-*Haredi* Jewish population is somewhat smaller than among the old, thanks to the relative increase in economic income (labor, pensions and capital) alongside a decline in household size. In contrast, among *Haredim*, the gap among the young is larger than that among the old, due to the relative decline in income as well as the larger size of households.

[1] The calculation is based on the 2019 Household Expenditure Survey, because the National Insurance Institute's Poverty Report for 2021 has not yet been published. A household is considered to be poor if its standardized per capita disposable income is less than half of the median for all households.

[2] The identification of the *Haredi* and Arab populations in the 2021 data is according to self-reporting, while in the data prior to 2014, it is according to the administrative definition. The change in definition did not significantly affect the results. Age groups are determined according to the age of the head of the household. The analysis in this section does not include Arabs in East Jerusalem.

Figure 7.1
Ration of Per Capita Disposable Income Between Arab* and *Haredi* Households and Non-*Haredi* Jewish Households, by Age Group,** (percent)

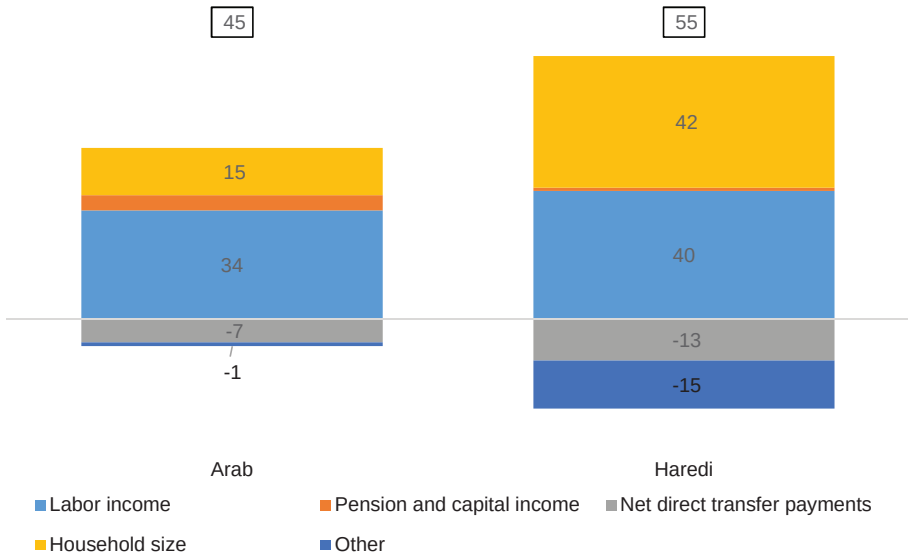


* Excluding Arabs of eastern Jerusalem.
** Grouped by age of the head of household.
SOURCE: Based on Central Bureau of Statistics Household Expenditure Survey for 2021.

Disposable per capita income is composed of the household's labor income (for both employees and the self-employed), income from capital, pensions, and net transfer payments (direct transfers from public and private sources minus direct taxes) divided by the standardized number of household members. In order to examine the contribution of the different variables to the income gaps between Arab and *Haredi* households and non-*Haredi* Jewish households, we made use of the Blinder-Oaxaca decomposition (Figure 7.2).[3] In 2021, the gaps in disposable per capita income were primarily the result of differences in labor income and household size, while net transfer payments and other factors, which cannot be quantified in the data (unobservable factors and the unexplained variance), tended to reduce the gaps. A comparison to 2019, in order to eliminate the effect of the COVID-19 period, yields similar results, although the gaps are larger in labor income and transfers make a larger contribution to narrowing the income gap. Later in the analysis, we discuss in greater detail each of the factors that affect these gaps (since we are considering a young population, pension income and capital income have a small effect and therefore we do not discuss them at length).

[3] This method enables a quantitative analysis of gaps between groups while differentiating between the gap due to a difference in the averages of the explanatory variables and that due to the difference in the estimates using a twofold decomposition. The dependent variable is standardized per capita disposable income, while the explanatory variables include household labor income (employees and the self-employed), income from capital, pension income, net direct transfers (transfer payments less tax payments) and number of standardized members of the household.

Figure 7.2
Contribution of the Factors in the Differences of Per Capita Disposable Income between Young Arab and Haredi Households and Non-Haredi Households



As a share of the total income gap in percent. "Other" is the gap derived from factors not observed in the data.
Households with a head of household aged 25–44, excluding Jerusalem Arabs.
SOURCE: Based on Central Bureau of Statistics Household Expenditure Survey, 2021.

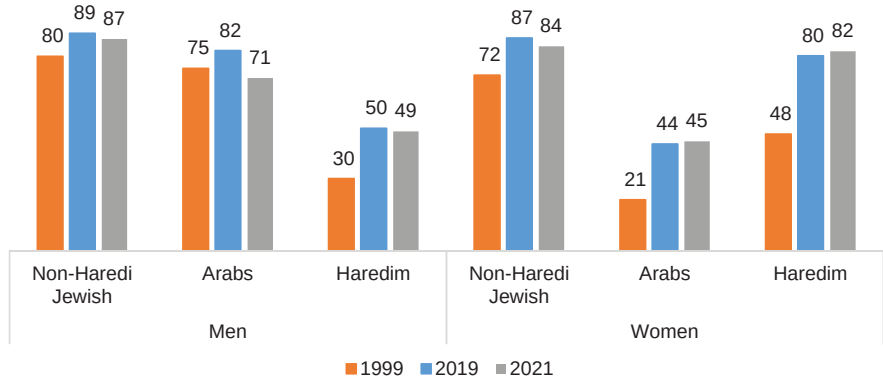
Labor income (employees and the self-employed)

Various economic and demographic variables may explain the gaps between the various population groups in terms of gross labor income (employees and the self-employed), rate of employment, number of work hours per employee, the educational characteristics of the household members, and the household's geographic location. Below, we discuss the differences according to the various characteristics.

Differences in rates of employment and work hours per employee

Labor input, as reflected in the rate of employment and work hours per employee, affects the gaps in labor income across population groups. A comparison of employment rates reveals gaps between young Arabs and young *Haredim* on the one hand and their non-*Haredi* Jewish counterparts on the other, both in 2021 and in 2019 (prior to the COVID-19 period) (Figure 7.3). The employment rates among Arab women and *Haredi* men are significantly lower than among their counterparts in the other groups. A comparison of employment rates between the younger age group in 2019 and the older one when they were young (in 1999) indicates that the employment level has risen in all groups in recent decades, although the gaps between the groups remain large.

Figure 7.3
Employment Rate by Gender and Population Group, (age 25–44, percent)



* Excluding Arabs of eastern Jerusalem.
Population groups were identified in 2001 by the administrative definition, and in 2019 and 2021 by self-definition. The change in definitions did not lead to a significant change in the results.
SOURCE: Based on Central Bureau of Statistics Labor Force Survey.

The employment rate does not reveal the entire picture, since the employees' work hours also play a role. A comparison of weekly work hours per employee indicates that *Haredi* men work 21 percent less per week than non-*Haredi* Jewish men of the same age, and that Arabs work a similar number of hours (Figure 7.4). The work hours of *Haredi* women and Arab women are lower by an average of 17 percent and 7 percent, respectively, than those of non-*Haredi* Jewish women. An examination of the trends indicates that the drop in weekly work hours, during a period when work hours declined overall in the economy, was the steepest among Jewish men, both *Haredi* and non-*Haredi*. Among women, the increase in the employment rate during the period was accompanied by stability in the number of work hours per employee.

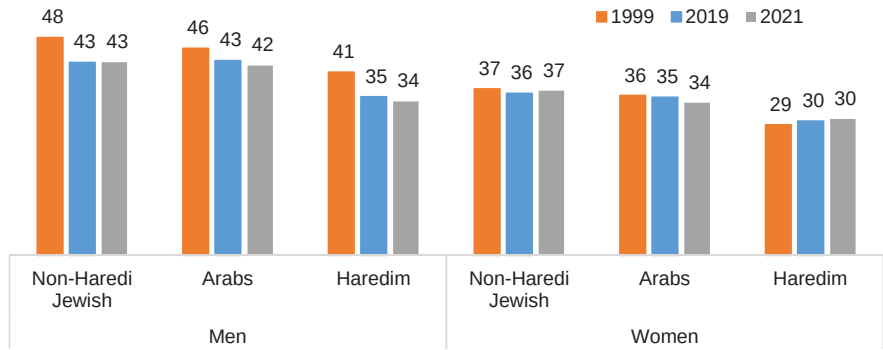
Differences in education

There is a clear downward trend in the proportion of university graduates among *Haredi* men.

The level of academic education has a large impact on individuals' earning ability with respect to both employment opportunities and hourly wages. Studies carried out in Israel have shown that the marginal return on a bachelor's degree relative to a matriculation certificate is about 30 percent.[4] A comparison by gender and population group shows that the proportion of university graduates is much higher among non-*Haredi* Jews aged 25–44 than among the other groups, with regard to both men and women (Figure 7.5). A comparison to the older age group makes it possible to examine the changes that have occurred in the proportion of university graduates over the years. The most significant

[4] Roni Frish (2009). "The Economic Returns to Schooling in Israel", *Israel Economic Review*, 7(1): 113–141; Yael Meltzer (2014). "The Return on Schooling: Inequality Between the Various Population Groups", Van Leer Institute. [Hebrew]; Michael Debowy, Gil Epstein, and Avi Weiss (2021). "Returns to Education and the Labor Market Experience in Israel". Taub Center for Social Policy Studies in Israel.

Figure 7.4
Weekly Work Hours per Employee by Gender and Population Group
(age 25–44, percent)



* Excluding Arabs of eastern Jerusalem.
Population groups were identified in 1999 by the administrative definition, and in 2019 and 2021 by self-definition. The change in definitions did not lead to a significant change in the results.
SOURCE: Based on Central Bureau of Statistics Labor Force Survey.

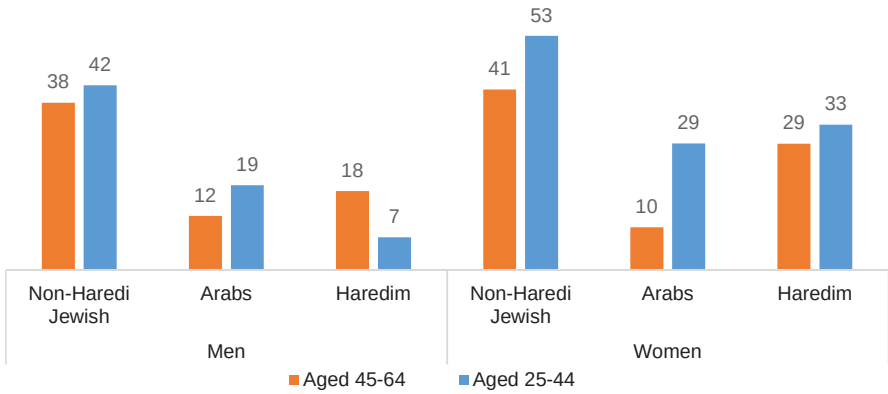
change in education level occurred among women, particularly Arab women, although the large increase in their proportion of university graduates only partially narrowed the gap in academic education relative to non-*Haredi* Jewish women. This is because the proportion of university graduates among the latter also rose significantly. With respect to *Haredi* women, the increase in the proportion of university graduates was less than among non-*Haredi* women, which led to a widening of gaps. Among men, the changes in the proportion of university graduates were more modest. The gaps between non-*Haredi* Jewish men and Arab men narrowed somewhat while those between *Haredi* men and non-*Haredi* Jewish men widened, as a result of the decline in the proportion of university graduates among *Haredi* men.

Different trends can be seen in the attainment of an academic education between the *Haredim* and Arabs. The limited scope of core subjects taught in *Haredi* schools is likely to constitute an entry barrier to higher education. *Haredi* boys study the core subjects to a limited extent up to Grade 8 but subsequently, on arriving in lower *Yeshiva*, most of them no longer learn any core subjects. According to the data on *Haredim* for 2018–19, only about 5 percent of boys and 22 percent of girls were eligible for a matriculation certificate.[5] In the absence of core studies, various tracks, such as *mechinot*, have been created for the integrating the *Haredi* population into higher education. However, there is a high dropout rate from these programs and from bachelor's degree programs[6], and among those who do graduate there is an over-representation

[5] Gilad Malach and Lee Cahaner. *Statistical Report on Ultra-Orthodox Society in Israel, 2021.* Israel Democracy Institute.

[6] Deganit Levi (2021), "Integrating of the Ultra-Orthodox Community in Higher Education". Jerusalem Institute for Policy Research.

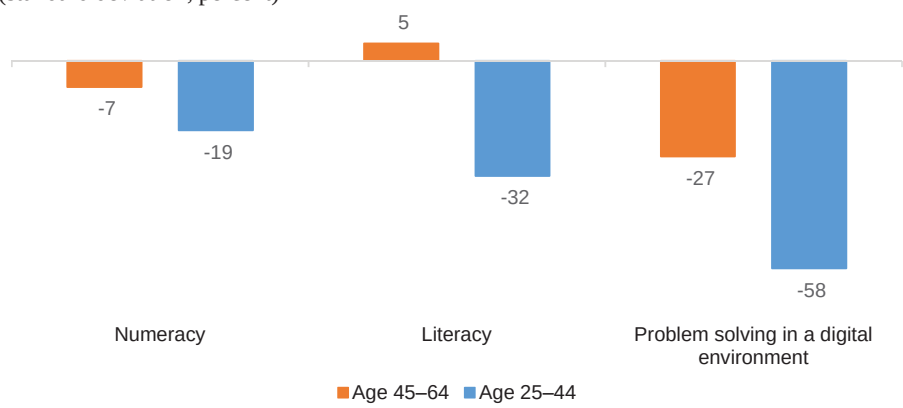
Figure 7.5
Rate of Those With Academic Degrees by Gender and Population Group
(percent)



Excluding Jerusalem Arabs.
SOURCE: Based on Central Bureau of Statistics Household Expenditure Survey, 2021.

in low-paying fields such as education and social work. These gaps in formal education are reflected in the 2014 PIAAC survey, which measures skill levels. An examination of the gap in skills between *Haredi* men and non-*Haredi* Jewish men by age group shows that it is wider among the younger group than among the older one (Figure 7.6).

Figure 7.6
Gap in Basic Skills Between *Haredi* Men and Non-*Haredi* Jewish Men
(standard deviation, percent)



SOURCE: Based on 2014 PIAAC Survey.

According to Perry-Hazan et al. (2023), the issue of core subjects—particularly in terms of the balance between the welfare of the child and his right to an education, the welfare of the parents, and the interests of the State—has led to conflict between religious schools (Jewish and others) and government

authorities in various countries (the US, the UK, Belgium, Canada, Singapore, and others).[7] The experience in most countries (with respect to *Haredim* and Muslims) indicates that coercion has only limited effectiveness in the case of core subjects due to the opposition of the relevant population group and the State's reluctance to use the means of coercion available to it, particularly the closing of schools. An exception is Belgium, where although independent subsidized *Haredi* schools have autonomy in deciding on their curriculum, they are required to produce graduates with appropriate skill levels (which are assessed by external testing), and they are closely monitored in this regard.[8]

In Israel, there is a policy of economically incentivizing the study of core subjects in the schools. However, according to the State Comptroller, the Ministry of Education does little to monitor the implementation of this policy in the schools. Furthermore, there is little likelihood of a school being closed or its budget being withheld for not meeting the requirement to teach core subjects.[9] Perry-Hazan et al. (2023) found a positive relationship between the level of a school's commitment to teaching boys the core subjects as part of the budget rules and the actual level of core subjects in the school, although there was variance between the subjects (relatively high compliance in Hebrew and math and low compliance in English and science) and across age groups (low compliance in Grades 7–8).[9] In view of the importance of formal education in reducing income gaps across population groups and raising the average level of income in the economy, efforts are needed in order to reinforce the teaching of core subjects in *Haredi* schools.

There is a clear upward trend in the proportion of university graduates in Arab society.

A different picture emerges in Arab society. In recent years, there has been an upward trend in the number of university students and graduates at all levels, particularly among women. In 2003, Arab students constituted only about 7.5 percent of those receiving bachelor's degrees while in 2021 that figure reached 15 percent.[10] A major barrier to the integration of Arabs in higher education is a lack of fluency in Hebrew, which is due to the fact that up until university, the vast majority of students learn only in Arabic and in an Arabic-speaking environment, while in higher education they learn in Hebrew and in a Hebrew-speaking environment. Furthermore, there is a mismatch between the Hebrew curriculum and the Yael test (a test of Hebrew knowledge for higher education) which constitutes a hurdle for Arabs wishing to enter university, even for those with high marks in 5 units of Hebrew. The alternative to Hebrew-speaking

[7] Lotem Perry-Hazan, Neta Barak-Corren, and Gil Nachmani (2023). "Noncompliance with the Law as Institutional Maintenance: The Case of Haredi Boys Schools' Decisions Regarding Core-Curriculum Regulations", Working Paper.

[8] Lotem Perry-Hazan (2020). "Regulation of Core Studies in Ultra-Orthodox Education from a Comparative Perspective". Law, Society and Culture A, 493–525. [Hebrew]

[9] State Comptroller (2020). *Annual Report* 70-b. *Ministry of Education – Ultra-Orthodox Education and its Supervision*. [Hebrew]

[10] Central Bureau of Statistics data on attainment of degrees in the years 2002–03 and 2020–21.

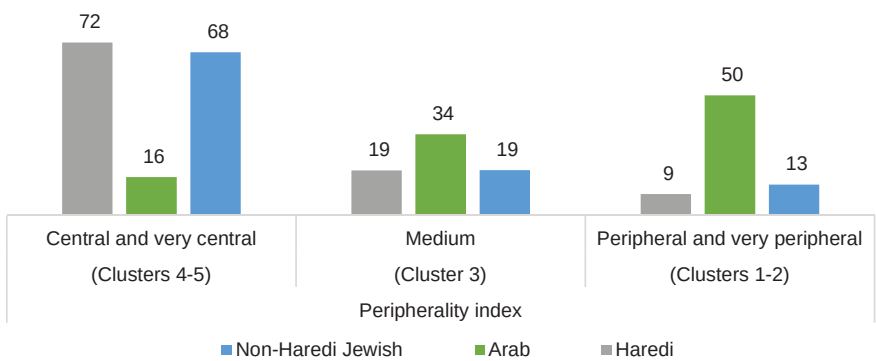
institutions for many in Arab society is Arabic teacher colleges in Israel or institutions in the Palestinian Authority or abroad.

An examination of the connection between the level of higher education and employment rates during the period prior to COVID-19 shows a positive and particularly strong relationship among Arab women and *Haredi* men. The employment rate among university graduates in both groups is 40 percentage points higher than among non-graduates, while in the rest of the groups the employment rates are only 10 to 15 percentage points higher than among non-graduates in the same group.[11] The connection between an academic education and employment is not necessarily causal, but is nonetheless indicative of the culturally motivated desire to integrate into the labor market, which leads to an increase in both attainment of an academic education and employment.

Differences by region

Another characteristic that might explain some of the disparities in household labor income is geographic location, particularly the overrepresentation of one of the groups in peripheral regions. The Central Bureau of Statistics (CBS) defines a peripheral region as one that is distant from markets, places of employment and healthcare services. A peripherality index was constructed on the basis of this definition, with the goal of characterizing localities according to their geographic location between the most peripheral region and most central region. An examination of the disparities between the groups shows a difference in peripherality level between Jews and Arabs. Only about 16 percent of Arab households are located in towns that are defined as central or very central according to the index, as opposed to the vast majority of Jewish

Figure 7.7
Distribution of Young Households by Resiential Locality's Peripherality Index and Population Group (percent)



Households with a head of household aged 25–44. Excluding Arabs of eastern Jerusalem.
SOURCE: Based on Central Bureau of Statistics Household Expenditure Survey for 2021.

[11] Based on Central Bureau of Statistics *Labor Force Survey* 2019. An examination based on 2021 data produced similar results.

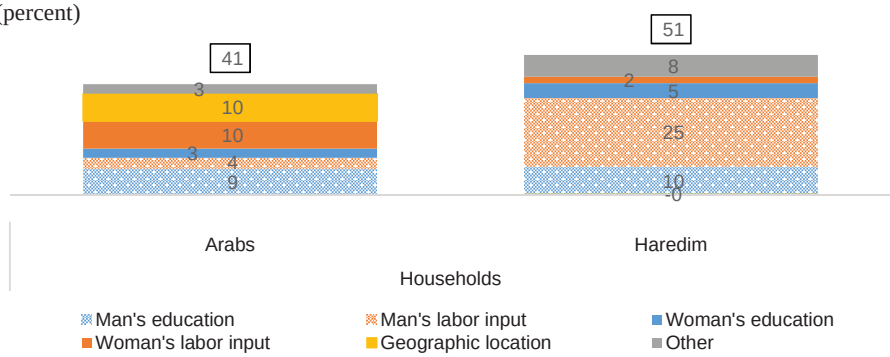
households (Figure 7.7). In 2021, the labor income of a university graduate—whether male of female—in the periphery was about 86 percent of that in the center, and in the case of a very peripheral location that figure was 81 percent. Here again the causality may be in both directions. It may be that individuals with high earning power tend to choose to reside in a central region, while residing in a peripheral region limits an individual's earning power.

A significant portion of the differences in labor income between the population groups is the result of education level and labor input.

The contribution of the variables to labor income disparities

In order to examine the contribution of the aforementioned variables to the gap in labor income between Arabs and *Haredi* Jews on the one hand and non-*Haredi* Jews on the other, we use the Blinder-Oaxaca decomposition.[12] The results are presented in Figure 7.8, which shows that the disparity in labor income between a *Haredi* household and a non-*Haredi* Jewish household is about 51 percent and most of that gap (35 of the 51 percent) is explained by differences in the proportion of university graduates and labor input among men. About 7 percent of the gap among women is explained by differences in these characteristics. In Arab society, the gaps are primarily the result of the difference in labor input of women, the gap in academic education among men, and the disparities in geographic distribution and concentration in peripheral regions (about 10 percent in each case). There remains an unexplained gap

Figure 7.8
Contribution of the Factors in the Differences of Household Labor Income between Young Arab and Haredi Households and Non-Haredi Households
(percent)



Households with a head of household aged 25–44, excluding Jerusalem Arabs. The base group is Jews excluding Haredim. The number in the boxes is the relative gap between the various groups and Jewish households minus Haredim. "Other" is the gap derived from factors not observed in the data.
SOURCE: Based on Central Bureau of Statistics Household Expenditure Survey, 2021.

[12] For further details on this method, see fn. 3. The dependent variable: household labor income (both employees and the self-employed). The explanatory variables: the proportion of male university graduates, the proportion of female university graduates, work hours per man (including the unemployed), work hours per woman (including the unemployed), and the peripherality index of the town (a continuous variable). The regression was based on data from the Household Expenditure Survey. There are some discrepancies in the employment data between the Labor Force Survey (which were presented in Figures 7.5 and 7.6) and the Household Expenditure Survey.

in the case of both groups and it is larger among *Haredi* households. This is likely to be the result of various factors, among them being the difference in occupational distribution among university graduates and their employment in low-earning occupations, as presented below in Section 3 of this chapter.

Transfer payments and taxes

Net transfer payments account for about one-fifth of the disposable income of a *Haredi* household.

Direct transfers and direct taxes are used partly as a policy tool for reducing inequality.[13] Figure 7.9a shows the contribution of net transfer payments—government support and private transfers minus taxes—to the household disposable income of the various population groups. Net transfer payments work in different directions in the various groups. They have a negative effect on non-*Haredi* Jews, the group with the highest income; a somewhat positive effect in Arab society; and a significant positive effect on *Haredi* households.[14]

While the difference in tax payments is relatively clear and is the direct result of the difference in labor income (an effect that was discussed in detail in the previous section), the gap in direct transfer payments is due to various factors (Figure 7.9b). Direct transfers to *Haredi* households are significantly greater than those in the other groups. An examination by source of the transfer shows that the gaps are primarily the result of allowances provided to *Haredim* by government institutions, particularly subsistence payments to *Yeshiva* students, which are conditional on them not working. Another disparity exists in National Insurance payments, where we compared the average payments prior to the COVID-19 pandemic and the increments provided in 2021. Prior to the pandemic, National Insurance payments were higher in the *Haredi* community, primarily due to the fact that they are determined by household size (child allowance) and the high rates of employment among *Haredi* women (maternity allowance). This disparity diminished somewhat in 2021, during which the National Insurance increments paid to *Haredi* households were slightly lower than in the two other groups. Another feature in the *Haredi* community is private support from households (such as ongoing support, gifts at events, etc.), a component that makes a much lower contribution among non-*Haredi* Jews and which is almost non-existent among Arab households. The net transfer ratio, i.e. the ratio of private support received to support given to other households, was 71 percent for young *Haredi* households, 42 percent for non-*Haredi* Jewish households and negative in Arab society.

[13] This section relates to transfer payments and direct taxes only. The calculation does not consider indirect taxes (such as VAT) or the provision of services in-kind by the government (such as education) or by the local authorities (such as discounts on municipal taxes).

[14] In 2021, there was a large increase in direct transfer payments due to the COVID-19 pandemic. However, only among households in Arab society did these changes lead to a reversal of trend. In the years prior to COVID-19, the ratio of net transfer payments to Arab society was somewhat negative.

Figure 7.9a
Net Direct Transfer Payments As a Share of Household Disposable Income, 2021 (percent)

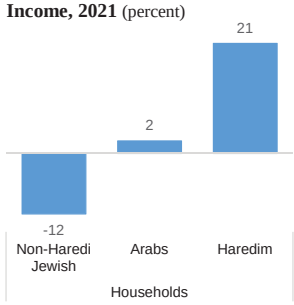
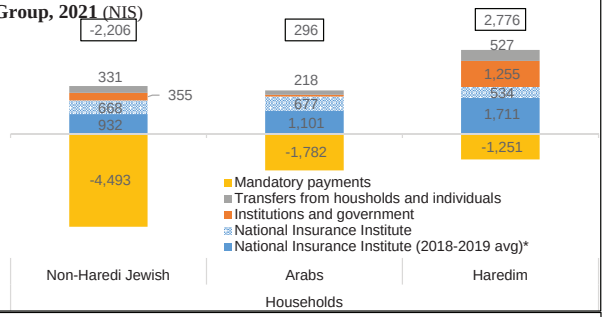


Figure 7.9b
Contribution of Net Direct Transfer Payments and Mandatory Payments to Young Households' Disposable Income, by Population Group, 2021 (NIS)



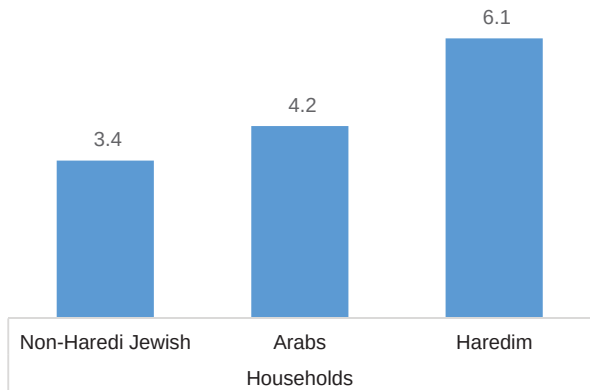
* Transfer payments from the National Insurance Institute increased in 2021, so an estimation was made relative to the average level in 2018–2019, prior to the COVID-19 period. The number in the frame in Figure 7.9b indicates total net transfer payments for each population group. Households with a head of household aged 25–44, excluding Arabs from eastern Jerusalem.

SOURCE: Based on Central Bureau of Statistics Household Expenditure Surveys, 2019 and 2021.

Household size

Household size is another factor that contributes to the explanation of disparities in disposable per capita income. In 2021, a young *Haredi* household had an average of 6.1 members, an Arab households had 4.2 and a non-*Haredi* Jewish household had 3.4 (Figure 7.10). An examination of total fertility according to population group shows a variety of trends. Between 2001 and 2021, the total fertility rate among Muslim women fell by 1.7 children and among *Haredi* women it fell by 0.77, while among non-*Haredi* Jewish women it rose by 0.29.[15]

Figure 7.10
Number of People per Household by Population Group (households with a head aged 25–44)



SOURCE: Based on Central Bureau of Statistics Household Expenditure Survey, 2021.

Conclusion and Discussion

We have examined the effect of economic and demographic factors on the disparity in per capita disposal income between Arabs and *Haredim* on the one hand and non-*Haredi* Jews on the other, and have examined the dynamic over time. The analysis indicates that most of the disparities in per capita disposable

[15] Central Bureau of Statistics data on birth and fertility in Israel, 2020, and "The Fertility of Jewish and Other Women in Israel by Religiosity, 1979–2021". [Hebrew]

income are due to gaps in labor income, which is affected by the proportion of university graduates and labor input per household in the various population groups. The gaps in those variables between *Haredi* men and Arab women on the one hand and other groups on the other are particularly noticeable. An examination of the trends shows a positive trend toward a narrowing of the gaps, which is reflected in an increase in the proportion of university graduates and employment rates, particularly among women. The upward trend in the number of university graduates in Arab society is expected to narrow income gaps between the groups in the future, which may contribute to social mobility in the long term. In contrast, the disparities between the *Haredim* and the other groups are widening, particularly due to the differences in labor input and the proportion of university graduates among *Haredi* men. As a result of the *Haredi* reliance on allowances, this population group is more exposed to the risk of changes in social welfare policy and support.

In order to maintain a similar standard of living to the OECD average, policy measures are needed in order to improve human capital and productivity in the Arab and *Haredi* sectors.

The disparity in fertility rates between the population groups emphasizes the macroeconomic aspect of this issue. The Central Bureau of Statistics population forecast (intermediate scenario) predicts that by 2065 *Haredim* will account for 32 percent of the population and Arabs will account 19 percent.[16] In order to maintain a similar standard of living to that of the OECD countries and to reduce inequality between segments of the population, it is necessary to adopt policy measures now that improve human capital that is relevant to the labor market and the labor productivity of these groups. Although above we decomposed the income disparities into their main factors, i.e. education, employment and fertility, it is important to mention that individuals' decisions with respect to these variables are dependent on one another. The choice to have a large family can make it more difficult to integrate within the labor market or obtain an academic education due to the burden of childrearing. In contrast, having an academic education increases earning power and in this way incentivizes the individual to realize that potential in the labor market. Therefore, the various factors need to be taken into account holistically when formulating policy; dealing with issues separately is not sufficient.

The Bank of Israel's plan to accelerate economic growth includes strategic policy measures the implementation of which is expected to bring about a narrowing of labor income disparities between population groups in the long term, based on encouraging the acquisition of human capital that is relevant to the labor market in these groups.[17] These include: expansion and improvement of the quality of education for ages 0 to 3 at low socioeconomic levels; increasing the scope of differential budgeting in the education system, particularly secondary education, in favor of schools with a low nurture index rating; strengthening the study of Hebrew among Arab students; and improving

[16] Central Bureau of Statistics (2017), "Forecast of the Population of Israel by 2065". [Hebrew]
[17] Bank of Israel (2023). "Recommended Strategic Pillars of Action for the Government".

skills that are relevant to the demands of the labor market among *Haredi* boys, by means of expanding the teaching of core subjects. These and other measures are expected to increase the number of university graduates, the level of labor input, and the earning power of workers, and thus reduce income disparities between populations in Israel and between Israel and the OECD countries.

ISSUE II: THE OCCUPATIONAL DISTRIBUTION OF UNIVERSITY GRADUATES IN ISRAEL: DISPARITIES BETWEEN THE VARIOUS SEGMENTS OF THE POPULATION

The wage gaps between Arab and *Haredi* university graduates on the one hand and non-*Haredi* Jewish university graduates on the other are partly a reflection of differences in occupational distribution.

In the previous section, we showed that one of the explanations for wage gaps between Arabs and *Haredim* on the one hand and non-*Haredi* Jews on the other is related to disparities in the level of schooling and the proportion of university graduates (Figures 7.5 and 7.8). However, if we focus only on university graduates, we also see wage gaps between the three populations. The average wage of non-*Haredi* Jewish university graduates is higher than that of Arab and *Haredi* university graduates. These disparities are partly the result of differences in field of study and in occupation. Figure 7.11 presents the breakdown of university graduates in high- and low-earning occupations according to gender and population group.[18,19] The graph shows that among Arab and *Haredi* university graduates the proportion of workers in low-earning occupations (such as education) is high while the proportion in high-earning occupations (such as high-tech and managerial occupations) is low. Thus, for example, among men, 64 percent of non-*Haredi* Jewish university graduates worked in the highest-earning occupations, (medical, managerial, and high-tech) between 2018 and 2022, while the proportion among Arabs was only 37 percent and among *Haredim* it was only 28 percent. Among women, the proportion of university graduates in the highest-earning occupations was 30 percent among non-*Haredi* Jews, while it was only 7 percent among Arabs, and 12 percent among *Haredim*. Another important point is the high proportion of Arabs in the healthcare professions. In particular, the proportion of Arabs in paramedical occupations, such as nurses and pharmacists, in which wages are relatively low, is higher than among non-*Haredi* Jews, among both men

[18] In order to optimally reflect the occupational distribution of university graduates in Arab society, and in view of the small number of observations, the academic occupations were divided into 7 groups according to their nature and average wage level.

[19] The graphs and the multivariate analysis in this section are based on the Labor Force Survey and Israel Tax Authority employee-employer files (for both employees and the self-employed) for the period 2018–2022, excluding the period between March 2020 and June 2021, during which the COVID-19 pandemic was likely to have had a significant effect on the occupational distribution. The analysis focuses on university graduates in managerial or academic occupations who reported working fulltime when they were sampled by the Labor Force Survey. The analysis in this section does not include Arabs in East Jerusalem due to their unique characteristics.

and women. Nonetheless, the proportion of male Arab university graduates employed in medicine, a high-earning occupation, is high relative to non-*Haredi* Jews. Furthermore, a high proportion of Arab men are employed in paramedical occupations (such as nurses and pharmacists), which among the Jewish population are characterized by a clear majority of women.

The integration of the Arab and *Haredi* sectors in employment, particularly in a high-quality profession, can serve as an important growth engine for the economy and a tool for the narrowing of social disparities. Understanding the reasons for the disparities in the occupational distribution of university graduates may help in identifying barriers that result in Arab and *Haredi* university graduates being employed in lower-earning occupations, and which may lead to a nonoptimal allocation in the labor market[20], unrealized potential for economic growth[21], and increased inequality. According to studies carried out in Israel, the low proportion of Arabs in high-earning occupations (such as those in high-tech) is likely to be related to disparities in educational level and quality between Jews and Arabs.[22] The disparities in education between Jews and Arabs are partly reflected in achievement disparities in national tests (Meitzav), international tests (such as PIAAC and PISA), the psychometric exam, and other tests.[23] Furthermore, it is possible that the high rate of Arab university graduates employed in education is related to the preference for working in an Arab environment and in the Arab language, particularly in view of the low level of fluency in Hebrew among a large proportion of Arab society.[24] The process in Arab society of "grouping" into particular occupations such as the healthcare professions, in which there are already a relatively large number of Arabs, as well as exposure to these occupations (by way of relatives, acquaintances and neighbors) and familiarity with employers in that field, may also increase the chances of successfully integrating into those occupations.[25] There may also be a concern in Arab society about discrimination or problems in finding employment in occupations which are at the moment less accepted

[20] Gilad Brand (2019). "Return to Skills in the Israeli Labor Market", Taub Center for Social Policy Studies in Israel.

[21] See C.T. Hsieh, E. Hurst, C.I. Jones, and P.J. Klenow (2019). "The Allocation of Talent and US Economic Growth." *Econometrica*, 87(5): 1439–1474.

[22] Z. Karill and N. Amariyeh (2019). "Barriers to Integration of the Arab Population in Higher Education", Ministry of Finance. [Hebrew]

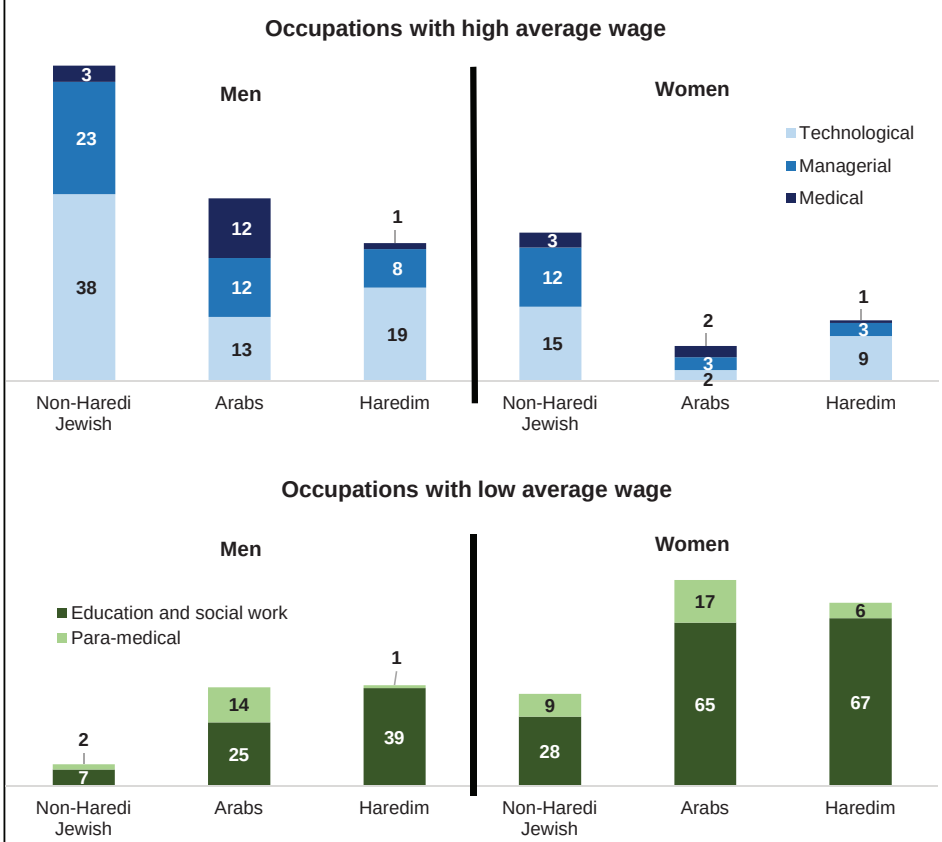
[23] Although the comparison presented here relates to the entire population and not just university graduates, it is likely that the average achievement of Arab university graduates on the various tests is lower than that of Jewish university graduates.

[24] Marian Tehawkho, Idit Kalisher, and Kiril Moskalev (2020). "The Return on Knowledge of Hebrew in Arab Society: Barriers to Language Learning and How to Remove Them", Aharon Institute for Economic Policy.

[25] N. Hadad, Haj Yahya, A. Sayif, N. Kaliner Kassir, and B. Farjoun (2021). "Education in Arab Society: Disparities and Signs of Change", The Israel Democracy Institute. [Hebrew]

in Arab society and in which finding work is largely dependent on connections in that field.[26]

Figure 7.11
Distribution of Occupations of Academic Degree Holders by Sector, Gender, and Average Wage Level, 2018–2022 (primary working ages (25–64), full time workers, percent)



In order to avoide a potential correlation between the rate of Arabs or Haredim in an occupation and the average wage level of that occupation, the average wage relates to non-Haredi Jews. Since data for 2022 were not available at the time this chapter was written, the average wages are based on data from 2019 - the final year before teh COVID-19 crisis. The average wages of doctors, executives, and those with technological occupations (the high-wage occupations) were about 260 percent, 170 percent, and 160 percent of the average wage in the economy, respectively. The average wages of those from the education and para-medical fields (the low-wage occupations) were about 86 percent and 95 percent of the average wage in the economy, respectively.
The percentages in the figure do not add up to 100 percent, since they do not include the group of professions with an average wage in the medium range (100-160 percent of the average wage in the economy).
SOURCE: Based on Central Bureau of Statistics Labor Force Survey.

A possible reason for the high proportion of *Haredi* and Arab university graduates employed in education is the high fertility rates in those sectors.

Another point that may partially explain the high proportion of Arabs and *Haredim* in educational occupations is their high fertility rates relative to non-*Haredi* Jews. The ratio between the number of children and school-age youth (0–18) and adults in the prime working ages (25–64) among non-*Haredi*

[26] E. Yashiv and N. Kaliner Kassir (2018). "The Economy of Arab Society in Israel", The Haredi Institute for Policy Studies. [Hebrew]

Jews was about 0.62 in 2022 (i.e. 0.62 children or youth aged 0–18 for every adult aged 25–64) while among Arabs it was 0.88 and among *Haredim* it was 1.82.[27] Assuming that in general teachers who teach children from a particular population group belong to that same group, it appears that the proportion of *Haredi* teachers needed is about three times that of non-*Haredi* Jewish teachers.[28]

Due to the small number of observations for *Haredi* university graduates in the Labor Force Survey during the relevant years, the analysis and graphs below do not include the *Haredi* sector. Rather they focus on disparities between Arabs and non-*Haredi* Jews.

Younger Arab university graduates—particularly men—have a greater tendency than older graduates to work in occupations with high earning potential.

Age group: Differences in occupational profile between young and old workers are likely to be an indicator of developing trends in occupational profiles in recent decades. A comparison of the younger generation (aged 25 to 44) to the older generation (aged 45–65), finds that the proportion of Arab university graduates in education and social work, which are low-paying occupations, has fallen significantly, while the proportion of both men and women in the paramedical occupations and the proportion of men in high-tech and medicine have increased.[29,30] These findings reflect an upward trend in the proportion of Arab university graduates in high-earning occupations, primarily with regard to men (Figure 7.12).[31] A study carried out by the Ministry of Finance Chief Economist's Office reached similar findings.[32] Nonetheless,

[27] The data are based on Central Bureau of Statistics (2017), "Forecast of Israel's Population until 2065", and Bank of Israel calculations. This is because the CBS Statistical Abstract does not include data on the *Haredi* sector. An estimate of the Arab population on the basis of the Statistical Abstract produced similar results.

[28] The calculation presented is an estimate, which does not take into account possible disparities between the populations in class size, number of weekly teaching hours, or other areas. Furthermore, teachers do not always belong to the same population group as their students. (It is reasonable to assume that there are more *Haredi* teachers in the State and State Religious education systems than there are non-*Haredi* Jewish teachers in the *Haredi* education system. Therefore, it is likely that a shift of teachers between the sectors will increase the disparity between the proportion of teachers among *Haredim* and the proportion among non-*Haredi* Jews).

[29] Since medical studies last about seven years, the relatively low rates of young Jews in this profession are partly related to military service, which delays the beginning of studies by several years and their completion to after the age of 25. A higher proportion of Jews in the medical profession was found among the 30+ age group. At the same time, since studies toward other professions are shorter, and based on the desire to present up-to-date data that reflect the trends in recent years, the graphs include workers from the age of 25 upward.

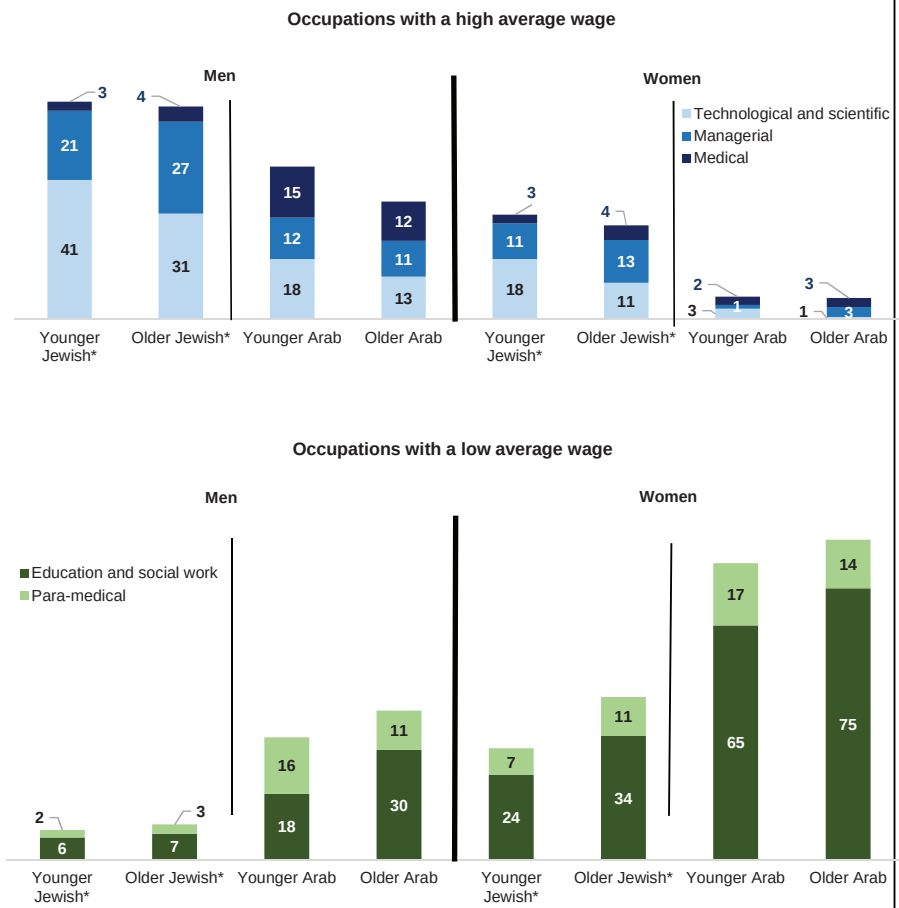
[30] In general, the number of teachers required in a particular population group depends on the number of school-age children in that population group. Therefore, the decline in the proportion of Arab university graduates in education may be partly related to the fact that the rate of growth in the number of university graduates in Arab society has in recent years been higher than that of school-age children.

[31] This may be consistent with disparities in achievement between younger and older Arabs on the PIAAC tests, where the scores of the former are higher than those of the latter.

[32] Z. Karill and N. Amariyeh (2019). "Barriers to Integration of the Arab Population in Higher Education", Ministry of Finance. [Hebrew]

there are still significant disparities between non-*Haredi* Jews and Arabs among young university graduates as well.

Figure 7.12
Distribution of Occupation Groups by Age Group (25–44 and 45–64), 2018–2022 (as a percentage of academic degree holders, full-time)



* Excluding the *Haredi* sector.
The percentages in the Figure do not add up to 100, since they do not include all occupation groups. Similar to Figure 7.11, the Figure includes occupation groups with a high average wage and those with a low average wage, but not those in between.
SOURCE: Based on Central Bureau of Statistics Labor Force Survey.

The analysis below focuses on two aspects of the issue, which are likely to be linked to the occupational distribution of Arab society and which have not been emphasized in Israeli research so far: (1) the geographic distribution of Arab society in Israel, which is characterized by a high concentration in the periphery; and (2) the high rates of public sector employment among Arab university graduates.

The geographic element: Is the geographic distribution of Israeli Arabs, which tends to be concentrated in the periphery, correlated with their occupational distribution?

A large proportion of the Arab population in Israel resides in the North and in other peripheral regions while a relatively small percentage lives in Tel Aviv and the Center. Furthermore, the Social Survey shows that mobility between cities and between regions is relatively limited in Arab society.[33] The question arises as to whether the geographic distribution of Israeli Arabs, which as mentioned tends toward the periphery, is correlated with the choice of an occupation in which the distribution of jobs is dependent on the distribution of the population, in contrast to occupations in which the jobs are concentrated largely in Gush Dan (the municipal area surrounding Tel Aviv) or in the vicinity of other urban centers in Israel (Jerusalem, Haifa, and Beer Sheva). More specifically, is the preference of Arab university graduates for healthcare and educational professions related to the fact that jobs in these occupations are more readily available in the periphery? Correspondingly, is the low proportion of Arabs in high-tech and managerial professions related to the fact that jobs in these professions are largely concentrated in the vicinity of Gush Dan, which is distant from regions in which the Arab population lives?[34]

In order to carry out a geographical analysis, university graduates were dived into categories by the degree of peripherality of their place of residence.[35] On the bases of this division, Figure 7.13 shows the occupational distribution of university graduates according to three groups: Arabs living in the periphery, Jews living in the periphery, and Arabs living in more central areas. The graph shows the gaps between Arabs from the Center and those from the periphery. A higher proportion of Arabs from the Center work in high-tech occupations and lower proportion work in the educational occupations. At the same time, the gaps between Arabs in the Center and those in the periphery are smaller than those between Arabs in the periphery and Jews in the periphery. This finding

[33] In the 2019 Social Survey, 91 percent of Arab men and 82 percent of Arab women reported having lived in the same city for the past 20 years. The same statistic among Jews was 52 percent, for both men and women.

[34] The issue of geographic location is primarily relevant with regard to Arab society, which is distributed differently than the non-*Haredi* Jewish population. In contrast, the distribution of the *Haredi* population does not significantly differ from that of the non-*Haredi* Jewish population (Figure 7.8).

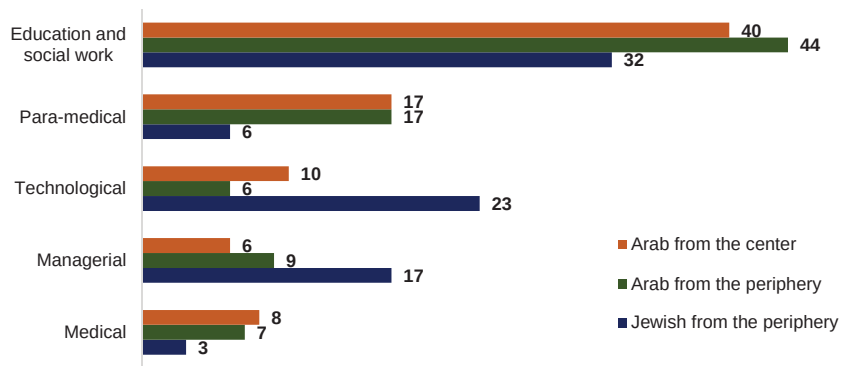
[35] The division into two categories is based on the Central Bureau of Statistics peripherality index for municipalities, which is based on two parameters: the distance from the municipality to the border of the Tel Aviv District and the weighting of the distances between the municipality and other municipalities and the population of those municipalities. The advantage of this index over a division by district or region is that the index weights not only the proximity to Gush Dan but also to other major cities. In view of the population distribution of Arab society and the limited number of observations in the Social Survey, clusters 1 to 4 were defined as peripheral areas while clusters 5 to 10 were defined as central areas. In view of the special characteristics of the Bedouin in the Negev and their concentration in remote peripheral areas, the data presented in Figure 7.13, as well as the multivariate analysis presented in Table 7.1, do not include residents of the South.

The tendency of Arabs to live in the periphery is apparently not one of the main reasons for the occupational distribution of Arab university graduates.

also emerges from the calculation of the segregation index, which shows that the distribution of occupations among Arabs from the periphery is closer to the distribution among Arabs from the center than it is to the distribution of Jews from the periphery (an index of 0.07 between Arabs from the Center and Arabs from the periphery and 0.30 between Jews from the periphery and Arabs from the periphery).[36] These descriptive findings may suggest that the geographic element is not one of the main variables explaining the disparities between Jews and Arabs in occupational distribution.

In order to examine the geographic factors based on other relevant variables, a multivariate analysis was carried out to examine the correlations between the degree of peripherality and other variables (age group, gender, and advanced degrees) on one hand and employment in five occupation groups in Arab society on the other. In general, the findings of the analysis do not show any clear or statistically significant trend with respect to peripherality, and it appears that according to the multivariate analysis as well the degree of peripherality is not a key variable in explaining the occupational distribution of Arab university graduates (Table 7.1).

Figure 7.13
Distribution of Occupation Groups by Population Group and Peripherality, 2018–2022 (as a percentage of academic degree holders, full-time, prime working ages (25–64))



* Excluding the *Haredi* sector.
The percentages in the Figure do not add up to 100, since they do not include all occupation groups. Similar to Figure 7.11, the Figure includes occupation groups with a high average wage and those with a low average wage, but not those in between.
SOURCE: Based on Central Bureau of Statistics Labor Force Survey.

[36] Segregation indices measures the degree to which two groups are separated from one another. The index measured here is based on the segregation index in Duncan & Duncan (1955), which measures the distance from an equal distribution. The range of the index is from 0 to 1 where 1 indicates that the groups are completely separated while 0 means that they have the same distribution. See O. D. Duncan and B. Duncan (1955), "A Methodological Analysis of Segregation Indexes", *American Sociological Review*, 20(2): 210–217.

Table 7.1: Findings of linear multivariate analyses of Arab sector employment in 5 academic occupation groups, prime working ages (25–64), full-time, 2018–2022

	Technological	Managerial	Education	Medical	Para-medical
Periphery (1=lives in a peripheral area)	-0.04**	0.036**	0.042	-0.013	0.008
	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)
Gender, Master's or Ph.D. degrees, age group	V	V	V	V	V
Intercept	0.229***	0.095***	0.029	0.139***	0.23***
	(0.02)	(0.02)	(0.03)	(0.02)	(0.03)
Number of observations	1,066	1,066	1,066	1,066	1,066
Adj. R-squared	0.067	0.049	0.236	0.183	0.016

Standard deviation is in parentheses, ***p<0.01, **p<0.05, *p<0.1
The multivariate analysis presented here shows the findings of linear multivariate regressions that examined the correlations between a residential location's peripherality and other explanatory variables (gender, age group, and advanced academic degrees) and dummy variables that represent employment in the five occupation groups (separate regression for each occupation group). The analysis focuses on Arabs with Master's or Ph.D. degrees in the prime working ages (25–64) who worked full time.
SOURCE: Based on Central Bureau of Statistics Labor Force Survey.

The high proportion of Arab university graduates who work in the public sector

The high proportion of Arab university graduates in the public sector is primarily a reflection of their high rates of employment in healthcare and education.

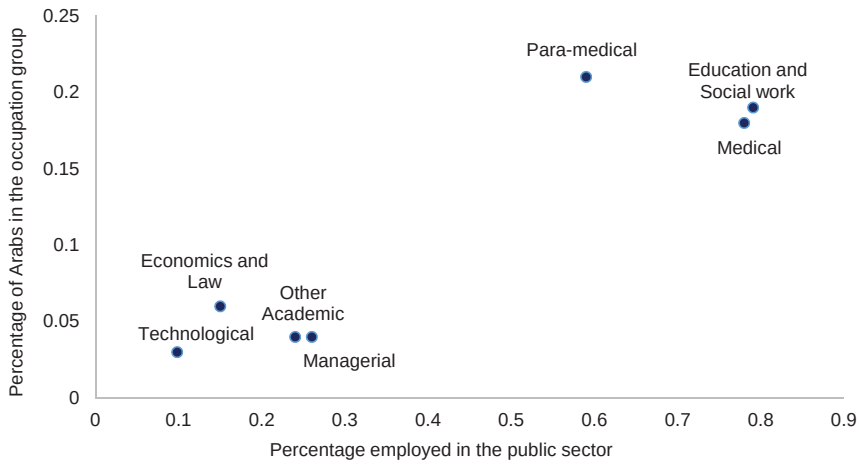
The proportion of public sector employees among Arab university graduates is significantly higher than that among their non-*Haredi* Jewish counterparts (63 percent vs 31 percent).[37] This gap is largely correlated with the differences in occupational distribution. There is a high proportion of Arabs in occupations that feature a high rate of public sector employment, such as education and healthcare, and a low proportion in occupations that feature a high proportion of jobs in the private sector, such as high-tech (Figure 7.14). An analysis of the proportion of employees in the public sector among Jews and Arabs in each occupation group separately shows that in some of the occupation groups (such as education and paramedical fields) the proportion of public sector employees is higher among Arabs, while in other groups (such as economics, law, and medicine) the proportion is higher among Jews. These findings are likely to be an indicator that the gap between Jews and Arabs in terms of public sector employment is largely the result of the difference in their occupational distributions and not necessarily the preference of Arabs to work in the public sector.

The division into age groups (Figure 7.15) indicates that the rate of public sector employment is lower in the younger group (25–44) than in the older

[37] The public sector variable in the Central Bureau of Statistics Labor Force Survey is based on a segmentation of the economic industry at a level of 4 digits. The way in which the variable is defined means that it should be treated with caution, because in some cases even a 4-digit level does not provide a precise segmentation of jobs in the public sector. Furthermore, the variable is based only on the individual's principal job. This becomes important in the case of physicians, for although most of them work in the public sector as their principal job, they work a considerable number of hours in private medicine.

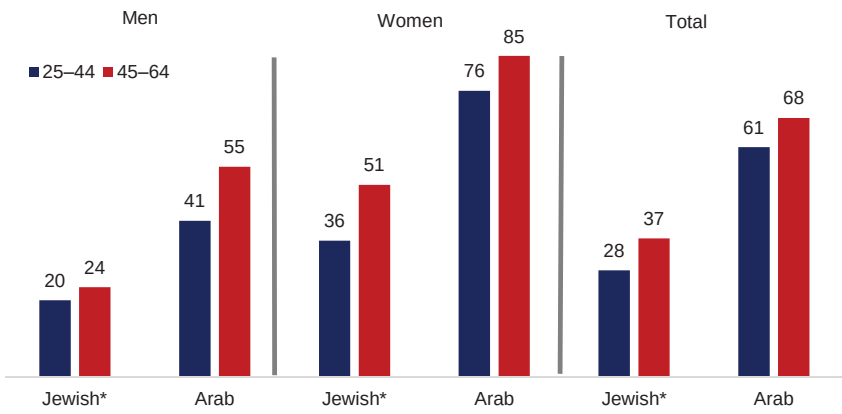
group (45–64), among both Jews and Arabs.[38] The trend in this gap between Jews and Arabs differs by gender. Among men, the gap between the old and the young has narrowed, while among women it has wide

Figure 7.14
Percentage of Arabs and Percentage of Public Sector Employees in Each Occupation Group, 2018–2022 (as a percentage of academic degree holders, full-time, prime working ages (25–64))



SOURCE: Based on Central Bureau of Statistics Labor Force Survey.

Figure 7.15
Percentage of Public Sector Employees By Population Group, Gender, and Age Group, 2018–2022 (academic degree holders, full-time)



* Excluding the *Haredi* sector.
SOURCE: Based on Central Bureau of Statistics Labor Force Survey.

[38] The gap in rate of public sector employment between the old and the young may be partly the result of differences in occupational distribution (Figure 7.12) and perhaps also employment stability in the public sector, which leads to a higher rate of employees remaining until an older age.