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EDUCATION REFORM
AND NARROWING EDUCATIONAL GAPS IN ISRAEL

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Education Reform and Narrowing Educational Gaps in Israel

Yossi Shavit and Vicki Bronstein *

Abstract

In Israel, as in many other countries, there are substantial gaps in education between those of varying socioeconomic status, as well as between Arab and Jews, and men and women. The education system tries to minimize these gaps with its emphasis on the accomplishments of weaker socioeconomic sectors. Nevertheless, stronger groups in the population have an advantage in attaining an education.

This study examines the rate of education for those born between 1955 and 1981, and offers a method of tracking the gaps in education from the 1970s until the turn of the millennium. The results indicate a certain narrowing of the gap for matriculation eligibility between the varying socioeconomic levels. Within higher education, even with its significant expansion, socioeconomic inequality remains. The gap between Jews and Arabs in higher education that actually increased at the start of this period, decreased among those born in the 1970s and onwards as the rates of higher education among Arabs increased greatly. The gender gap for matriculation and academic rates among those born in the second half of the 1970s increased significantly in favor of women.

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1. Background: Education Gaps Between Population Groups

In Israel, as in many other countries, there are clear existing educational gaps between different groups in the population that overlap sub-groups within the population; the gaps are primarily between Jews and Arabs, women and men, and groups of differing socioeconomic status. The education system tries to close these gaps, placing particular emphasis on improving the accomplishments of socioeconomically weaker groups. However, it is not a simple task to narrow the gaps, as the stronger groups in the population have a clear advantage in access to quality education. Parents of children from stronger socioeconomic groups tend to be more educated than parents of children from weaker groups; overall, they are more familiar with the material studied and especially with the learning process, and they are able to assist their children in coping with the demands and parameters of the education system. Such parents tend to place far greater importance on the educational achievements of their children and can help them to get ahead, either through their personal example or by encouraging them to succeed in school and climb the academic ladder. Moreover, educated parents tend to be more financially established than parents with fewer years of education, and children who grow up in a financially secure environment develop relatively better learning capabilities in comparison to those who grow up in more impoverished conditions (Duncan, Yeung, Brooks-Gunn, and Smith, 1998).

One of the most common measures that the education system uses in order to improve the achievements of weaker sectors is to increase teaching or instruction hours for those sectors – to give them “more education.” This has been standard policy in Israel too, where a consistent policy has been implemented for the past several decades to increase eligibility for the matriculation certification. Moreover, since the 1990s, consistent policies to increase instruction hours in higher education have also been implemented (Ayalon and Yogev, Shavit, Chachashvili-

Bolotin, Ayalon, Menachem and Tamir, 2006). However, it is not enough to increase instruction hours to ensure that the gaps between social groups will be narrowed, since “strong” sectors generally benefit by taking advantage of the new opportunities the system offers, and tend to do so more efficiently than those from the “weaker” sectors. For this reason, an increase in education tends to perpetuate the inequality, or even to exacerbate it. The exception to this is when the increase in educational instruction concerns the accessibility of certification or a saturation in the level of education for those on a higher rung of the socioeconomic ladder (Raftery and Hout, 1993). In this way, for example, the increase in teaching hours in high school education, which took place in Israel since the 1970s and continues to this day, has contributed to reducing the gap among high school graduates from educated families and non-educated families, since the number of high school graduates among stronger families was already very high in the 1970s.

Indeed, several international studies that followed the correlation between the expansion of education and the measure of the inequality of education between various social groups, demonstrated a reasonably stable correlation over time. They concluded that the education system finds it difficult to compensate weaker groups for their relative disadvantage (Shavit and Blossfeld, 1993).¹ The current study tries to determine if and to what extent educational gaps in Israel have narrowed throughout the period of large reforms in the matriculation exams and higher education, that is, since the late 1970s and through the 1980s and 1990s.

¹ Nonetheless, two more optimistic studies have recently been published that report that over the last decades a reduction in education gaps between social classes has occurred in Western Europe (Breen, Luijkx, Muller, and Reinhard, 2009; 2010). That said, the causes for the optimistic development are not sufficiently clear.

2. Important Reforms in the Israeli Education System

Since the 1970s, the Israeli education system has experienced change and reform intended to contribute to the narrowing of educational gaps between social groups. A number of reforms have been particularly deserving of attention. The first has been a reform in the occupational/technological branch of the education system, whereby the occupational tracks were expanded to lead to the matriculation exams. This step was intended to increase the eligibility to matriculate among the “weaker socioeconomic groups” which tend to be over-represented in these fields of study.

Throughout this period, significant reforms in the matriculation exams themselves were being put into place, specifically to meet the demand for matriculation eligibility. This was apparent in reducing the number of the external exams required, as well as in using the material that was included in the curriculum as the main focus of the material for the examination.

The third prominent area of reform was related to the expansion of higher education. The change began in the late 1970s, which saw the start of the academization of teaching colleges, and gathered momentum in the early 1990s with the rapid expansion of local and private colleges as well as local branches of foreign universities. The number of first degree students more than tripled, from 50,000 in the mid-1980s rising to 129,000 in 2000 and then to 168,010 in 2008 (Council for Higher Education, 2008: p. 56). The requirements in most colleges are less stringent than in universities, with many colleges accepting matriculation certificates alone without psychometric exams or a minimum score requirement on the psychometric exams. The demands of the branches of overseas universities are even less stringent and even matriculation exams may not be required for admission. Shavit and colleagues (Shavit, Bolotin-Chachashvili, Ayalon and Menahem, 2007) researched the consequences of this expansion on the shift in inequality between social

groups on everything pertaining to entering higher education. They found that new institutes, which were less selective, accepted students from “weaker groups” and thus contributed to narrowing the inequality gap among various socioeconomic groups in the rates of entry to higher education. Nonetheless, at the same time, they found that universities maintained and even increased their social selectiveness.

3. Presenting the Current Research: The Expansion of Education and the Changes in Educational Gaps

A number of studies have been conducted in Israel on the long-term changes in education gaps between socioeconomic groups, especially between Jews and Arabs, and men and women. Most of the studies were based on data gathered from the population census that was conducted in 1983 and in 1995, and followed the trend of the change until only the 1990s. The study published by Shavit and associates in 2007 (Shavit et al., 2007) was also based on data from 2002 and related primarily to the developments that occurred throughout the 1990s. The intention of this current study is to provide an update to 2008, with information pertaining to the shift in educational inequality in Israel.

Objectives: The study relates to the following research questions: (1) What were the patterns of change between the 1970s and the new millennium in high school education rates, matriculation eligibility, non-academic tertiary education and higher education? (2) To what extent have matriculation eligibility and higher education rates changed and to what extent has any inequality between them shifted within various social groups, between men and women, and between Jews and Arabs? (3) What have been the effects upon them of the educational reforms in the 1980s and 1990s, and has there been any shift in their degree of inequality?

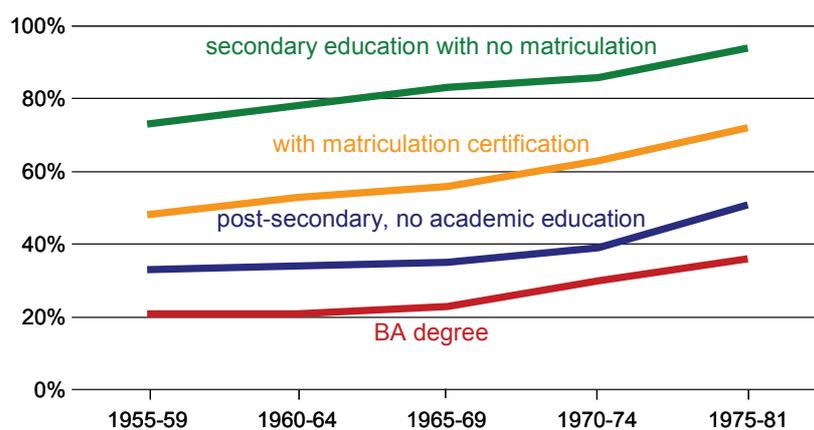
Data: For purposes of this study four groups of data bases were combined that included a representative sample of residents in Israel divided by educational achievement, sector (distinctions between Arabs and Jews), and by gender using the highest level of education attained by the parents of the subjects in the study (the last variable providing an indication of the socioeconomic background of the subjects).² The data was gathered in 1995, 2001, 2002 and 2008 in order to investigate educational inequality in education among native-born Israelis during the period 1955 and 1981.³ (Immigrants who moved to Israel after age six were not included in the analysis, as their education was, at least to some extent, obtained abroad, and is therefore not relevant to the educational developments that were assessed in Israel or the developments characterizing “Israeli pupils.”)

² The data from 1995 is data from a sample including 20 percent of the population census conducted that year. The listings of those analyzed from the census were combined by the Central Bureau of Statistics with the listings of their parents from the previous census (1983). Data from 2001 was gathered by Professor Yehuda Matras, Professor Rebecca Reichman, and Professor Haya Steir, and data from 2002 and 2008 were taken from the European Social Survey, conducted in Israel, and funded by The National Academy for Sciences and executed by the B.I. Cohen Institute for Public Opinion Polls at Tel-Aviv University. The samples of the age groups between 1955 and 1981 included: 19,248; 469; 802 and, 922 people, respectively. Since the first group is much larger than the others and there was some concern that it might distort the findings of the study, it was weighted at 0.04 of its size (its weighted size is 770).

³ Most of the members of the young age-group who planned on completing their tertiary or academic education did so before 2008, the year the last survey available to us was undertaken. A significant percentage of the younger age group had not yet completed their studies by this year and so are not included in this analysis.

• **Findings about the expansion of education.** The educational expansion rate among the age-group born in Israel from the mid 1950s through the early 1980s is presented in Figure 1. The data is representative of five age-groups – those born between 1955-1959, those born between 1960-1964, those born between 1965-1969, those born between 1970-1974, and those born between 1975-1981. In each age group we studied the educational distribution of persons 27 or older by the time of the surveys. The educational categories are: graduating high school without a matriculation certificate, graduating with a matriculation certificate, graduates of non-academic tertiary education, and university graduates (with a first degree).

Figure 1
Expanding education
 rate of completion amongst 27 year-olds, by level of education
 and five-year birth periods, 1955-1981

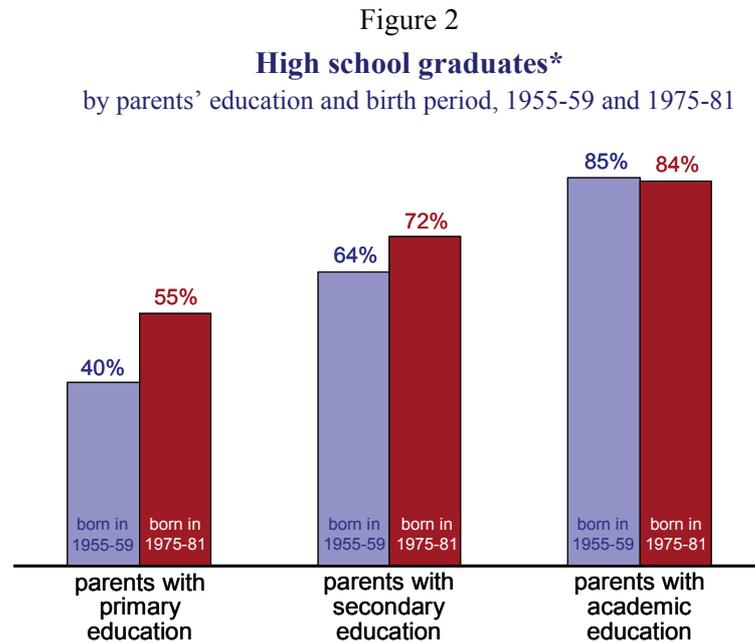


Source: Shavit and Bronstein, Taub Center and Tel-Aviv University.

What emerges is that the number of those with a matriculation certificate and above has risen from approximately 47 percent among those born in the late 1950s, to approximately 70 percent among those born between 1975 and 1981, and the number of university graduates (holding a first degree) rose from approximately 21 to approximately 35 percent among that age-group. It is interesting to note that the rate of academic degrees accelerated slightly among the younger age-groups. This is most likely explained, as mentioned, by the expansion of colleges and overseas university branches that began to operate in Israel during the 1990s.⁴

• **Changes in education gaps between groups according to their parents' education.** Figure 2 presents the differences between those born in the late 1950s and those born in the late 1970s in matriculation eligibility for various social groups as divided by their parents' education. Results indicate something of a decrease in the gap between these groups in the number of those eligible for matriculation certification, primarily as a result of the increase in the rate of eligibility among those from weaker sectors (whose parents have only primary education) and among the mid-level education group (whose parents have secondary education).

⁴ Since the data relates to native-born Israelis and to those who immigrated before age six only, they do not match the data published from time to time on the education rates amongst the whole population.



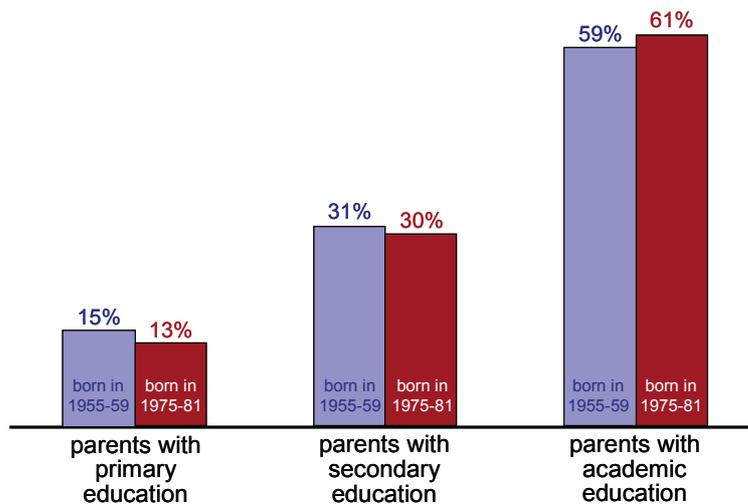
* successfully passed matriculation examinations.

Source: Shavit and Bronstein, Taub Center and Tel-Aviv University.

The number of those eligible for matriculation certification among the “most educated” hardly changed throughout this period. Figure 3 presents the higher education rates among the three education groups; the degree of stability in the gaps between the groups in the rates of higher education is very marked. It turns out that despite the significant expansion in higher education, the rate of higher education within each group remains relatively stable throughout the period and the degree of inequality between them is unaltered. What this implies is that any expansion in education derives from a “class” upgrade in Israeli society. In other words, there has been an expansion in the middle to upper class, whose children apply to higher education in increasing numbers, and there has not been a rise in the participation rates in higher education from each

socioeconomic level. It is interesting to note that even though there was a rise in matriculation eligibility among the lower and middle class, the rates of higher education among these groups were not seen to rise.

Figure 3
College graduates*
 by parents' education and birth period, 1955-59 and 1975-81



* successfully attained undergraduate degrees.

Source: Shavit and Bronstein, Taub Center and Tel-Aviv University.

• **Changes in gaps according to sector – educational gaps between Arabs and Jews.** Figures 4 and 5 show rates of matriculation eligibility and the rates of higher education by sector and year of birth.⁵ Among

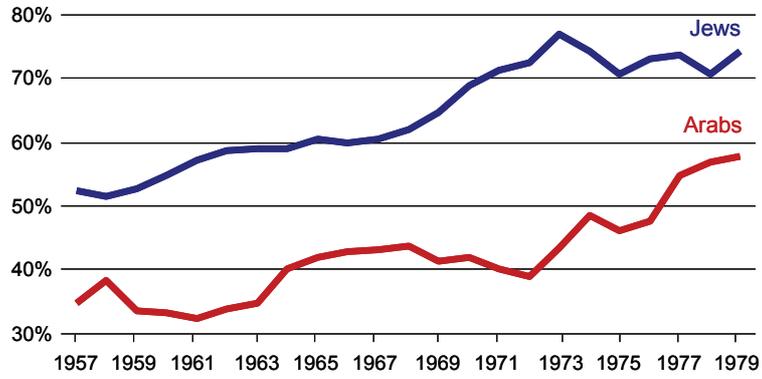
⁵ In contrast to Figures 1-3, where year of birth was grouped into five categories, Figures 4-7 relate only to year of birth. Some of the interesting changes identified in the data occurred between the year of birth age-groups of the late 1970s, and not amongst the groups categorized. That said, it should be remembered that with every time analysis the differences between

those born in the late 1950s, 1960s, and early 1970s, the gap between Arabs and Jews in matriculation and higher education grew slightly, but from the mid-1970s age-group, after a consecutive rise in matriculation rates among Jews, the rates stabilized and even decreased slightly (more on this later in the study), while among the Arab sector, the rates rose from approximately 40 percent among those born at the start of the decade to approximately 60 percent among those born at the end of the decade.

Simultaneously, the gap between Jews and Arabs in higher education continued to rise until the age-group of those born in the mid-1970s. Then for those born from the mid-1970s and after, the rate of higher education rose considerably in the Arab sector, and the gaps between Jews and Arabs were greatly narrowed. It should be noted that since the late 1990s, the number of Arab students studying in Arab countries, especially the Palestinian Authority and Jordan, has risen greatly. There are some who estimate the number as being approximately 4,000 a year (Abu-Asba, in private conversations). The number of Arab students in Israeli universities and colleges has remained at approximately 17,000 a year (Council for Higher Education, 2008, p.75). The implications are that the number of Arab students, Israeli citizens, studying abroad is far from insignificant and may be an important factor in the rise in higher education within this sector (the data clusters available to us do not allow a distinction between those studying abroad and those studying in Israel).

individual age groups in any dependent variable (for example, matriculation and higher education rates) reflect two components: a systematic trend of growth or reduction and random change expressing errors of sample or evaluation. As is standard practice, there was an attempt to neutralize the element of random change through the customary systematic method of calculating moving averages: for every age group year of birth, its average matriculation and higher education rate and that of its four adjacent age groups (as shown in Figures 4-7) was calculated.

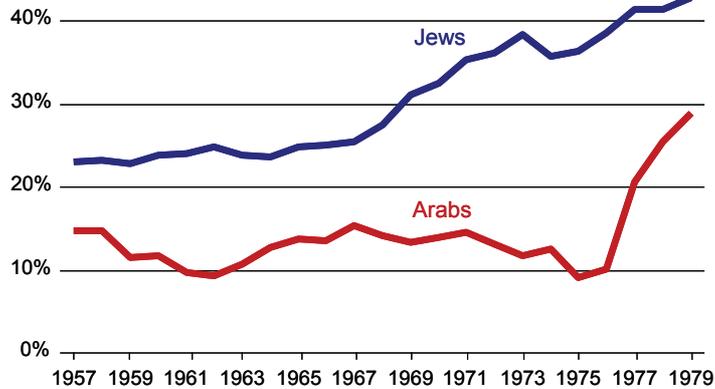
Figure 4
High school graduates*
 by sector and year of birth**, 1957-1979



* successfully passed matriculation examinations.
 ** five-year moving averages.

Source: Shavit and Bronstein, Taub Center and Tel-Aviv University.

Figure 5
College graduates*
 by sector and year of birth**, 1957-1979



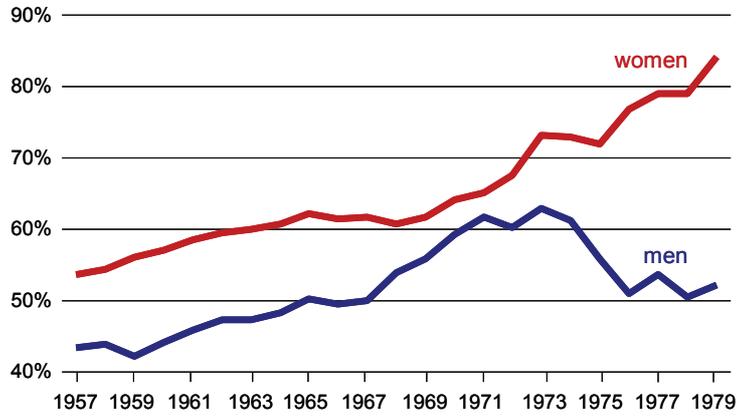
* successfully passed matriculation examinations.
 ** five-year moving averages.

Source: Shavit and Bronstein, Taub Center and Tel-Aviv University.

• **Changes in the gaps according to gender.** Figures 6 and 7 present the rate of matriculation and academic degree eligibility for men and women according to the year of birth. The results are not surprising. The rates of eligibility among women have consistently risen, except for a slight decrease in the 1975 age-group. In contrast, among men born in the second half of the 1970s, significant decreases in the matriculation eligibility rates have been recorded. The decrease began with the 1974 age-group and continued for three years. The decrease was even expressed in the higher education rates, even though there were some signs of recovery among those born at the end of the decade. As a result of the gender differences in the strength of these changes, the gender gap in matriculation and university graduates rose among those born in the second half of the 1970s (see the following for more on this matter).⁶

⁶ The significant rise in higher education amongst women is in part due to the academization of teaching colleges, where most of the students are women. Therefore, the administrative decision to award an academic degree to college graduates contributes greatly to the rise of women university graduates.

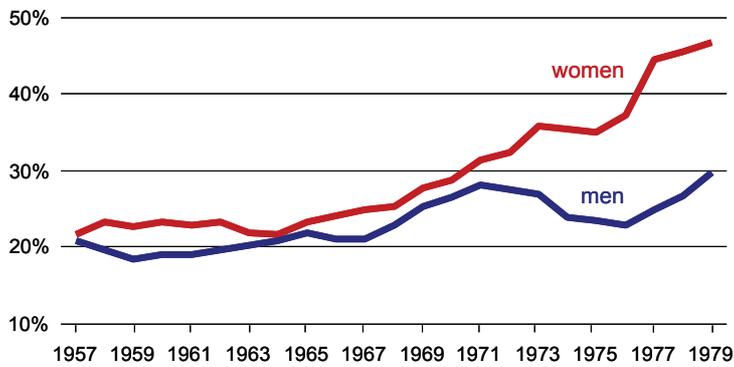
Figure 6
High school graduates*
 by gender and year of birth**, 1957-1979



* successfully passed matriculation examinations.
 ** five-year moving averages.

Source: Shavit and Bronstein, Taub Center and Tel-Aviv University.

Figure 7
College graduates*
 by gender and year of birth**, 1957-1979



* successfully passed matriculation examinations.
 ** five-year moving averages.

Source: Shavit and Bronstein, Taub Center and Tel-Aviv University.

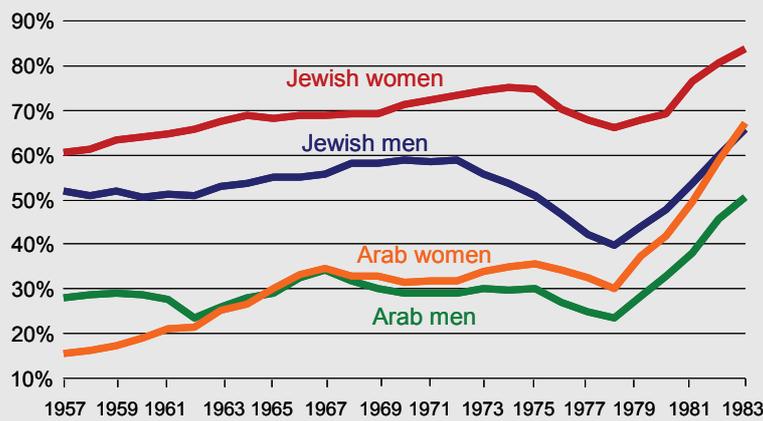
Spotlight: Examining the Decrease in Matriculation Eligibility Rates Among Those Born in the Mid-1970s

To the best of our knowledge, the decrease in matriculation eligibility among those born in the mid-1970s has not yet been discussed in the literature pertaining to the development of education in Israel. The evidence needs to be tested to check for any errors in sampling or measurements and in accordance with this, two comprehensive tests were carried out: the first test consisted of a survey of relevant statistical publications, in order to examine whether there had been a significant decrease in the matriculation eligibility in the early 1990s, when those born in 1975 began taking the matriculation exam. It turns out that in 1992 there was an approximately three percent decrease in eligibility rates across the whole age-group (Schaik, 2003). The second test included an analysis of two data clusters from human resource surveys at the Central Bureau of Statistics for 2006 and 2007. This data makes it possible to estimate the matriculation eligibility by gender and sector for those born in the 1960s, 1970s, and 1980s. Indeed, a similar and even more remarkable pattern to our findings has been found – among those born in the mid-1970s there was a decrease in the eligibility for matriculation among both sexes, among Jews and Arabs, with an even more marked decrease among men (Figure 8).

The explanations for these findings are far from clear. Throughout this research a number of alternative explanations were examined. The first possible explanation is that in the 1990s exam regulations began to change and proved detrimental to the rates of success and eligibility. We interviewed former Director-Generals from the Ministry of Education and others within the matriculation system, yet were unable to find proof to support this assumption. Another explanation that was explored is that the decrease in matriculation rates is linked to the accelerated growth of the percentage of ultra-Orthodox from the 1970s age-groups. It is a known fact that among the ultra-Orthodox, who study in Independent and exempt institutions, the number of men who take the matriculation exam is low. Among ultra-Orthodox women the rate is indeed higher, but it is still comparatively lower than those studying in State education system. Among ultra-Orthodox in age-groups born in the 1970s the number studying in (Independent) ultra-Orthodox high schools grew, from 5.7 percent in the 1990-1 academic year (the 1972-74 age-

groups) to 8.0 percent in the 1995 academic year (1977-79 the age-groups). Eligibility for matriculation is calculated according to the ratio between the number eligible and the number in the age-group. The assumption was that the substantial natural increase in the ultra-Orthodox population contributes to the size of the age-group but does not contribute in the same ratio to the number eligible and it may explain the drop in matriculation rates among those born in the late 1970s. However, an analysis of the data from the CBS's Human Resources Survey shows that the decrease in eligibility rates occurs not only among Jews, but also among Arabs (and it appears in a more moderate degree in Figures 4 and 5). Since there is no reason to assume that eligibility rates among Arabs are influenced by the rates of Orthodox Jews, the assumption was rejected.

Figure 8
High school graduates*
 by gender and sector, by year of birth**, 1957-1983



* successfully passed matriculation examinations.

** five-year moving averages.

Source: Shavit and Bronstein, Taub Center and Tel-Aviv University.

Analysis of the Human Resource Survey also showed that matriculation eligibility rates recovered among the age-group born in the 1980s. This apparently reflects the success of the reform in matriculation exams that occurred during the time when Amnon Rubinstein served as the Minister of Education. The number of students eligible grew so much that it made up for the decrease that occurred in earlier years.

4. Summary

The study brought to the fore some findings that are less widely-known and worth emphasizing: firstly, despite the expansion of the higher education system in past decades, the number of university graduates (those who hold a first degree) among various socioeconomic groups has remained reasonably stable throughout the period. The expansion of the higher education system has enabled the absorption of increased demand coming from the growth of the educated “middle class.” Among the age-groups born between 1955-59 only about 13 percent of Israeli pupils (that is native-born Israelis and those immigrating before the age of six) were born to parents with a secondary or academic education, whereas among age-groups born between 1976-81 there are approximately 46 percent of Israeli pupils (three times more). The higher education system tripled in size during that period and was therefore able to respond to the increasing demand for higher education by the sons and daughters of the educated class. Nevertheless, the gap between the “classes” in higher education remained stable throughout the quarter of the century that was researched in this study.

Second, much has been said of the ongoing discrimination of the Arab Israeli citizens in general and of the Arab education system in particular (for example, Abu-Asba, 2007). In light of this, it is surprising and encouraging to see that the gaps in education between Arabs and Jews have to some extent narrowed over the years. It is important to identify the factors at the basis of this positive development. The

assumption raised in the study was that the gap narrowed due to the increasing number of Arab students leaving to study in colleges in the Palestinian Authority and Jordan (and abroad in general). Another possibility is, of course, that the increase in the rate of higher education has been possible due to the expansion of the colleges in Israel. Moreover, part of the narrowing of the gap is caused by the decrease in education that began among the Jews born in the mid-1970s.

Finally, during the data analysis a surprising finding emerged of a decrease in matriculation rates among boys and girls, both Jews and Arabs, among those born between 1975 and 1978. This finding was reinforced in a number of data bases but has yet to have been explained at this stage and one must hope that it will be examined and explained in a further study.

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