

POLICY PAPER SERIES

ISRAEL'S EDUCATION SYSTEM

A DOMESTIC PERSPECTIVE

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סדרת ניירות מדיניות

מערכת החינוך – מבט פנים

נחום בלס

נייר מדיניות מס' 2010.04

ההתפתחויות הדמוגרפיות במערכת החינוך מצביעות על הגעתה אל ספו של מעבר למצב בו תלמידי החינוך הממלכתי היהודי יהיו למיעוט מכלל התלמידים. מצב זה מלווה בכך, שהישגי התלמידים הערבים והחרדים במקצועות הליבה אינם עונים על דרישות השוק הגלובלי ומקשים על השתלבותם המלאה בחברה הישראלית. ניצול התקציב על-ידי משרד החינוך – תוך מיקוד על סוגיית ההעדפה המתקנת ואי-השוויון בהקצאת המשאבים בין חלקי המערכת השונים – מצביע על כך, שלמרות קיומה רב-השנים של ההעדפה המתקנת, כחלק בלתי נפרד ממדיניות משרד החינוך, עדיין קיימים פערים משמעותיים בין חלקי המערכת השונים. בסיום הפרק מותווים הצעדים הנדרשים לקידומה של מערכת החינוך בהישגים הלימודיים ובצמצום הפערים.

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נחום בלס הוא חוקר בכיר ב מרכז טאוב לחקר המדיניות החברתית בישראל. כל הטעויות הן של המחברים. הדעות המובאות להלן הן של המחבר ואינן בהכרח משקפות את דעות מרכז טאוב לחקר המדיניות החברתית בישראל.

מותר לצטט קטעי טקסט קצרים – שאינם עולים על שתי פסקאות – ללא הסכמה מפורשת, ובלבד שיינתן אזכור מלא למקור הציטוט.

Israel's Education System

A Domestic Perspective

Nachum Blass*

Abstract

Demographic developments within the education system indicate the advent of a new situation in which pupils in the Jewish State school system will be a minority of the overall pupil population. This situation has potentially more damaging implications due to the fact that the achievements of Arab Israeli and ultra-Orthodox pupils in core curriculum subjects do not meet global market requirements and this will make it difficult for them to be integrated fully into Israeli society. The Ministry of Education budget utilization data revealed that, despite the fact that affirmative action has long been an integral part of the Education Ministry policy, there are still significant gaps between different parts of the education system. An in-depth examination of the system in this chapter reveals its positive and negative aspects.

In the past decade two processes with important and long-term implications for the Israeli education system are at work – the substantial change in Israel's demographic makeup and the inadequate

* Special thanks to Yulia Cogan from the Taub Center for her help in data processing and for preparation of the figures in this chapter.

expansion of the education budget. The demographic change consists of a growing share of ultra-Orthodox schools and Arab Israeli schools in the overall education system, and the budgetary problem is expressed in all its severity in the continuous decline, which only recently stopped, of the level of expenditure per pupil in large parts of the system. Both processes have critical implications for the nature of the education system, its ability to reach the goals of the State Education Law (1953)¹ and its graduates' abilities to cope successfully with the challenges they face in a modern, democratic society.

The new State budget for 2009-2010, as well as the Ministry of Education's goals as phrased in comments made by the Education Minister, Mr. Gideon Sa'ar, to the Knesset Education Committee (Ministry of Education, 2009), pertain primarily to the Jewish State and State-Religious schools, which constitute today no more than 55 percent of the education system and are expected to be only about half of it or even less by 2013. They do not reflect these changes and are inadequate considering the full implications of these demographic processes.²

This chapter reviews developments that took place in the pupil and teacher populations of the education system (sections 1 and 2), various aspects of budget allocations for education (sections 3 and 4), and highlights the educational and social implications of demographic changes. The chapter ends with an overall look at the education system against the backdrop of the developments discussed (section 5).

¹ See, for example, Article 2 in *the State Schools Law, changes to the law 2000*, "to inculcate the principles of the declaration on the establishment of the State of Israel and the values of Israel as a Jewish and democratic State and to develop respect for human rights, fundamental freedoms, democratic values, following the law, the culture and worldview of others, and to educate for pursuing peace and tolerance in relations among humans and peoples." See explanations and commentary in: <http://lib.cet.ac.il/Pages/item.asp?item=3332> (Hebrew).

² Although the 2010 State Budget indicates a considerable increase in the budget of about 7 percent compared with the budget for 2009, it should be pointed out that the 2009 budget is identical to the 2008 budget, except for the price increases in 2008.

1. Pupils in the Education System³

Israel's education system is composed of and divided along a number of lines, the main and most commonly accepted of which are ethnicity (as reflected in the division into Arab Israeli and Jewish sectors), and the type of supervision within the Jewish sector, which relates to the level of religious observance in schools (divided into State, State-Religious and ultra-Orthodox schools). Most publications by the Ministry of Education and the Central Bureau of Statistics (CBS) separate the education system by sectors (Jewish and Arab) and, within the Jewish system, by type of supervision. However, this approach does not reflect, and may even obscure, the real meaning of the greatest change that took place in the education system over the past decade. This change consists of the transformation of two groups of pupils, those of the Arab Israeli and ultra-Orthodox Jewish sectors, from relatively small minorities to a very large component. They already represent 43 percent of all the primary and secondary school pupils, and are expected to become the majority – unless unforeseen changes occur in Israel's population growth pattern – in the near future.

The very rapid changes in Israel's pupil population will soon turn into large changes in the composition of the adult population. In view of their low employment rates (see the chapter "Israel's Labor Market"), the high rates of poverty in Israel in general and in these two population groups in particular, and Israel's low economic growth rate in the past three decades (see the chapter "A Macro Perspective"), a key question arises: what kind of education does the State of Israel provide for the ultra-Orthodox and Arab Israeli pupils today? Is the education given today to Israel's future adult majority adequate for the needs of Israeli society?

³ Most tables and illustrations in this section, unless otherwise stated, are based on data provided by the Educational Management Information System, Ministry of Education, on the Internet. Occasionally there are differences between that system's data and that of the Central Bureau of Statistics but the data is more up to date and based on administrative data of the Ministry of Education.

When reflecting on this question it is important to recall two facts that may have a great impact on the answer. One, which is uncontested, is that the Arab Israeli pupils' achievements are significantly lower in all the tests and in all the criteria than those of Jewish pupils; the other is that since the ultra-Orthodox pupils do not take part in State-wide comparative tests or in international tests, there are no measures to reflect their knowledge level in the basic educational study areas.

1.A. *The Education System as a Whole and Its Key Components*

Israel's education system expanded from about 400,000 pupils in 1960, to about 800,000 in 1980, to nearly 1.3 million in 2000, and to 1.5 million in the past year (Table 1). Because of the massive increase of the education system as a whole, over the decades the rate of growth of the system declined even though the absolute increment (about 200,000 on average per decade) did not change. In the past decade the increment was smaller (about 175,000 pupils by 2009) while in the 1990s it was above average, following the large immigration wave, which expanded the education system by nearly 300,000 pupils.

Table 1. **Pupils in Primary and Secondary Education, 1960-2014***

	Total	State	State-Religious	Ultra-Orthodox	Arab
1960	396,329	239,264	94,776	23,605	38,685
1970	608,826	347,588	135,707	29,574	95,956
1980	800,036	475,899	133,927	30,949	159,261
1990	995,324	584,500	155,525	47,513	207,787
2000	1,293,350	673,762	187,975	152,585	279,027
2009	1,468,264	651,045	200,550	226,694	389,975
2014*	1,561,368	624,878	211,090	278,554	446,847

* Forecast of pupils of the Central Bureau of Statistics (CBS). It is important to note that since 1999 the ultra-Orthodox statistic includes pupils in *Talmud Torah*.

Source: CBS (2009). *Statistical Abstract of Israel*, No 60.

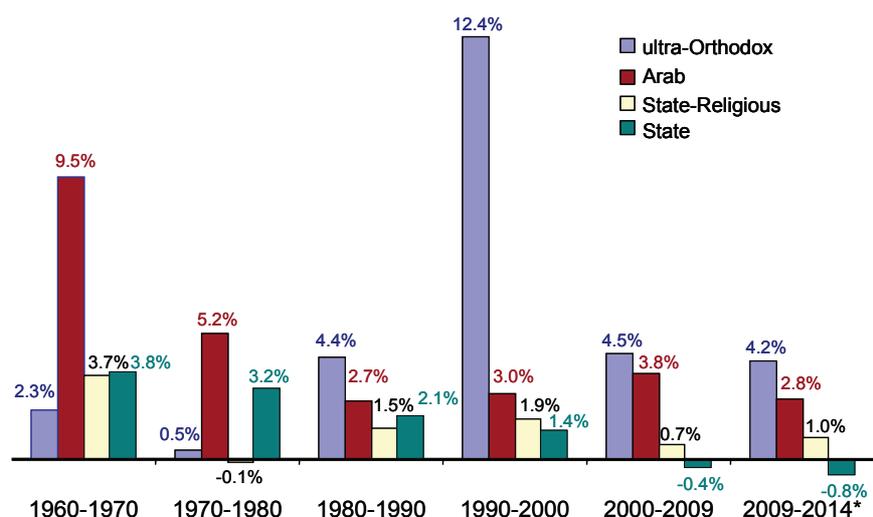
The rate of growth in the number of pupils gradually declined over the decades. From 4.4 percent on average per year in 1960-1970 it dropped to 1.3 percent on average per year in the last decade 2000-2009, and is expected to further decline to 0.6 percent on an annual average between 2009 and 2014. Nonetheless, the growth in the total number of pupils in the education system does not reveal the most significant change that occurred in this system. This is the change in the composition of the pupil population resulting from different growth rates in various parts of the system (see Table 2 and Figure 1).

Table 2. **Overall Growth in Primary and Secondary Education, 1960-2014***, Rate of average overall annual change, by decades

1960-1970	1970-1980	1980-1990	1990-2000	2000-2009	2009-2014*
4.4	2.8	2.2	2.7	1.3	0.6

Figure 1

Pupils in the Education System
rates of change, annual average, by decades



* CBS projection of the number of pupils.

Source: Taub Center for Social Policy Studies in Israel.
Data: Central Bureau of Statistics (CBS).

The growth rate in the number of Arab Israeli pupils (ensuing from rises in both fertility and the rate of school attendance)⁴ was, in all the decades, higher than those of the State and State-Religious schools systems, even during the decades of very large waves of immigration. Thus, the number of pupils in the Arab Israeli sector expanded from about 10 percent of the overall pupil population in 1960 to 22 percent in 2000 and over 25 percent in 2009. Their share is expected to reach 29 percent by 2014 (see Figure 2).

The expansion of the pupil population in the ultra-Orthodox sector began to intensify in the 1980s and persisted at a higher rate than in any other population group. The growth of the ultra-Orthodox pupil population reached a peak in the 1990s. This resulted in part from a change in the Central Bureau of Statistics' reporting method, namely the inclusion of pupils in *Talmud Torah* and exempted institutions.⁵ The numbers kept growing in the 2000s and are likely to continue. Ultimately the ultra-Orthodox sector grew from 4 percent of the overall pupil population in 1980 to 15 percent in 2009, and is expected to reach 18 percent by 2014.

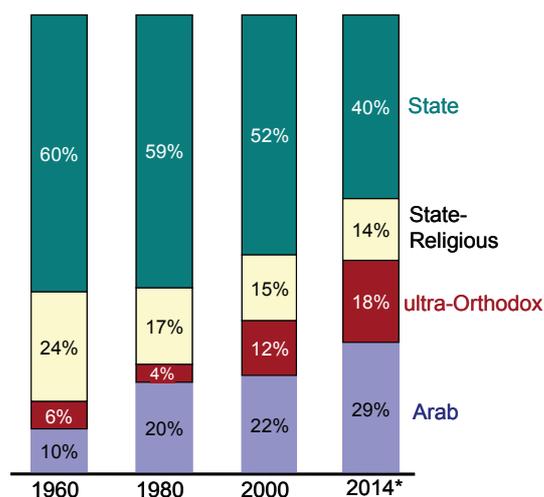
In comparison with these two population groups, the Jewish State schools – which were the majority in 1960, with 60 percent of the overall pupil population – already constitute a minority. Currently only 44 percent of pupils are in the State schools, and its share is expected to continue declining to 40 percent by 2014. In fact, from the beginning of this decade it is no longer an issue of merely a decrease in the share of the

⁴ The Ministry of Education distinguishes between the Arab, Bedouin, Druze, and Circassian sectors. Here we include all four of these sectors under the title “the Arab Israeli sector,” avoiding the term the “Minorities Segment” or the “non-Jewish sector”, which are resented by Arab educators. Notwithstanding the above, according to the issue under discussion, we shall also refer to the distinction in the Arab sector, between Arab Israelis, Druze, and Bedouins, and between the formal and the recognized education in this sector.

⁵ “Exempted” schools are schools (mostly ultra-Orthodox) that are not bound by most educational laws concerning curricula, staffing, etc., but are still allowed to operate. These schools receive only limited state funding.

Jewish State schools, but of an actual decline in the number of pupils in it, a trend that has been getting stronger since 2000.

Figure 2
Pupils in Schools
 1960-2014* – selected years (percent)



* CBS projection of the number of pupils.

Source: Taub Center for Social Policy Studies in Israel.
Data: CBS.

To summarize, the differences in rates of growth of the pupil population in the different sectors, as observed in the separate sectors of the education system, clearly reflect a rapidly rising share of ultra-Orthodox and Arab Israeli pupils in the overall education system – and a substantial decline in the share of the Jewish State schools system.

1.B. The Education System by Education Level

Pre-primary schools

The growth in the number of pre-primary school pupils – kindergartens and pre-kindergartens (ages 3-5) – is not uniform in the different sectors of the education system. The overall number of children in pre-primary schools in Israel grew by about 22 percent over the last decade (until 2009). The growth rate was negligible in the State and State-Religious schools (2.4 and 7.6 percent, respectively for the whole period) but very fast in the ultra-Orthodox (47.5 percent) and Arab Israeli (53.4 percent) schools.

In the State and State-Religious schools, most of the rise resulted from natural population growth; there were no changes in attendance rates, since most children had already been enrolled in municipal and public pre-primary schools (attendance rates of close to 100 percent). On the other hand, following the introduction of the Compulsory Education Law for 3 to 4-year-olds, ultra-Orthodox pre-kindergartens showed an increase in attendance. This led to a higher proportion of private (neither municipal nor public) pre-kindergartens, the preferred type among ultra-Orthodox parents. That is, the proliferation of ultra-Orthodox schools in the overall pre-primary education was predominately in the share of children in private pre-kindergartens. Also among the Arab Israelis there was an exceptional increase. Attendance rates of 3 to 4-year-olds in pre-kindergartens rose, from 34 percent for 3-year-olds and 43 percent for 4-year-olds in 2000, to 75 and 83 percent, respectively, in 2008. Higher attendance rates and rapid natural population growth led to a total expansion in Arab Israeli pre-primary schools of 82 percent for 3-year-olds, 62 percent for 4-year-olds, and 33 percent in 5-year-olds. Most probably, a large percentage of this growth resulted from increased attendance rates following the introduction of the free pre-primary school

education law for children aged 3-4 and from increased awareness in the Arab Israeli sector of the importance of early childhood education.⁶

Table 3. **Pre-Kindergarten and Kindergarten Pupils, by Education Sector, 2000 and 2009**

	Total	State	State-Religious	Ultra-Orthodox	Arab
2000	300,934	130,490	52,540	61,955	55,949
2009	367,394	133,619	56,555	91,376	85,844
Rate of Increase	22.1	2.4	7.6	47.5	53.4
<i>Distribution in Percents</i>					
2000	100.0	43.4	17.5	20.6	18.6
2009	100.0	36.4	15.4	24.9	23.4
Rate of Increase		-16.1	-11.8	20.8	25.7

Ultimately, the share of ultra-Orthodox and Arab Israeli pupils in pre-primary schools rose from 40 percent in 2000 to 49 percent in 2009, and the maximization of attendance rates of pre-primary school age children in the coming years is bound to cause these two groups to become the majority in the overall number of pupils in the population.⁷

Primary Education

Changes in the primary education best reflect the demographic changes in the 6-11 age group, since attendance rates of this age group in the education system (in all its components) are already very high. In the

⁶ An inspection in permanent Bedouin settlements showed that some children are registered in the pre-primary schools but do not participate in the activities, yet the State transfers tuition financing for these children to the school operators (Blass, 2007).

⁷ A particularly interesting phenomenon in the ultra-Orthodox schools is that the number of children in these kindergartens is significantly higher than the number of children in the first grade in the same education system: the number of pupils aged 5, enrolled in ultra-Orthodox kindergartens, is around 29,000, whereas the number of first grade pupils is about 21,000-22,000.

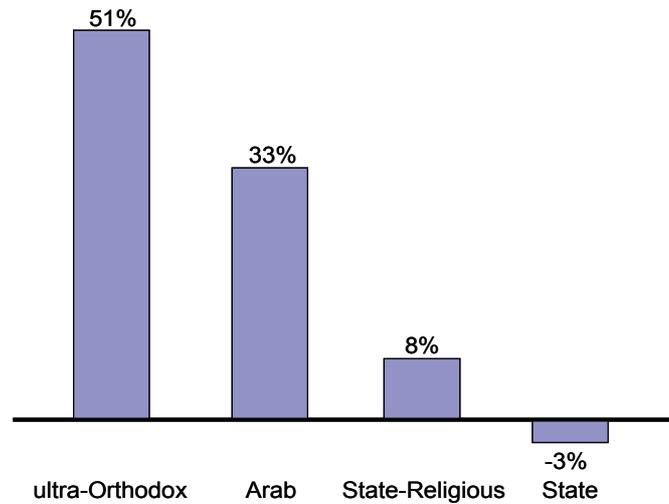
absence of significant transfers from sector to sector, only the natural demographic growth is responsible for the changes in the number of pupils in primary schools. The composition of pupils in primary schools is not essentially different from those in kindergartens, but there are differences in the rate of the changes.

While the overall pupil population in primary schools grew by 15 percent over the past decade, in the State schools it declined by 3 percent and in the State-Religious schools it grew by only 8 percent, compared with 51 percent growth rate in the ultra-Orthodox schools and 33 percent in the Arab Israeli schools (Figure 3). The growth in the Arab Israeli primary schools is less than the growth that took place in kindergartens (due to the rise in pre school and kindergarten attendance, as stated). The share of the Arab Israeli primary schools rose from 24 to 28 percent of the overall system (see Section 1.C. for a detailed composition of the Arab Israeli sector).

Figure 3

Pupils in Primary Schools

overall change in the decade, 2000-2009, by education sector

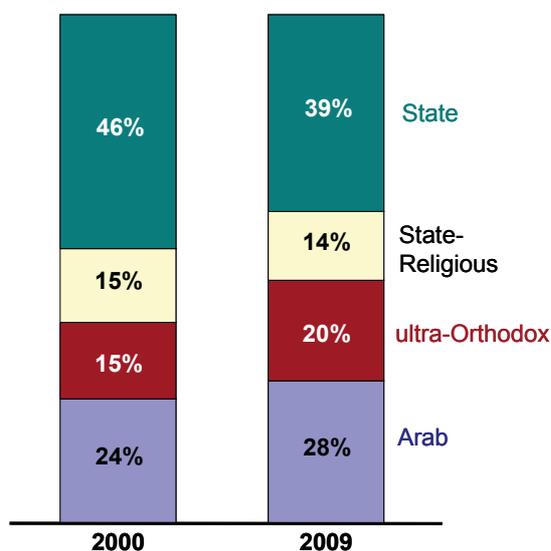


Source: Taub Center for Social Policy Studies in Israel.
Data: CBS.

As a result of the difference in growth rates, the share of the State schools in the overall education system declined over the decade by seven percentage points (Figure 4). During the first part of the decade there was indeed a sharp decline in the number of pupils, which later stopped and even reversed and since 2006 began a certain renewed growth, but the number of pupils in the State schools never regained its 2000 level. It should be noted that the rise in the number of pupils in the primary Jewish State schools conflicts with the Central Bureau of Statistics forecast and differs from the secondary Jewish State schools, which grew until 2002 and have been declining ever since.

Figure 4

Pupils in Primary Schools
composition by sector, 2000 and 2009 (percent)



Source: Taub Center for Social Policy Studies in Israel.
Data: CBS.

Table 4. **Primary Education, by Sector and Supervision Type, 2000 and 2009**

	Total	State	State-Religious	Ultra-Orthodox	Arab
2000	743,583	342,030	107,946	112,184	181,423
2009	857,956	331,914	116,105	169,121	240,816
Rate of increase	15.0%	-3.0%	8.0%	51.0%	33.0%
Average annual rate of increase	1.6%	-0.3%	0.8%	4.7%	3.2%

The share of the primary State-Religious schools in the overall education system declined over the past decade by only one percentage point. It is estimated that two factors explain the difference between the development of State-Religious schools and that of the State schools: one is a higher natural population growth rate among parents of this sector in general, and residents of Judea and Samaria in particular (the number of pupils in State-Religious schools in Judea and Samaria increased in the same period by 35 percent),⁸ the other is the referral of all the children immigrating from Ethiopia to State-Religious schools. Since in this community the share of children aged 0-15 is 34 percent (much higher than the 18.5 percent national average) that decision stopped the decline in the number of pupils typical in the State schools. Without this addition, the State-Religious schools would have probably also undergone a process of contraction or of slower growth.

The substantial growth of the ultra-Orthodox schools raised its share in the overall primary education system from 15 percent to 20 percent

⁸ Some of this was doubtlessly due to pupil transfers between sectors, but most of it is a result of natural population growth. For the sake of illustration we can say that the rate of natural population growth of Jews in Judea and Samaria in 2008 was about 5.1 percent, compared with 1.6 percent of the overall Jewish population. Although some Judea and Samaria residents are ultra-Orthodox, like those in *Betar Illit*, *Modi'in Illit*, etc., fertility in the Zionist-religious communities is also above average.

within one decade. There were attempts to explain the great expansion of the ultra-Orthodox school system as a result of massive transfer of pupils from the State and State-Religious schools to ultra-Orthodox schools, which provide children with long school days and lunch. A study conducted by the Taub Center showed clearly, however, that this explanation is baseless and that pupil transfers between the State system and the ultra-Orthodox system are marginal (Blass, Douchan, 2006). The growth in the ultra-Orthodox school system is due to the rapid natural population growth of the ultra-Orthodox population. Further corroboration for this can be found in the correlation between ultra-Orthodox fertility rates and the rates of growth in the number of their pupils.

a) *The Ultra-Orthodox Education.* The evolution process of the entire ultra-Orthodox education system (in both the primary and secondary schools)⁹ over several decades (from 1960 to 2009) indicates two sub-periods displaying opposite trends: in 1960-1980 the share of ultra-Orthodox pupils declined to the low level of 4 percent of the overall education system. Conversely, as of 1980, there has been a continuous trend of increase in the number of ultra-Orthodox pupils, as well as the share of the ultra-Orthodox schools, within the general education system. It is expected to reach 18 percent in 2014.

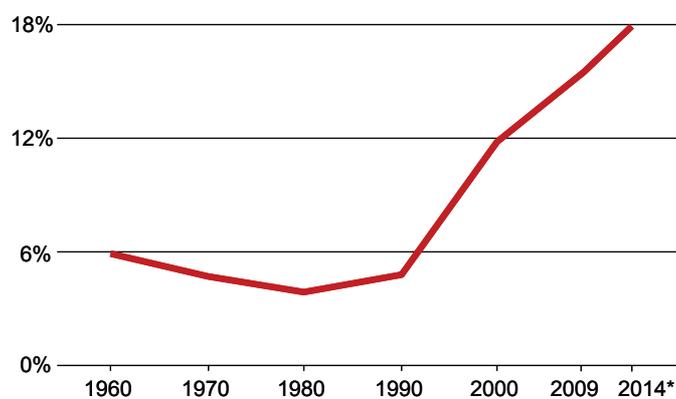
⁹ The presentation of the development by education levels in the context of ultra-Orthodox education is presented early in this discussion, since presenting the ultra-Orthodox education system as a whole and its composition by sectors contributes to the development of its share of the overall education system. We should bear in mind that the share of the ultra-Orthodox in secondary education is relatively low compared to its share in primary education, since many of the ultra-Orthodox pupils enroll in *Yeshivas*, which are not included in secondary education.

Table 5. **The Share of Ultra-Orthodox Sector in the Overall Primary and Secondary Education System, 1960-2014***
(absolute numbers and percents)

	Total	Ultra-Orthodox	Percent of Total
1960	396,329	23,605	6.0
1970	608,826	29,574	4.9
1980	800,036	30,949	3.9
1990	995,324	47,513	4.8
2000	1,293,350	152,585	11.8
2009	1,468,264	226,694	15.4
2014*	1,561,368	278,554	17.8

* Beginning in 2000 the statistics were changed to include pupils in *Talmud Torah* who were not included until then in the official statistics. The data until 1999 regarding the extent of ultra-Orthodox education and its share of the total pupil population is thus skewed downward.

Figure 5
Pupils in the Ultra-Orthodox Sector, 1960-2014*
as a percent of all pupils in the education system



* CBS projection of the number of pupils.

Source: Taub Center for Social Policy Studies in Israel.
Data: CBS.

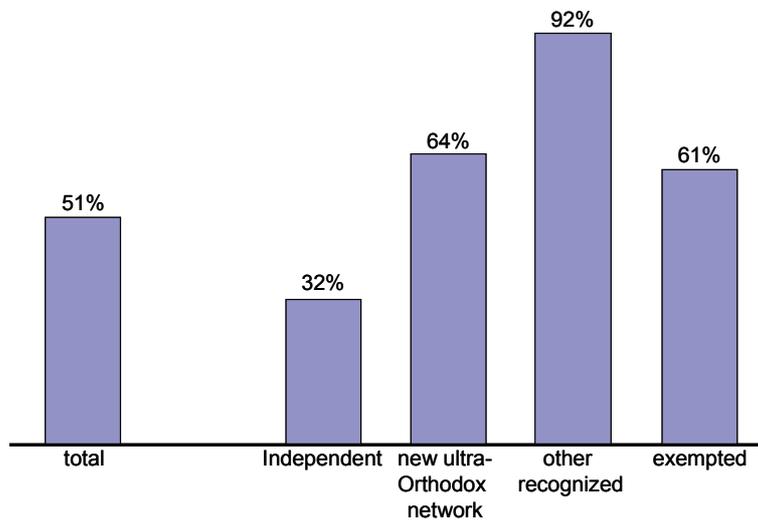
When discussing the ultra-Orthodox schools we should remember that this sector is not a uniform one. In fact it includes four separate systems: the well established ultra-Orthodox network, *Reshet haHinukh ha'Atzmai*; the relatively new ultra-Orthodox network, *Ma'ayan haHinukh haTorani*; unofficial recognized ultra-Orthodox institutions, which are not part of the former two; and the exempted institutions. Considerable differences exist between the four systems in terms of socioeconomic status, content and teaching methods, as well as the demographic dimension, reflected in the rates of increase in the number of pupils they serve (see table 6 and figure 6).

Table 6. **Pupils in Ultra-Orthodox Primary Education, by Educational Network, 2000 and 2009**

	Total	Independent	New Ultra-Orthodox Network	Other Recognized	Exempted
2000	112,184	56,155	14,719	13,463	27,847
2009	169,121	74,226	24,212	25,883	44,800

Whereas the older, larger and well established *Reshet haHinukh ha'Atzmai*, whose schools are relatively larger, grew over the past decade “only” by 32 percent, *Ma'ayan haHinukh haTorani* and the exempted institutions grew by 60 percent and more, and the other recognized institutions grew during the same years, 2000-2009, by 90 percent (Figure 6). The implication of these differences is that most of the growth occurs in smaller institutions and with less rigorous supervision by the Ministry of Education. Our assessment is that while the overall growth in the ultra-Orthodox school system comes from natural population growth, the differential growth of each of the ultra-Orthodox school networks comes from pupils transferring between them.

Figure 6
Pupils in Ultra-Orthodox Schools
 percent growth, 2000-2009



Source: Taub Center for Social Policy Studies in Israel.

Data: CBS.

The demographic development of the ultra-Orthodox schools, like other issues relating to this education sector, has not been sufficiently researched. Yet it can be speculated, that their decline in the earlier years of the State had demographic as well as political reasons. The massive immigration to Israel in the early years of the State, which was primarily secular or Religious-Zionist, turned to the State and State-Religious schools, and consequently the relative share of the ultra-Orthodox schools declined between 1960 and 1980. From the 1980s onward, except for the years of the large immigration wave from the former Soviet Union, the immigrant component in the composition of pupils in the education system lessened and that of natural population growth strengthened.

b) *Public Education and Private Education.* In the context of the expansion of the ultra-Orthodox school system and the educational networks within it lies the issue of the future of public education and the assumed increased demand for private education.¹⁰ However it turns out that this phenomenon – at least in terms of its volume – is relatively insignificant in the Jewish State system. The number of Jewish State school pupils in regular recognized schools (usually referred to as private schools) indeed grew from 1,600 in 2000 to 3,800 in 2009, but it is still negligible at 1.1 percent of the entire Jewish State education system. Also in the State-Religious education system the extent of this phenomenon is small. The number of pupils in the State-Religious education system who are enrolled in unofficial recognized institutions grew from 3,000 to 3,800 and although the growth in question is by nearly 30 percent, the overall number is still negligible relative to the system as a whole (about 3.5 percent).

It is important to note, incidentally, that the fact that most of the pupils in the State and State-Religious schools are enrolled in official institutions (or in public education) does not necessarily indicate a high level of parent satisfaction with public education.¹¹ The choice of the public system may be indicative of the fact that most of the parents who strive for “improved private education” find ways to overcome obstacles and difficulties that arise within the public education without leaving it.

¹⁰ See for example an extensive discussion in *Ha'aretz* newspaper, August 27, 2009. Another important note in this context is that about half of the aforementioned pupils attend one school, the *Reali* School in Haifa.

¹¹ Although, as should be noted, a Central Bureau of Statistics publication in 2009 indicated that 75 percent of the public expressed satisfaction with the primary schools their children attended and another 70 percent expressed satisfaction with the secondary schools (CBS, 2009).

Thus, for instance, “unique” schools or complete networks were established within the official education system, which function like private schools for all practical purposes. In this way they can circumvent the high cost required to finance private education for their children, while reaching part of their objective by sending their children to selective institutions or those with their preferred values.

Secondary Education

The secondary education system is characterized by the fact that, in addition to demographic growth and in contrast to what has been found in primary education, it still reflects the influence of the rise in attendance rates, especially in the Arab Israeli sector. Attendance rates among Arab Israeli 17-year-olds reached 84 percent in 2007 versus only 54 percent a decade ago. These rates are still low compared to those of Jewish pupils, 92.5 percent in 2007, and stable for over a decade. Both components (higher fertility rates and increasing attendance rates) contribute to the growth of the share of Arab Israeli schools in the secondary system, from 17.6 percent in 2000 to 25 percent of all pupils in 2009.

In the Jewish sector, as in the primary education sector only to a greater extent, the size of the State secondary education system declined (in absolute terms) and its share dropped from 60 to 52 percent of all pupils. The State-Religious secondary education system grew very slightly (by 2.5 percent), while the ultra-Orthodox expanded by 27 percent and increased its share to over nine percent of the overall system. The share of the ultra-Orthodox in the secondary education system is small, relative to its share in the primary education system, since a large proportion of the ultra-Orthodox pupils attend *yeshivas*, which are not part of the secondary system.

Table 7. **Secondary Education, by Sector and Supervision Type, 2000 and 2009**

	Total	State	State- Religious	Ultra- Orthodox	Arab
2000	570,175	341,829	82,460	45,348	100,538
2009	610,219	318,895	84,482	57,532	149,310
Rate of Increase	7.0	-6.7	2.5	26.9	48.5
<i>Distribution in Percents</i>					
2000	100.0	60.0	14.5	8.0	17.6
2009	100.0	52.3	13.8	9.4	24.5
Rate of Increase		-12.8	-4.3	18.5	38.8

1.C. *Composition of Arab Israeli Education*

The Arab Israeli sector is divided into four sub-sectors according to population groups: the Arab, Bedouin, Druze and Circassian¹² sectors. Another division of this sector makes the distinction (as in the Jewish education), between the State (official) education system, which serves primarily Muslim pupils, and the recognized education system, which is not official, serving mostly the Christian Arabs (but, as we will see below, not only them).

Table 8 and Figure 7 indicate wide differences in growth rates among the different education systems. The Bedouin and the recognized education initially intended for the Christians (see below) stand out in their high growth rates, 60 percent and 90 percent, respectively, versus the average (33 percent) in the whole Arab Israeli sector and the relatively low growth rates in the Druze sector (only 6 percent).

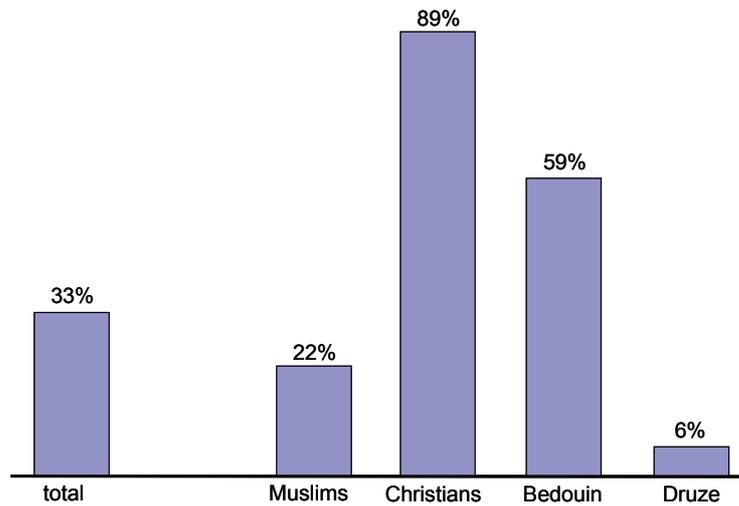
¹² The number of the Circassian pupils is very small and therefore we are not taking them into account in this analysis.

Table 8. **Arab Education** (official and recognized), **Bedouin Education** and **Druze Education, 2000 and 2009**

	Total	Muslim* (Official)	Christian* (Recognized)	Bedouin	Druze
2000	181,268	116,345	15,513	32,203	17,207
2009	240,712	141,883	29,271	51,347	18,211

* The Arab official education includes mainly Muslims and the Arab recognized network is administrated by the church but does not include only Christians.

Figure 7
The Arab Sector*
growth in a decade, 2000-2009 (percent)



* Official Arab education includes primarily Muslims; recognized Arab education is administered by the church but does not include only Christians.

Source: Taub Center for Social Policy Studies in Israel.

Data: CBS.

The Bedouin education system grew quickly since the beginning of the decade, at a rate of 60 percent – close to that of the Jewish ultra-Orthodox schools sector. Its growth rate is expected to decline in the future, though, for two reasons: one is that part of the past growth came from a rise in attendance rates, which will taper off as attendance nears total compliance; the other is that natural population growth rates in this sector are on a path of decline, stemming to some degree from trends towards modernization and in part from changes in the child allowance policy.¹³ Such trends do not characterize the ultra-Orthodox sector (at least not in the same intensity).

The considerable growth of recognized educational settings in the Arab Israeli schools, which are administered by the Church and intended for the Christian population, is surprising, since the natural population growth rate among Christian Arabs is lower even compared with that of the secular Jewish population. This should have led to a decline in the number of pupils in those schools, but the opposite is the case. The recognized schools are the fastest growing ones – nearly doubling the number of pupils over the decade.

It should be noted, that like the ultra-Orthodox schools, the recognized Arab Israeli schools, which are not official, have not been researched sufficiently. Schools in this sector are unique in many ways, including their very high achievements in the matriculation exams. In the present context, we can speculate that these schools absorb, in addition to Christian Arab children, a large number of Muslim pupils who leave the official education system due to dissatisfaction with its level. This applies to the most established population strata in the Arab Israeli sector, which can afford to pay for sending their children to these schools, which charge high tuition fees and are very selective.

¹³ Opinions on the impact of changes in child benefits policy are divided. See, for example, Cohen and colleagues (2007), Toledano and others (2009) for one perspective, and Schelleken (2009), for another. Without going into details it should be mentioned that it is possible that the time period examined is too short to reach unequivocal conclusions on this issue.

1.D. *Implications for the Future*

The CBS pupil forecast to 2014 was recently published, sketching the education system in the coming years (CBS, 2009) (see Table 9). In addition, data has recently been published from a study of the overall fertility of the different population groups in Israel (Toledano et al., 2009) (Table 10). These data show the far reaching influence that changes in the demographic distribution will have on Israel's education system and indicate changes expected in the future, both on the more immediate academic-educational plane (low academic achievements in the core areas), and even more, on the long term social and economic planes.

Table 9. **Primary and Secondary Education, by Sector, 2014**

	State	State- Religious	Ultra- Orthodox	Arab	Total
<i>Absolute numbers (thousands)</i>					
Total	1,561	625	211	278	447
Primary	915	329	125	203	257
of this: first year	140	52	18	30	40
Secondary	647	296	86	75	190
<i>Distribution in percents (%)</i>					
Total	100.0	40.0	13.5	17.8	28.6
Primary	100.0	36.0	13.7	22.2	28.1
of this: first year	100.0	37.1	12.9	21.4	28.6
Secondary	100.0	45.7	13.3	11.6	29.4

* **Source:** CBS (2009). *Projection of the number of pupils* (Table 8.11, 8.21).

Table 10. **Overall Fertility by Population Groups: Before and After Cutbacks in Child Allowances as Part of the Economic Recovery Plan (June 2003)**

Population Groups		1996-1997	2001-2002	2006-2007
Total		2.81	2.78	2.77
Jews	Ultra-Orthodox	7.50	7.24	6.74
	Others	2.22	2.13	2.20
Arabs	Bedouin – South	7.08	6.76	5.62
	Bedouin – North	4.06	4.04	3.25
	Jerusalem	4.05	3.97	3.56
	Others	3.71	3.70	3.08
Druze		3.30	2.85	2.52

* **Source:** Toledano et al. (2009); National Insurance Institute (2009).

The reasons for the low achievements in the sectors whose share of the population is rapidly growing are different: in the Arab Israeli sector the low achievements are explained to a large extent by many years of discrimination against that sector, reflected in the inadequate resources allocated to it (see below). In the ultra-Orthodox sector, the low achievements come, among others, from the inability to come to an agreement about the content to be studied and achievement levels required¹⁴ – especially in mathematics, English and sciences.¹⁵

¹⁴ It should be noted that the high potential ability of pupils of this sector was proven, for example, in the achievements of ultra-Orthodox girls who participated in the Ministry of Education's *Meitzav* tests. [Meitzav: acronym of School Efficiency and Growth Measurements.]

¹⁵ It is interesting to mention a finding from the Taub Center Social Survey. In the 2009 survey, 41 percent of respondents think that the State should set a compulsory core curriculum of no less than 75 percent of the hours of schooling, and about another quarter of respondents think a curriculum should be set with no less than 50 percent of hours devoted to compulsory studies. In contrast, only 23 percent thought that the State does not need to impose a core curriculum in the basic areas (see "The 2009 Social Survey" chapter in this book).

Continuous growth of the Arab Israeli sector and the ultra-Orthodox sector without a significant change in the achievements of their pupils in the core studies casts serious doubt on the ability of the Israeli education system to raise the average achievement level of its pupils and to prepare them to assume full and productive participation in Israel's society and economy.

2. Teachers and Teacher Training in the Education System

The key changes in the educational workforce in Israel are reflected primarily in the rapid academic upgrade of the profession, a rise in the average age and seniority of school and kindergarten teachers, closing gaps between the Jewish and Arab sectors in some of the characteristics of the teaching workforce (education and job scope) and widening gaps in other characteristics (see Table 11 and previous overview, in Taub Center, 2009).¹⁶ Each of these trends has the potential for far-reaching influence on the processes taking place in the education system, the Ministry of Education budget, and its educational workforce policy.

In the educational area, an accelerated retirement for older and very senior teachers and their replacement with young teachers can be an opening for difficulties and opportunity alike. The opportunity lies with the introduction of young and fresh forces that were newly trained on the basis of the most recent knowledge. The difficulty lies with the loss of the older teachers' knowledge, experience and long term commitment. The balance between the two is not at all clear.

¹⁶ The latest annual data are not presented here due to difficulties in their analysis. The Ministry of Education continues to define teacher positions in elementary education as consisting of thirty weekly hours, although some of them have already shifted to a new job format following the new wage agreement. Also, the CBS' decision to combine the data on post primary school teachers prevents a proper comparison.

Table 11. **Selected Characteristics of Teacher Workforce, by Sector, 1995 and 2008**

	Jews		Arabs	
	1995	2008	1995	2008
Pre-Primary				
Age: up to 29 (%)	15.9	8.7	41.5	26.2
50+ (%)	10.4	32.7	3.4	8.9
Degree holders (%)	14.6	68.4	1.8	68.6
Weekly teaching hours – average	24.6	24.8	26.3	25.3
Seniority (years) – average	13.5	17.7	11.4	11.6
Primary				
Age: up to 29 (%)	18.7	12.8	27.9	28.6
50+ (%)	12.4	24.1	7.0	12.7
Degree holders (%)	31.2	70.5	16.4	72.9
Weekly teaching hours – average	20.6	22.6	24.4	24.1
Seniority (years) – average	13.8	15.8	13.4	12.0
Lower Secondary				
Age: up to 29 (%)	14.2	5.4	23.2	20.3
50+ (%)	14.0	34.2	7.6	14.0
Degree holders (%)	60.2	91.1	43.0	87.9
Weekly teaching hours – average	18.8	21.2	19.8	21.1
Seniority (years) – average	14.7	18.9	13.4	13.9
Upper Secondary				
Age: up to 29 (%)	10.5	7.1	23.9	18.0
50+ (%)	22.2	38.1	9.7	16.9
Degree holders (%)	69.9	91.5	72.9	85.7
Weekly teaching hours – average	18.8	18.6	22.0	22.8
Seniority (years) – average	17.1	18.9	12.3	13.7

From a budgetary standpoint, the rising share of teachers with higher education and with greater seniority raises their cost to the system. On the other hand, changing (in the near future) the balance between older and younger teachers might work in the opposite direction. This influence – of rejuvenating the teaching force – may be weakened by the trend of raising younger teachers' pay faster relative to older ones in order to

attract good candidates to teaching. Ultimately it seems that the rise in teachers' educational level and seniority tends to increase the share of teacher salaries in the education expenditure without a parallel increase of the number of teaching hours allocated to the system. Since many studies question the correlation between teachers' seniority and education variables and their quality (as reflected in pupils' achievements, at least) (see Blass, 2008), we recommend coping with the problem of rising teaching costs by looking for an existing pay mechanism (or designing a new one) with better linkage between wages and proven characteristics that impact pupils' educational and academic achievements.

From the human resources policy standpoint, it is clear that accelerated retirement increases the risk of teacher shortages in certain regions and study areas.¹⁷ Conducting effective State-wide forecasts of teacher supply and demand is difficult due to the multiple segmentation of the system into sectors, age bracket, supervision type, geographic location and subjects of study. Nonetheless, it is still possible to act to help prevent the teacher shortage on both the national and local levels. On the national level it is possible to encourage currently employed teachers to expand their workload;¹⁸ induce desirable teachers not to retire early; and plan for reinstating teachers who had left the teaching profession for various reasons. On the local level, townships and schools can and should get organized for the expected developments. Many and varied means are at their disposal, which may allow them to cope with temporary teacher shortages.¹⁹

¹⁷ There is a certain balancing element, since the job position-hours of young teachers is greater than those of older ones. On the other hand, the proportion of mothers, who receive a 10 percent reduction in their position-hours, is higher among younger teachers.

¹⁸ There is evidence that this is possible, as can be seen in the differences of position-hours between Jewish and Arab Israeli female teachers, and in the growth of position-hours between 1995 and 2008, for which there is indication also in 2009 (CBS, 2009).

¹⁹ For example, retraining teacher from subjects that are less in demand to subjects that have a current or projected shortage.

Next we shall examine the changes in the educational workforce and among students in teachers' training institutions as they relate to changes that took place in the education system's structure by sectors and the pupil population.

2.A. Teachers in the Education System, by Sector and Type of Supervision

Between 2000 and 2008, the overall number of kindergarten and school teachers in the education system grew by 21 percent (while the overall number of pupils grew by about 13 percent). As in the case of pupil growth rate, the growth rate of the number of teachers also differs by sector: A growth of six percent occurred in the State schools, 19 percent in the State-Religious schools, 65 percent in the ultra-Orthodox schools, and 56 percent in the Arab Israeli schools (Table 12 and Figure 8). In all sectors and in all levels of education the growth in the number of teachers was higher than the growth in pupils. Nevertheless, it did not reach the growth rate characterizing the previous decade, 1990-2000.

The teachers' average work load shows stability over the past decade, and it hardly changed from the range of 70 to 80 percent of the requirement for a full-time teaching post, with differences between the various parts of the system (the average workload is higher in the Arab Israeli sector and in the secondary education and lower in the ultra-Orthodox sector).

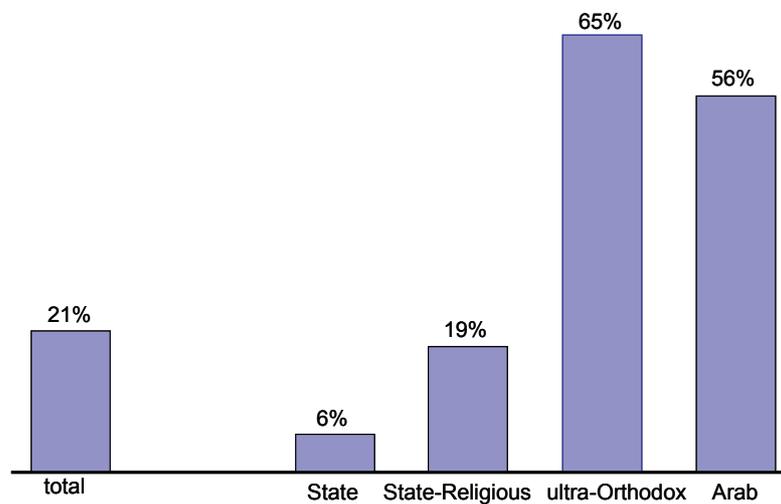
The number of pupils per teacher declined over the past two decades. Several reasons could be at the root of this change, whether adding teaching hours at a higher rate than the rise in the number of pupils, or reducing the average teaching position and/or class sizes. The separate contribution of each cause, its relative weight and importance are worthy of a separate, in-depth examination, which is beyond the scope of this chapter. However, the exceptionally rapid expansion in the ultra-Orthodox schools supports an initial assessment that the explanation lies primarily in the rapid growth in small classes.

Table 12. **Teachers in the Education System, by Sector and Type of Supervision, 2000 and 2008**

	Total	State	State-Religious	Ultra-Orthodox	Arab
2000	127,156	71,081	25,431	9,716	20,928
2008	153,863	75,116	30,116	15,995	32,575

Figure 8

Teachers, by Education sector
growth in a decade, 2000-2009 (percent)



Source: Taub Center for Social Policy Studies in Israel.
Data: CBS.

2.B. *Teacher Training: Changing Population Composition*

Changes in the composition of pupils in the education system influence the demand for educational workforce and may be reflected in the teachers' initial recruitment stages and their later training stages. The composition of students in teacher training institutions by sector highlights this dimension. Table 13 presents the changes in recent years in the distribution of student teachers in teacher training institutions by supervision type. The table distinguishes between Arab Israeli students and Jewish Israeli students, although most of the Arab teachers in Israel receive their training in the Jewish State institutions. The data indicate a decline during the past decade of about 24 percent in the number of Jewish students in the State teacher training institutions, compared to a 32 percent rise in the number of Arab Israeli students in the same institutions. One should note that Arab Israeli students constitute 34 percent of the overall number of students in the academic colleges of education in 2007-2008 (CBS, 2009). Relative to the developments in State institutions, the numbers of students in the State-Religious institutions was stable, but the ultra-Orthodox institutions had a substantial growth, more than two-fold, in the number of new teachers they train.

Table 13. **Students in Teacher Training Institutions, 2000 and 2008**

	Total	State	State-Religious	Ultra-Orthodox	Arab
2000	28,442	11,603	6,743	6,347	3,749
2008	33,893	8,824	6,714	13,392	4,963

Source: Central Bureau of Statistics (CBS).

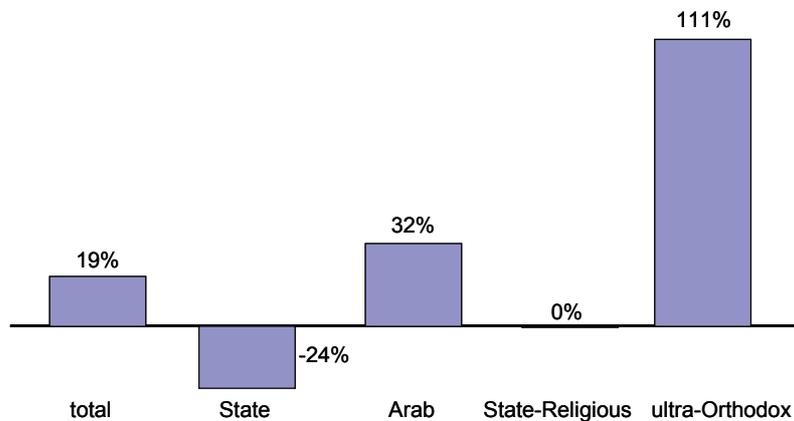
The overall growth in the number of students in teacher training institutions (19 percent) is close to the overall growth in the number of teachers during the same years (21 percent), but there are significant differences when comparing the rates of change in the number of teachers and education students in the different sectors of the education system

(Figure 9). The number of teachers in the State schools grew by six percent, while the number of students in State teacher training institutions declined by 24 percent. The number of Arab Israeli students in teacher training institutions, which grew by 32 percent, and the number of students in the State-Religious teacher training institutions (which did not grow at all), lags behind the growth rate in the number of teachers in the same education sectors. On the other hand, the number of female students in the ultra-Orthodox teacher training institutions far exceeds the number of teachers in the ultra-Orthodox education system (111 percent rise in the number of students versus 65 percent growth in the number of teachers). These data imply that in the not-so-distant future it will be difficult to replace teachers who retire from the official Jewish education system, with graduates of teacher training institutions, and it will be necessary to use other sources to recruit the needed teachers (like limiting the rate of departure of teachers from the system, increasing the average teaching position, etc.).

Figure 9

Students in Teacher Training Institutions

by education sector, total growth 2000-2008 (percent)

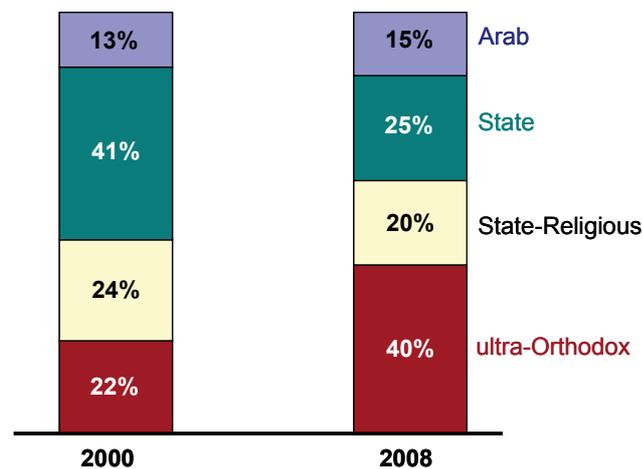


Source: Taub Center for Social Policy Studies in Israel.

Data: CBS.

One of the interesting phenomena found in the data on the composition of students in teacher training institutions, which is not yet widely known or examined, is the continuous rise in the share of Arab Israeli students, especially women, in teacher training institutions (Figure 10). Arab Israeli students already constitute 15 percent of the overall number of students in teacher training institutions and 34 percent of the students in the academic teacher training institutions. Findings of a study recently published by the Central Bureau of Statistics (Scheinberg, 2009) indicate that this trend is well anchored in a pragmatic assessment of the reality of the Israeli job market.

Figure 10
Students in Teacher Training Institutions
composition by sector, 2000 and 2008 (percent)



Source: Taub Center for Social Policy Studies in Israel.
Data: CBS.

This is further confirmed by the fact that the rate of Arab Israeli female graduates of the teacher training institutions who take a job after earning their bachelor degree is the highest of all other graduates, as shown in Table 14. The rate is 97 percent, compared with 90 percent among all bachelor degree graduates and 93 percent among Arab Israelis.²⁰ Also, the average and median income of Arab Israeli female graduates of the teacher training institutions is higher than those of female graduates in the humanities and the general average of graduates in the humanities, and equal to that of their Jewish peers. These data raise a question about the prevalent opinion regarding massive unemployment among graduates of teacher training institutions in the Arab Israeli sector, as well as difficulties of teacher training institutions graduates to join the workforce, while they confirm the data about wage disparities between Jews and Arabs in other professions (Table 14).

²⁰ Here we refer to taking a job rather than teaching, and therefore it can not be said that all female teachers who are college graduates were employed in educational institutions, but we can at least point to their advantage over other candidates in finding a job.

Table 14. **Rates of Employment
Average and Median Annual Income in 2004**
among B.A. graduates from 2000, by area of study
and population groups

Population Group	Absolute numbers	Employed in 2004 (%)	Average income (NIS thousands)	Median income (NIS thousands)
Grand Total				
Total	32,771	90	110,670	90,100
Jews	30,789	89	113,000	92,300
Arabs	1,982	93	78,780	70,100
Education and Teacher Training				
Total	5,039	92	79,780	74,600
Jews	4,600	91	79,650	74,700
Arabs	439	97	81,050	74,100
Humanities				
Total	5,936	87	81,330	69,200
Jews	5,506	87	82,730	70,000
Arabs	430	90	66,080	61,300
Social Sciences				
Total	9,000	89	105,730	88,200
Jews	8,570	89	107,050	90,200
Arabs	430	92	82,160	67,600

Source: Data analysis based on CBS; Scheinberg, 2009.

Spotlight: The Relative Prestige of the Teaching Profession

Are teachers' wages and cognitive skills higher or lower from those of other professions, and how does this affect teachers' relative status? A recent study (Romanov and Blass, 2010, Taub Center, in process) deals with the question of teachers' qualifications, based on scores of female teachers in psycho-technical tests taken upon enlisting in the IDF and before enrolling in institutions of higher education. The scores were checked against female teachers' wage data, classified by their place of residence. The findings shed a new light on the issue of the relative status of the teaching profession. Below are some of the main findings of the study:

Teachers' wages are uniform across the country with a slight tendency toward higher wages in weaker townships. This finding stands out especially in the Northern and Southern Regions compared to all others. Likewise, there are no notable differences in teachers' cognitive abilities by region, as reflected in the psycho-technical and psychometric tests of teachers residing in townships with different socio-economic levels.

Regarding changes in teacher quality over time, it was shown that the quality of teachers, as reflected in their scores in the psychometric and psycho-technical tests, not only did not decline from the late 1980s to 2006, but actually rose.

It was found that one cannot generalize about education and wage disparities between teachers and other professions. The study shows that in townships in the lower municipal socioeconomic clusters, the average wages as well as the cognitive skills of teachers are higher than the average wages and qualifications of all other professions and in some cases higher than in other academic professions. Conversely, in townships and regions of higher socioeconomic levels, teachers' average wages and cognitive skills are lower than those of other professions.

It is interesting to note that this is supported to some extent by the social survey of the Central Bureau of Statistics, which indicates high job satisfaction among teachers. Teachers' satisfaction with their work is higher than their satisfaction with their wages. Also, the public's satisfaction with the schools and the teachers' quality declines as the socioeconomic level of the township in which they are employed rises.

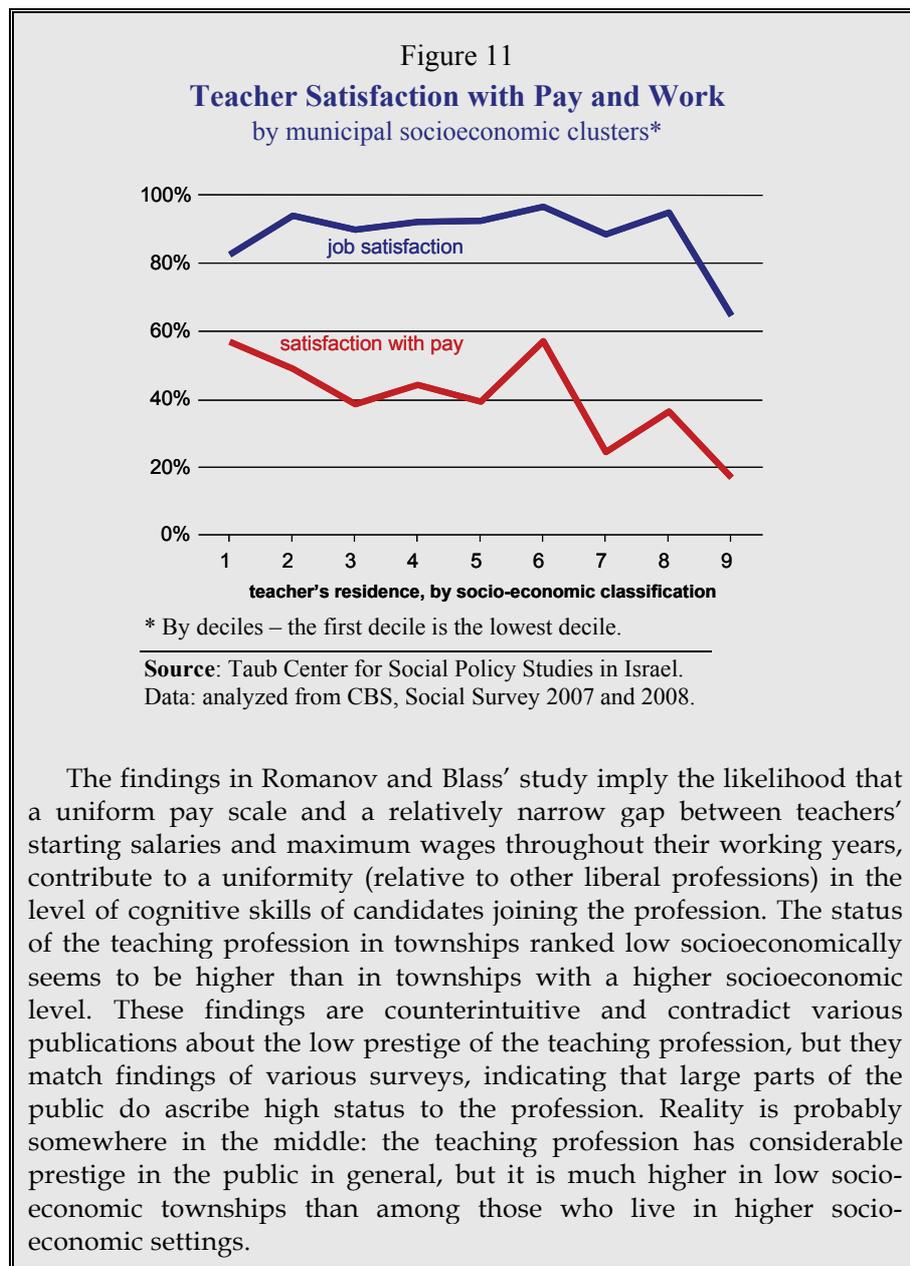


Table 15. **Teacher Satisfaction in Primary and Secondary Education by Municipal Socioeconomic Cluster** (percent)

Socio-Economic Cluster	Primary Schools		Secondary Schools	
	Generally satisfied with the school	Generally satisfied with the level of teaching	Generally satisfied with the school	Generally satisfied with the level of teaching
1-2	83.8	80.8	84.5	72.1
3-4	79.9	77.4	75.0	72.3
5-6	83.1	75.2	72.0	67.9
7-8	73.3	62.2	71.7	65.3
9-10	64.8	40.1	57.4	22.5

Source: CBS (2009). *The Shape of Society in Israel, Report No. 2* (October).

3. *The Education budget and Its Utilization by the Ministry of Education*

The discussion of the education budget and its utilization necessitates an explanation about different definitions in the Ministry of Education Budget:

- *Proposed Budget.* The proposal submitted to the Knesset for approval (“The Blue Book”) includes two levels – the Gross Budget and the Net Budget.
- The *Gross Budget*, including income from other sources – or, in the budgetary jargon, income-dependent expenses – is indeed the number with the **greatest** public significance, although its operative significance is extremely **low**. The reason is that most of the public debate revolves around it, while it will be the furthest from the utilization in practice. The *Net Budget Proposal*, on the other hand, refers only to Ministry of Education sources.

- *The Original Budget.* The budget as approved by the Knesset.
- *The Effective Budget.* The budget as ultimately shaped at the end of the fiscal year, being the end result of various changes during the year. At times there are supplements to the budget and at other times cutbacks adopted by the government throughout the year. The effective budget also reflects changes and transfers between budget lines. This is, in fact, the real budget of the year, which is known only at the end of the year.
- *The Effective Implemented Budget (Report of the Accountant General).* Although the Proposed Budget enjoys great public importance, the Effective Implemented Budget is politically, educationally, socially, economically, and practically more important. It is published as the Report of the Accountant General. Its importance lies in the fact that it is the ultimate financial reflection of the actual policy.

The budget implementation data for 2008 (see Table 16 and Figure 12) still indicate that the Ministry of Education is not utilizing the total budget at its disposal.²¹ The average rate of utilization since 1995 is around 95 percent. With a budget of about NIS 30 billion there is an annual non-utilization of NIS 1.2-1.5 billion.²²

Several reasons may be responsible for this:

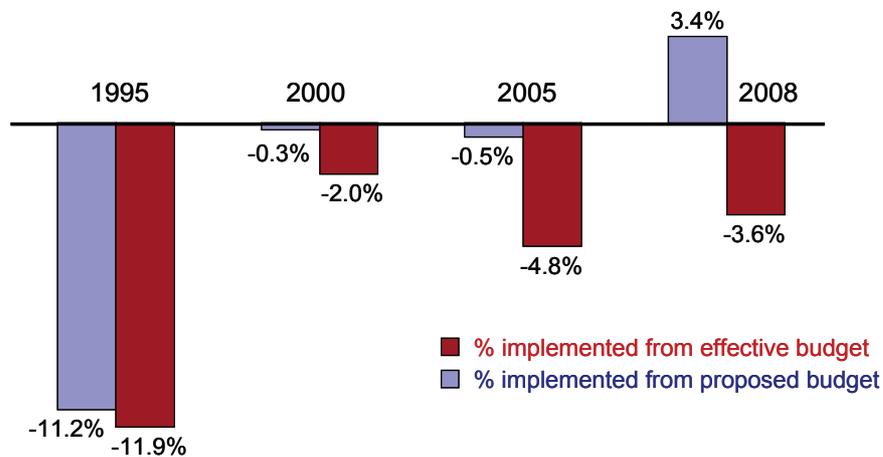
- *The budget available for the Ministry is effectively lower than that approved by the Knesset.* The Ministry of Education budget, like that of other ministries, includes reserve items designed to provide for unexpected needs, such as future wage agreements, various unexpected claims, etc. The reserves amount to about NIS 1 billion, and using it for other purposes requires an authorization by the

²¹ The Taub Center has been following this issue in recent years, which is described extensively in the Taub Center Annual Socio-Economic Report for 2006 and presented in the reports every year.

²² While there were exceptional years in which the utilization rate was higher, they indicate the on-going missed opportunity of under-utilizing the budget.

Ministry of Finance and the Knesset. Normally the Ministry of Finance does not authorize a change in the use of those items, even when it turns out that there were no changes in wage agreements or other items requiring the use of the reserve. This policy of freezing the funds designed for price increases even when they do not occur is, in our opinion, contrary to the intention of the legislature (which considers the approved budget, including the reserve for price increases, as the budgetary framework for operating the Ministry of Education).

Figure 12
Utilization of the Education Budget
 gross budget



Source: Taub Center for Social Policy Studies in Israel.

Data: Ministry of Finance, *Budget Proposals*, various years;

The Account General, *Financial Statements*, various years.

- *Lack of prior planning for use of previous year's unused budget surplus.* Apparently the Ministry has no mechanism for taking advantage of the yearly unutilized budget surplus. This phenomenon recurs every year.

Table 16. **Gross Budget Proposal, Gross Effective Budget and Effective Implemented Budget, current prices, 1995-2008**

	Proposed Budget	The Effective Budget	Implemented Budget
1995	14.0	14.1	12.4
2000	22.0	22.4	21.9
2005	25.9	26.9	25.6
2008	29.1	31.2	30.1

- *Not sufficiently effective oversight of the current budgetary expenditure.* The Ministry of Education does not seem to have an effective mechanism for on-going budgetary control, allowing immediate transfer of budgets from programs that are impossible to execute that year to viable programs.
- *The administrative and political reality.* In the current governmental-organizational system, two key officials are responsible for economic affairs in the Ministry of Education, the accountant and head of economics and planning administration. These officials are subject to a system of dual loyalties and identities (by virtue and essence of their positions, and not due to their personalities or characteristics). On the one hand, they serve the education system striving to promote its objectives. On the other hand, they must coordinate their acts with the “treasury people” in general (the accountant is formally considered an official of the Ministry of Finance), and with the “referents,” or account managers, for the education system in the Budget Bureau, in particular. The high rate of turnover at the head of the Ministry of Education in recent years, while the professional leadership remained fairly constant, strengthened the relationships of the latter with the Ministry of Finance. In such a reality the Ministry of Education leadership functions under constant and frustrating budgetary pressures, whereas, in fact, the non-utilized budgets are much bigger than the size of the anticipated cuts.

4. The Ministry of Education's Affirmative Action Policy, by Sector²³

Narrowing educational and social gaps between different social strata has been a central goal of the Ministry of Education since the early 1960s. This policy was directed, in fact, primarily toward State schools and State-Religious education in the Jewish sector. Its outcome can be seen in the fact that the vast majority of students (nearly 70 percent) who socio-economically need assistance (Arab Israelis and ultra-Orthodox) receive nothing or only a fraction of the affirmative action budgets.²⁴ Nonetheless, the affirmative action policy is still active in the Ministry of Education granting priorities to pupils from weak social strata (even though mainly in the Jewish State sector) (Blass, 2009).

4.A. Affirmative Action in Primary Education

The existence of affirmative action in primary education is evident from Table 17 – per class teaching hours²⁵ allocation in the lower third, which serves the socioeconomically weak pupils, is 15 percent higher than the allocation for the upper third in schools attended by pupils from socioeconomically well-off backgrounds. Regarding the per pupil teacher hour allocation, the extent of affirmative action is even higher, reaching 27 percent. The number of pupils per class in schools serving weaker pupil populations is also lower.

²³ This paragraph is based on different data than those that were used in the previous part of the chapter, since in this chapter we include only schools for which there are full data about the remedial index.

²⁴ Klinov, 2009. When this policy was initially voted in, its beneficiaries represented a much higher percentage, since the share of Arab Israelis and ultra-Orthodox in the system was smaller.

²⁵ “Teaching hours” in the Israeli educational jargon is a financial term describing the cost of teacher salary for one hour per school year.

Table 17. **Class Size, Hours Per Class and Hours Per Pupil*, Primary Education, 2008****

Schools by ranking	Number of pupils	Average number of pupils per class	Average hours per class	Average hours per pupil
Overall average	749,242	27.00	43.37	1.66
Upper third	249,528	28.55	41.05	1.46
Middle third	272,649	25.93	42.07	1.69
Lower third	227,649	26.87	47.41	1.84

* Hours paid for by educational institutions only (does not include hours funded from other sources, like the Karev Educational Program, parents, local authorities, etc.).

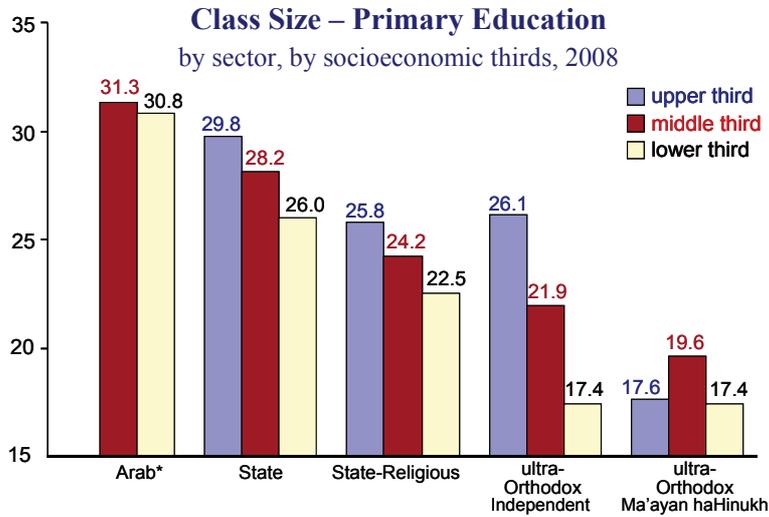
** The upper third includes schools in the upper three deciles (1-3), the middle third includes schools in deciles 4-7, the lower third includes deciles 8-10.

Source: Ministry of Education – Klinov, 2009.

However, while the overall picture indicates the existence of affirmative action in schools serving weak pupil populations, Figures 13-15 (and data presented in the Appendix) indicate gaps in this area between the Arab sector and the Jewish sector in primary and middle schools (see below). Affirmative action in the Jewish sector is much larger than the overall affirmative action, which means that it is very low in the Arab sector.²⁶

²⁶ Especially interesting is the fact that the Druze sector has a substantial advantage in per-class and per-pupil teacher hours. When the average number of pupils per class is 29, the number of teacher hours per class is 54 and the number of teacher hours per pupil is 1.9. Possibly the reason for this is the inclusion of this sector in the long school-day program.

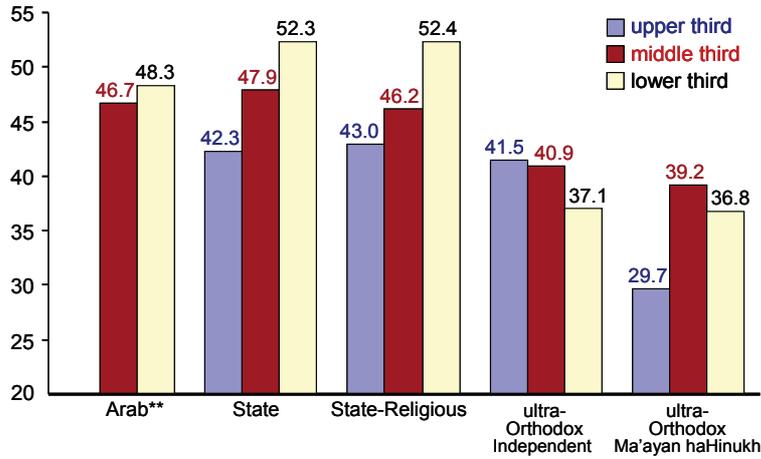
Figure 13



* In the upper third there is one school where Arabs and Jews learn together.

Figure 14

Average Weekly Hours* Per Class – Primary School
by sector, by socioeconomic thirds, 2008



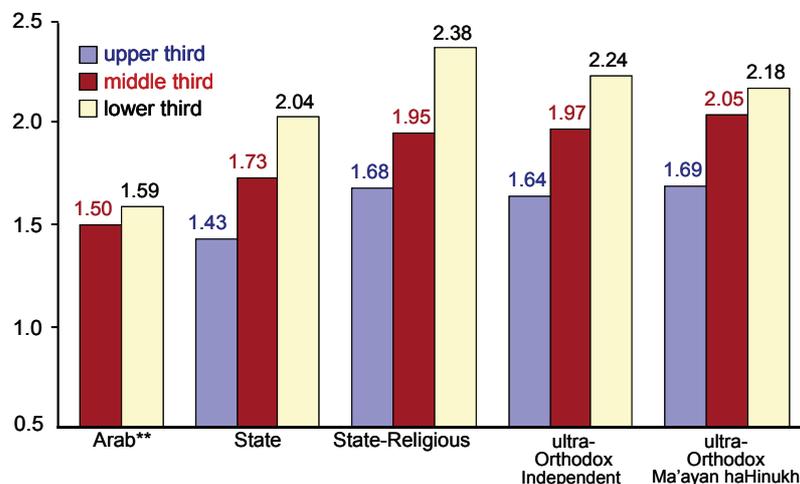
* Weekly hour is a budgetary term.

** In the upper tercile there is one school where Arabs and Jews learn together.

Source for Figures 13-14: Taub Center for Social Policy Studies in Israel.

Data: CBS.

Figure 15
Average Weekly Hours* by Pupil – Primary School
 by sector, by socioeconomic thirds, 2008



* Weekly hour is a budgetary term.

** In the upper third there is one school where Arabs and Jews learn together.

Source: Taub Center for Social Policy Studies in Israel.

Data: CBS.

As for differences in the extent of affirmative action by type of supervision in the Jewish sector, it was found that affirmative action in State and State-Religious schools is similar in terms of weekly teacher hours per class, but the allocation per pupil in State-Religious schools is much higher, due to the smaller classes in this sector (Appendix Table 1).

Compared with the two State-run education sectors, in the ultra-Orthodox sector the number of teacher hours per classroom is much smaller than the minimum required for maintaining the curriculum. However, the number of teacher hours per pupil in this sector is closer to that of the State-Religious system than to the State system. This is due to the small classes – that is, the average number of pupils per class, which is much lower in the ultra-Orthodox sector, results in a higher allocation

per pupil. In the *Ma'ayan haHinukh haTorani* system, a pupil receives an average of 2.08 teacher hours versus 1.98 teacher hours in the State-Religious schools, 1.63 teacher hours in the State schools, 1.68 teacher hours in the Druze sector, and 1.57 teacher hours in the Arab Israeli sector.

The gaps between sectors regarding allocation of teacher hours per pupil stand out in the lower third, which is weaker socioeconomically. A pupil in a State-Religious school receives an average of 2.38 teacher hours, in the Independent Education Network – 2.24 teacher hours, in the *Ma'ayan haHinukh haTorani* system – 2.18 teacher hours, in the Bedouin sector – 1.68 teacher hours, and in the Arab Israeli (Muslim) – 1.59 teacher hours (on average).

It should be noted that the division of schools into thirds by their socioeconomic ranking somewhat obscures the inferior level of affirmative action directed to the Arab, Druze, and Bedouin sectors, since none of them have any upper third school, and in the Bedouin sector – not even in the middle third. In any case, although the number of classroom teacher hours in these sectors is high, this is due to class sizes and not the result of channeling resources for affirmative action. On the other hand, while the ultra-Orthodox sector indeed receives fewer teacher hours per class, due to the smaller classes and the budgeting method, for the very same reason the allocation per pupil in this sector is relatively high.

4.B. Lower Secondary Schools

The debate about affirmative action in lower secondary schools makes possible a more precise examination of the effect of this policy, given that the current budgeting method was introduced in 1995 and has not changed since then. In general it can be claimed that the system accords affirmative action for schools serving pupil populations from weaker socioeconomic backgrounds in all three dimensions of the allocation – class size, teacher hours per class, and teacher hours per pupil – but with

very large differences in the amount of affirmative action between the various parts of the system.

Table 18. **Class Size, Hours Per Class and Hours Per Pupil, Lower Secondary Schools, 2008**

Schools by ranking	Number of pupils	Average number of pupils per class	Average hours per class	Average hours per pupil
Overall average	250,591	29.5	49.8	1.76
Upper third	75,257	30.5	46.3	1.54
Middle third	73,222	28.5	51.8	1.88
Lower third	75,537	29.8	50.6	1.82

In the Jewish sector there is affirmative action in all its three aspects: classes in schools serving established populations are larger than in those serving populations of lower socioeconomic backgrounds, with class sizes ranging from 30.5 in the upper third to 25.7 in the lower third. The number of teacher hours per class in the weak third is 58.1 compared to 46.3 in the upper third, and the allocation per pupil is 2.4 versus 1.5 teacher hours on average, respectively. In contrast in the Arab Israeli schools there is no such affirmative action, and the weak third of the schools is not prioritized (see Figures 16-18 and Appendix Table 2).

Concerning differences within the Jewish sector, one can only discuss the official Jewish sector (since the ultra-Orthodox sector does not have lower secondary schools). Apparently, the State-Religious schools have an advantage in every socioeconomic third which increases as the level of socioeconomic level decreases. The difference in the allocation per class in the Jewish State schools between the upper and the lower third is 22 percent and the difference in allocation per pupil is 47 percent. However in the State-Religious schools the rates are 29 and 58 percent, respectively.

Figure 16
Class Size – Lower Secondary School
 by sector, by socioeconomic thirds, 2008

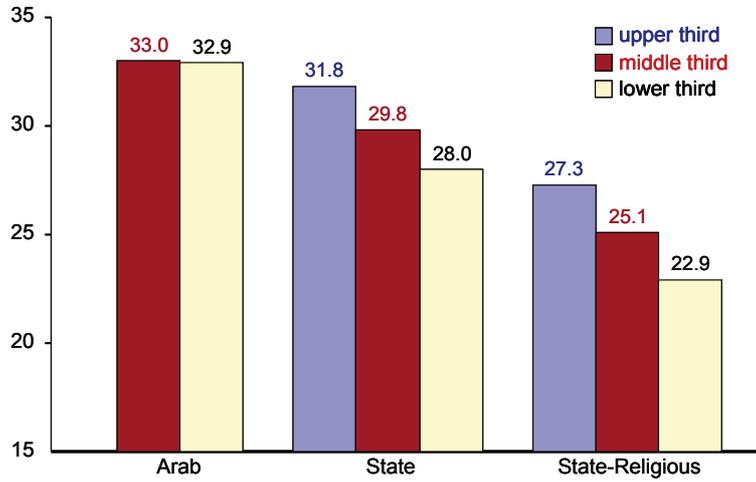
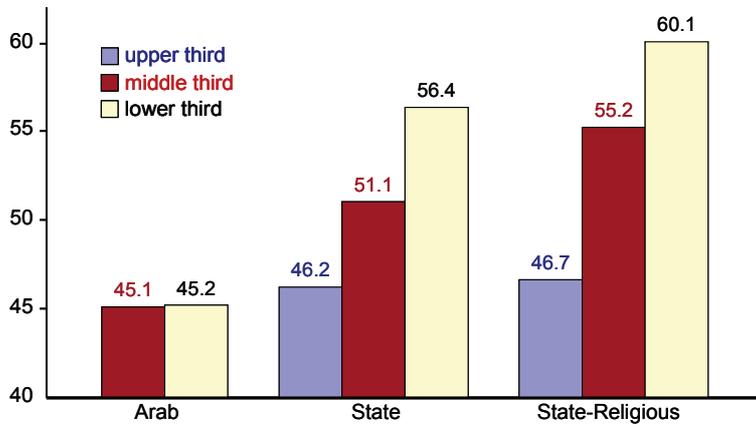


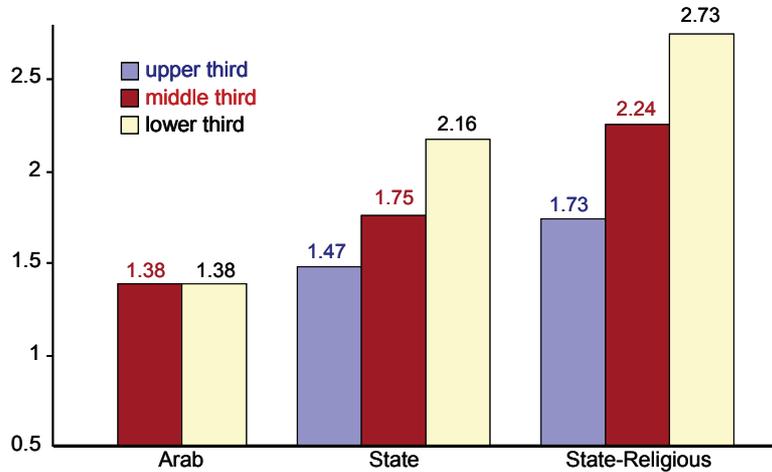
Figure 17
Average Weekly Hours* Per Class – Lower Secondary School
 by sector, by socioeconomic thirds, 2008



* Weekly hour is a budgetary term.

Source for Figures 16-17: Taub Center for Social Policy Studies in Israel.
 Data: CBS.

Figure 18
Average Weekly Hours* Per Pupil – Lower Secondary School
 by sector, by socioeconomic thirds, 2008



* Weekly hour is a budgetary term.

Source: Taub Center for Social Policy Studies in Israel.

Data: CBS.

In conclusion, although the degree of affirmative action in the budgeting of primary schools is higher than in lower secondary schools, in Jewish sector lower secondary schools it is higher than in primary schools.

In the context of affirmative action, a separate study (Blass et al., 2008) examined differences between teachers' characteristics according to the socio-economic index of their schools compared with findings in other countries. In fact, as expected, two key variables – seniority and education level (which are known to reflect the quality of the teaching personnel) – were higher in schools serving established populations. However, while in other countries there were very large variations in the characteristics of teachers in schools with different socioeconomic compositions, in Israel differences are not very large. On the other hand, the cost of a teaching hour in schools for weak pupil populations is higher

than that of established schools. This finding, in addition to those indicating that the teacher hour allocation per pupil in these schools is higher (Romanov et al., 2007; Klinov, 2008), indicates that in Israel there is, in fact, a consistent policy of affirmative action (although it is believed to be insufficiently comprehensive and effective and not always a deliberate process).

5. Conclusion: General Overview and Assessment of Education

Against developments that have taken place recently in the composition of the pupil population, teaching personnel, the budget, and affirmative action, it is important to take a more comprehensive view of the education system, especially since most of the Israeli public judges it harshly. The education system is judged by various criteria, some having to do with its current performance, and others concerning the anticipated impact of current performance on long range issues. Evidently, it is easier to judge the current performance of the system than to assess their future influences. It is especially easy to judge using quantifiable criteria, as reflected in various paper and pencil tests, compared with “more elusive” criteria, like the atmosphere in the school, the inculcation of educational and humanitarian values, and so on. But do the results of these tests actually give a reliable picture of the level of education in the country?

Many scholars, notably Hanushek and Woessman (2009), believe that the answer is positive. Conversely, quite a few scholars think differently (Bracey 2005; 2007; Ramirez et al., 2006; Rothstein, 2008; Rotberg, 2006). The main bone of contention is the overall impact of education in general and of academic achievements reflected in international tests results, in particular, on economic developments and especially on future growth. The former consider current educational academic achievements a significant and central factor in determining the future level of economic development, while the latter see in education only one of the

components – and not always the most important – that affect the pace of economic development.

This chapter is not intended to offer a definitive answer to this question. However, it should be said, that if we assume that the effect of the education system is reflected roughly 20 years after its graduates are fully integrated into the labor market, then there is – hypothetically at least – a serious contradiction between the Israeli economy's "lost decade" and the economic crisis of Japan in the 1990s on the one hand, and the very high scores of their education systems in international achievement tests in the 1970s and 1980s, on the other. Equally difficult to explain is the success of the Chinese economy in recent years in the context of the Chinese education system's achievements in the 1980s. Clearly the answer is that there are many other variables that have affected the economic developments, which brought Israel and Japan to the crises they experienced. Clear as well is the answer to arguments about the central role of the education system in promoting the economic growth of a country.

Even without resolving this issue, it seems indisputable that there are other important yardsticks that can and should serve as worthy criteria for the level of the education system, such as:

- Quality of life at school;
- Teacher-pupil relations;
- Pupil's sense of self;
- Volunteering rates in military service (to special units) and in various civilian settings;
- Number of registered patents per population;
- Number of new books and movies in a year, per capita;
- Number of people who attend cultural performances;
- Acceptance rates of Israeli students to institutions of higher learning abroad.

Such yardsticks and others can provide at least as reliable a picture of the success of the system at the same point in time, and perhaps even more importantly, of the chances of graduates of the system to integrate into society in the future, as paper and pencil achievement tests. In addition, the picture needs to be completed by an objective look at relevant measurements indicating achievements and improvements in the education system, which shed light on what is going on in the system in recent years.

- Attendance rates in the education system at all levels of education are on the rise, although they are already high by international standards.
- Percentage rate of high school graduates and those who passed matriculation exams have risen.
- Teachers are better educated and more experienced than in the past and probably (at least in recent years) with higher cognitive skills.
- Input/output gaps between schools serving pupil populations of established socioeconomic background and schools serving pupils of weak socioeconomic backgrounds have narrowed.
- In the one and only test in Israel which is calibrated over many years, the psychometric test (administered by the National Center for Testing and Evaluation) the scores of Jewish Israeli pupils rose by 10 points, and those of Arab Israelis by 17 points between 1991 and 2008.
- Israeli education system graduates studying abroad succeed in their studies and their accomplishments in science and technology have become world renowned.
- Israel's high-tech industry, which employs mostly young recent graduates, is the economic engine of the economy and is considered among the most developed in the world.
- The "brain drain" from Israel, which is indeed a warning sign for the state of higher education in Israel, is certainly a most negative social phenomenon, but it would not have been possible had these "brains" not received graduate and post graduate training in Israel, with further

training at some of the best academic institutions in the world. Apparently, it would have been possible to prevent a large part of the “drain” had there been more jobs available in institutions of higher education for graduates of these institutions.

- Of the 500 best universities in the world, seven are in Israel;²⁷ in the ratio of outstanding universities to GNP, Israel holds the first place in the world, and in relation to the population it is in third place, behind New Zealand and Sweden.²⁸
- In the World Economic Forum Index, reflecting Israel's competitive ability, published this year, Israel is ranked 23 overall, but also in first place in terms of investment in research and development; in second place in terms of skills in information technology; in third place in terms of quality of scientific research institutions; in fifth place in terms of number of registered patents per capita in Israel; and in sixth place in overall innovation.²⁹

These achievements are common measurements for assessing education systems in the Western world. The Israeli education system reached these achievements under difficult conditions of absorbing massive immigration, on-going security tension, and far-reaching demographic changes, which increased the share of the weaker populations in the population. Moreover, they achieved this while the investment per pupil barely rose in the past decade, and social and economic disparities in Israel have expanded considerably.³⁰

²⁷ <http://www.nationmaster.com>

²⁸ <http://www.arwu.org/Analysis2009.jsp>

²⁹ Schwab, Porter, 2008.

³⁰ The GINI Index after transfer payments and direct taxes rose from 0.35 in 1997 to 0.39, a rise of over 10 percent (Annual Report, National Insurance Institute, 2009), p. 367.

In conclusion, evaluating the quality of the present education system and comparing it to the past requires us to have a comprehensive and broad vision, taking into account all of the functions of the education system and the great potential impact on social processes. Such vision will ensure the knowledge, recognition and appreciation of the system's achievements on the one hand, as well as an awareness of its multiple defects and failures, on the other.

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*Appendix – Tables*Table 1. **Class Size, Hours Per Class and Hours Per Pupil – Primary Education**

Schools by ranking	Average number of pupils per class	Average hours per class	Average hours per pupil
Jewish State Schools			
overall average	28.64	45.72	1.63
Upper third	29.76	42.26	1.43
Middle third	28.15	47.91	1.73
Lower third	26.00	52.33	2.04
State-Religious			
overall average	24.25	46.74	1.98
Upper third	25.80	42.96	1.68
Middle third	24.21	46.15	1.95
Lower third	22.51	52.35	2.38
Independent Schools			
overall average	22.38	40.49	1.92
Upper third	26.10	41.51	1.64
Middle third	21.94	40.88	1.97
Lower third	17.39	37.05	2.24
New Ultra-Orthodox Network			
overall average	18.74	37.90	2.08
Upper third	17.60	29.70	1.69
Middle third	19.63	39.19	2.05
Ultra-Orthodox Recognized			
overall average	21.66	34.04	1.69
Upper third	25.03	35.94	1.45
Middle third	21.74	34.28	1.69
Lower third	18.45	31.67	1.89
Arab Official			
overall average	30.88	47.77	1.57
Upper third	22.41	34.69	1.55
Middle third	31.32	46.65	1.50
Lower third	30.81	48.33	1.59
Bedouin – overall average			
Lower third	30.24	50.48	1.68
Druze – overall average			
Middle third	28.92	54.41	1.90
Lower third	28.58	53.86	1.90
Lower third	29.38	55.16	1.89

**Table 2. Class Size, Hours Per Class and Hours Per Pupil –
Lower Secondary Education**

Schools by ranking	Average number of pupils per class	Average hours per class	Average Hours per pupil
Jewish State Schools			
overall average	30.4	49.7	1.68
Upper third	31.8	46.2	1.47
Middle third	29.8	51.1	1.73
Lower third	28.0	56.4	2.16
State-Religious			
overall average	25.3	53.5	2.18
Upper third	27.3	46.7	1.73
Middle third	25.1	55.2	2.24
Lower third	22.9	60.1	2.73
Arab Official			
overall average	33.00	45.2	1.38
Middle third	33.00	45.1	1.50
Lower third	30.81	45.2	1.38
Bedouin			
overall average	32.6	45.1	1.39
Lower third	32.6	45.1	1.39
Druze			
overall average	31.9	45.8	1.45
Middle third	31.4	43.7	1.39
Lower third	32.2	47.0	1.48