

The Heritage of Jewish Literacy and Educational Achievement and the State of Education in Israel

“The State of Israel cannot fulfill its mission – that of implementing development projects and major immigrant absorption – if science is not imposed on all sectors of life; if foremost scientific conquests and sophisticated techniques do not form the basis of our agriculture, factories, industry, navigation, aviation and housing; and if maximum encouragement is not given to those engaged in science, both pure and applied, to expand those conquests.”

(David Ben-Gurion, 1948)

The state of schooling and education in Israel has interested experts and politicians for decades. The media often publishes selected data from official reports and indices – both Israeli and international – demonstrating that the state of education in Israel is far from satisfactory.¹ The desire to excel in the spheres of education,

science, and technology stems from the tradition and culture of the Jewish people, as well as from practical aspects – the recognition that these are indispensable for Israel’s existence and success, as described by David Ben-Gurion during the state’s early days.

Tradition of literacy

Between 63 and 65 CE the Jewish High Priest Yehoshua ben Gamla issued an edict requiring all Jews to send their sons to school so that they could learn to read the Torah. The destruction of the Second Temple had changed Judaism and it was no longer based on ritual and sacrifices in the Temple, but rather on Torah study, prayer, and observance of the commandments. To achieve this, the Jews had to promote literacy and Torah education. This obligation, in a world where more than 90 percent of the population could not read and write, gave Jews a relative advantage over the members of other religions, an advantage that continued for hundreds of years and served to catapult them toward success in a broad range of spheres. The Jewish culture that developed over the years continued to prioritize learning and literacy, phrases such as “the People of the Book” and “Jewish genius” were ascribed to the Jews because of their attitude toward education and their achievements in numerous scientific spheres.

Today, too, outstanding achievements and intellectual excellence are attributed to Jews. Most prominent, among other things, is the high representation of Jews on the list of recipients of prestigious awards in the scientific world. Thus, for example, out of 1,081 Nobel laureates through 2015, 185 have been Jewish (around 17 percent): in chemistry, 36 recipients constituting 14.3 percent of all recipients; in physics, 51 recipients or 19.5 percent; in medicine, 55 recipients constituting 15.5 percent; literature, 14 recipients or 10.85 percent; and in economics, 29 recipients constituting around 34 percent.

Among the 64 recipients of the Turing Award (the most prestigious prize in the field of computer science), 21 have been Jewish (around 33 percent).

And among the 311 recipients of the prestigious Wolf Prize, awarded in Israel to scientists and artists from around the world for achievements benefitting humanity, 106 have been Jewish (representing some 34 percent): chemistry, 19

Figure 1 – Percentage of Jewish Nobel Prize Laureates

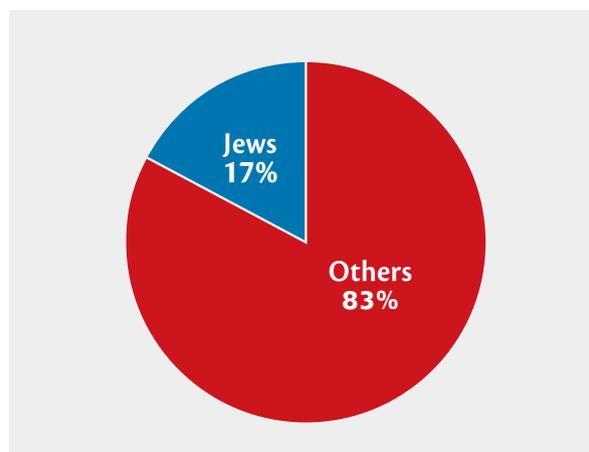


Figure 2 – Percentage of Jewish Turing Award Recipients

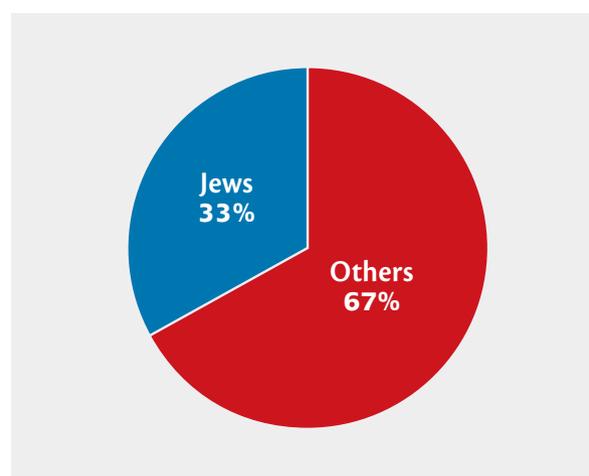
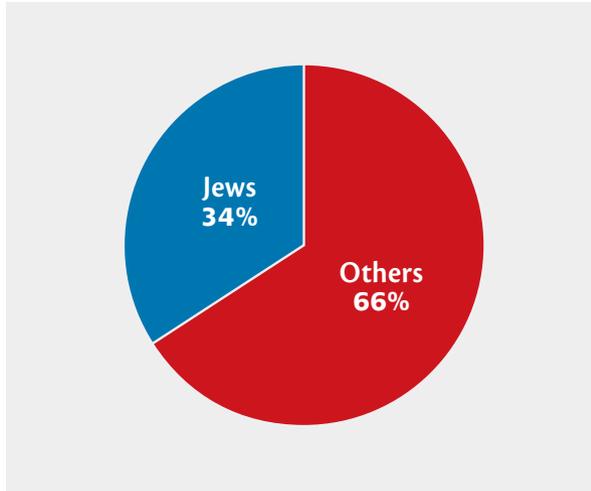


Figure 3 – Percentage of Jewish Wolf Prize Laureates



winners (39.6 percent); physics, 26 winners (45.6 percent); medicine, 23 winners (roughly 41 percent); mathematics, 20 winners (35.7 percent); agriculture, 6 winners (roughly 12 percent); the arts, 12 winners (26.6).

All this while the total number of Jews in the world, as of 2015, is estimated to be about 14.3 million people, which is only 0.2 percent of the world’s population.

Table 1 – Participation in Education – American Jews³

	Pew, 2013	NJPS, 2000-01	NJPS, 1990	NJPS, 1971
Advanced degrees – Masters and above	28% (10%)	25% (6%)	26.4% (8.7%)	19%
Bachelor’s degree	30% (19%)		26.7% (11.8%)	14.7%
Studied or studying in an academic framework, not yet graduated (and no other degree)	25% (29%)		19.3% (17.3%)	19.9%
High school or less	17% (42%)		27% (62%)	46.4%

Data regarding American Jews, the largest Jewish community outside of Israel, also indicate an over-representation of Jews in higher education. It's important to point out that, according to the Duncan Index of Dissimilarity, the advantage of Jews over the rest of the population declined during the period between 1990 and 2013 (from 34.6 to 29 percent). This means that in 1990, 34.6 percent of non-Jews had to acquire further education to match the Jewish educational profile; in 2013, this number decreased to only 29 percent. The advantage eroded primarily at the high school level and in bachelor's degree recipients. For master's degrees and higher, the level of achievement of Jews and non-Jews is quite similar.

The Jewish People Policy Institute, aware of the great importance of science and education in Jewish culture and the impressive achievements of the Jewish people throughout history, is undertaking a wide-scale project to examine long-term trends in education both in Israel and among Jews the world over. Our intention is to formulate a suitable methodology to examine these trends and, if necessary, propose policies to help improve the state of education.

The state of education in Israel

This paper is based primarily on findings from a broad range of official reports published during the past year, by the OECD, Bank of Israel, the Central Bureau of Statistics, and Ministry of Education among others, dealing with various indicators relating to education in Israel and their current and potential future ramifications.

The current analysis will focus only on the state of education in Israel, but future JPPI analyses will encompass other aspects that will help us understand the state of education among the Jewish people worldwide.

The first indicator people tend to rely on when attempting to assess the state of education in Israel is outcomes. However, we cannot understand Israel's schooling and education systems merely by looking at student achievement on international or internal Israeli examinations. These offer only a partial view of a much larger picture. In order for a comprehensive index to provide a global view for priorities and policy, we must examine three principal types of data: inputs, outputs, and indirect indices (see appendix table).

We should take note of the fact that the data provide us with a picture not only regarding this specific point in time, but also a three-dimensional view:

1. State of the Israeli education system at a specific point in time;
2. State of the Israeli education system from a historical perspective – a change in the situation compared with previous years;
3. An international comparison – the state of the Israeli education system compared to other nations (mainly OECD nations). This portrait can be examined at a specific point in time and/or over time.

Before we begin our analysis it is important to emphasize that although the State of Israel is the nation of the Jewish people, Israel's population is mixed and also includes other religious and ethnic

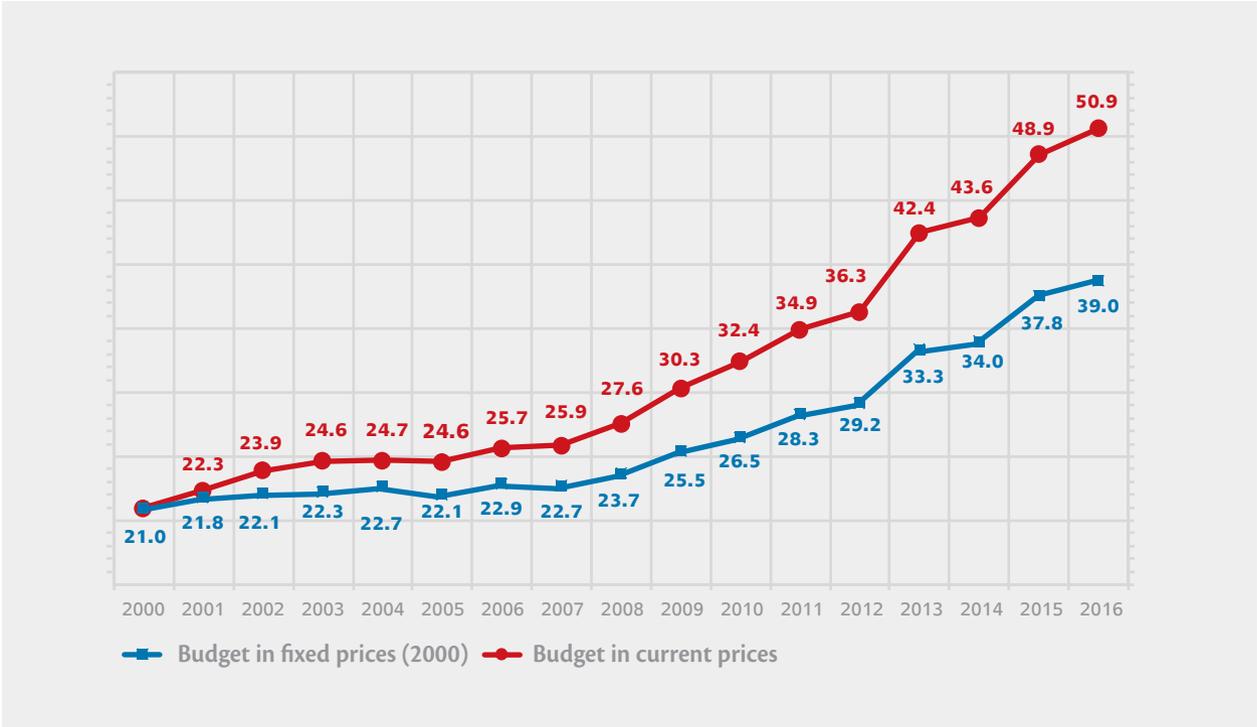
groups. The data presented below, particularly international data, refer mainly to all pupils in Israel and not just the Jewish population.

Inputs Indices

The picture that emerges from the data is not unequivocal. It is apparent that in recent years

greater efforts and resources have been expended to improve education in Israel. By and large, the input indices (except for annual expenditure per pupil in secondary schools, and teaching hours in primary schools, which are both declining, and the latter is declining on average in other OECD countries as well), indicate an upward trend.

Figure 4 – Ministry of Education budget for 2000-2016 (not including development budget), fixed and current costs (in NIS billions)



From: Economic data on the education system 2015-2016, Ministry of Education (Hebrew)⁴

Indeed, in recent years the Ministry of Education's budget has increased significantly, both in terms of fixed costs and as a percentage of GDP.

During the past six years notable reforms and processes have been implemented that have increased the budget of the Education Ministry, including "Ofek Hadash" (New Horizon), the addition of teaching hours in primary and lower secondary education, as part of the strategic plan to improve achievements, the school climate and more.⁵ According to details on expenditure as seen in Education Ministry data, most of the investment is in teaching personnel. Wage expenditures constitute some 90 percent of the ministry's budget, which includes teacher salaries (72.4 percent), wages for workers hired by municipalities, wages for ministry personnel, and wages for corporate employees (17.1 percent).

Between 2006 and 2012, Israel increased its per pupil education expenditure (not including higher education) by 38 percent, a rate that is significantly higher than the OECD average, which stands at 21 percent. It appears, therefore, that the investment data show an encouraging picture. But the international data, which give us another perspective on the figures, suggest the increase in investment for some indicators (for example, national expenditure per pupil) is not unique to Israel, and in many cases can be seen in other OECD countries as well. Furthermore, there are explanations for the fact that, in some cases, Israel is unable to close the gap with the OECD average. One of these explanations is the increase in the number of pupils enrolled in the education system, which is considerably higher than in other Western countries. Either way, the final result is that

Figure 5 – Annual expenditure per pupil in U.S. dollars, by stage of education, for all services



Source: OECD data, "Education at a Glance", Reports from 2009-2015, table B1.1a

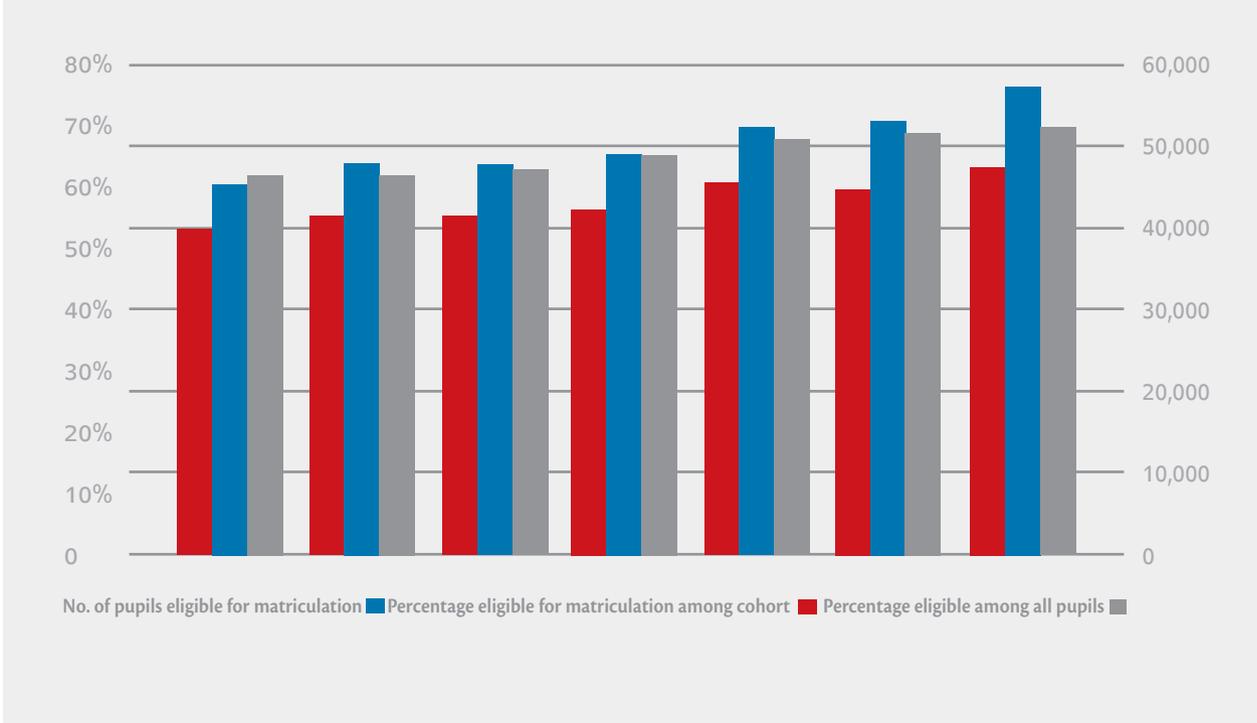
despite the improvement and increased spending, Israel remains below the OECD average for many indicators.

Output indices

In terms of outputs the picture is more complicated. As shown in the appendix, during the past decade Israeli pupils have been able to improve their scores in all most all areas on international tests (mathematics, science and reading). But, here too, looking only at the trend in Israel gives an erroneous impression. The average score of Israeli students did, in fact, increase in recent years, but except in the case of reading skills

(PISA and PIRLS tests) Israel has not improved its relative international standing. Furthermore, an exact analysis of the data on gaps between pupils in the top decile and those in the bottom decile for achievement on international tests indicates a worrisome trend in the three key subjects – math, science, and reading. While scores have risen for groups at both ends of the scale (Math – from 310 to 328 in the bottom decile, and from 581 to 603 in the top decile; Science – from 314 to 328 in the bottom decile, and from 590 to 608 in the top decile; Reading – from 322 to 329 in the bottom decile, and from 611 to 624 in the top decile) as reflected in the general rise of scores in all three subjects, we can see that the

Figure 6 – Data on matriculation eligibility among Jewish pupils 2008-09 to 2014-15 (including ultra-Orthodox)



Source: Ministry of Education data, “Educational Picture” project, August 2016

greatest improvement is in the higher group and the gaps between the groups continue to widen.⁶ In contrast to international tests, which do not differentiate between different ethnic groups in the population, the Growth and Effectiveness Measures for Schools (GEMS examinations) provide us with a specific depiction of the education system in Hebrew-speaking schools. Once again the data indicate a mixed trend with fluctuations, although for most of the exams we can see a general rise between 2009 and 2015. Another variable that can give us a key view of the success of Israel's education system from a multi-year perspective are figures that relate to matriculation eligibility. According to data from the Education Ministry published as part of the "Educational Picture" project, matriculation eligibility among Jewish pupils has been on the rise in recent years – both in terms of actual numbers and in terms of the percentage of eligible pupils within the age cohort and among all students.

When looking at eligibility data pertaining only to the ultra-Orthodox population, the picture is mixed. While the absolute number of those eligible for matriculation has increased (from 1,340 pupils in 2008-09 to 1,880 in 2014-15) and the percentage of those eligible among the age cohort has gone up (from 8.6 percent in 2008-09 to 10.2 percent in 2014-15), the percentage of those eligible for matriculation among the group of pupils participating in the formal education system decreased (from 22.3 percent in 2008-09 to 18.6 percent in 2014-15). This decline, parallel with the rise in pupils eligible for matriculation

in the general education system, indicates that the gaps between pupils in the education system have widened. The increase in the number of pupils eligible for matriculation applies to the general population, while in the ultra-Orthodox population, despite the fact that the number continues to rise, fewer students are graduating with a matriculation certificate.

These gaps are substantial not only in regard to matriculation eligibility, but also in matriculation examination topics and levels. The Ministry of Education published data (on August 29, 2016) indicate substantial differences between the percentage of matriculation eligibility at the 5-point level (the highest level) in Mathematics and English in different populations in Israel. Within the Jewish population, this difference is most conspicuous between the ultra-Orthodox population and the rest of the population.

Indirect indices (outcome indices)

The third group of indices we want to address are indirect indices, or outcome indices, which deal mainly with the state of the adult population that has been through the education system and has integrated (or not) into the job market. A special OECD report published in June 2016 presents important data regarding people aged 16-65 with reference to several prominent indicators, among which are literacy (reading skills), numeracy (mathematical computation skills), and problem solving ability in a computerized technological environment.

Figure 7 – Gaps in numeracy skills, by age group

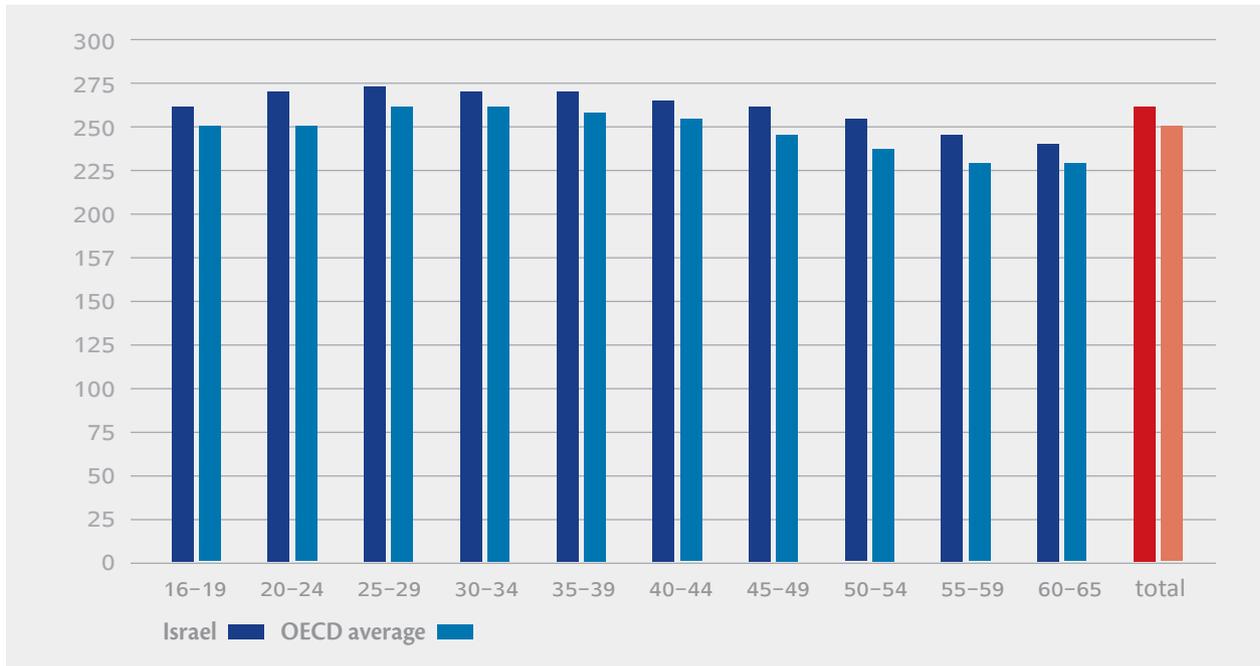
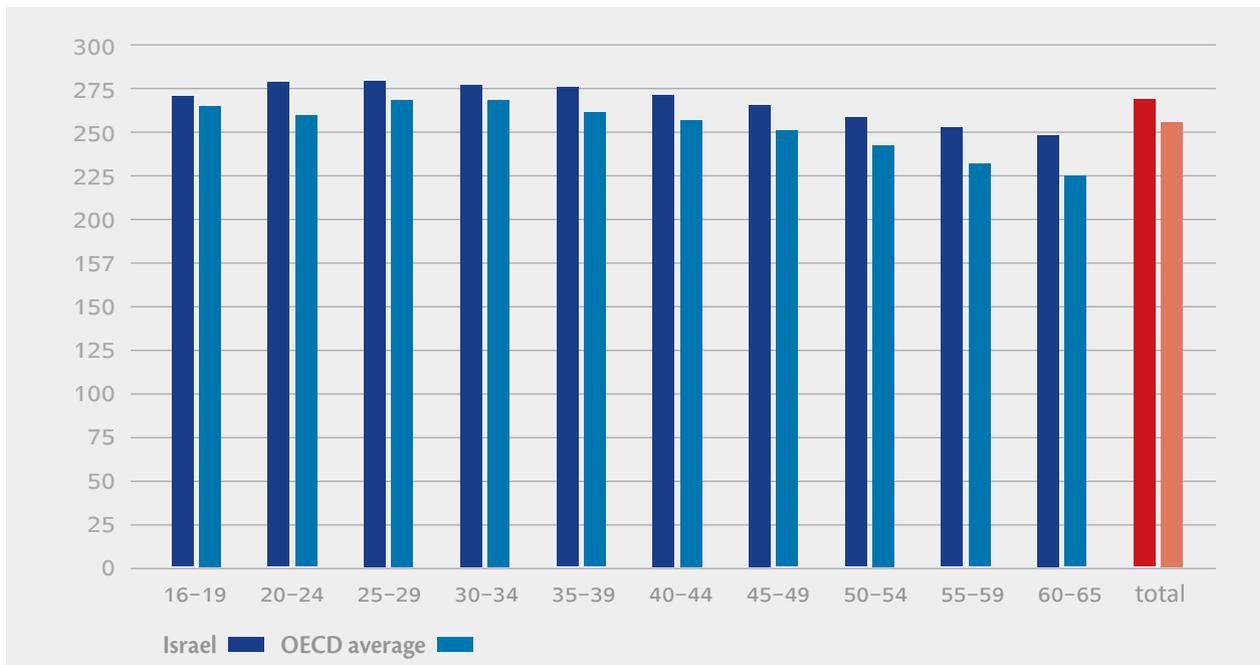


Figure 8 – Gaps in literacy skills, by age group



Source: Analysis of data taken from the Organization for Economic Cooperation and Development (OECD), Program for the International Assessment of Adult Competencies (PIAAC), 2012

The report findings indicate that Israel is below the OECD average on all three indices. Additionally, in this sphere as well, Israel comes up short with respect to skill level gaps. In literacy, the gap in points between the group that had the highest scores and the group with the lowest score is 73.9 points (the average of OECD countries is 61.7 points), and ranks second only to Singapore (77 points). The percentage of those at skills Level 1 or below is 27 percent. For numeracy the data is similar, and here, too, the gaps in Israel are among the widest measured, 83 points, while the gaps in Singapore are only slightly higher at 88 points. Once again, the percentage of participants at Level 1 or below (the lowest levels of numeracy skills) is nearly 30 percent.

Data from the report point to another important trend. Despite the fact that the scores achieved by Israelis in all age cohorts were lower than the OECD average, the group of young adults aged 25-34 scored closest to the OECD average among comparable age groups. On numeracy tests this cohort's gap was about 10 points, while the age cohorts with the highest gaps were ages 20-24 and ages 55-59 (where the gaps were 21 points).

The smallest gap in literacy were among those aged 16-19 (7 points), while the largest gap was found among those aged 60-65 (23 points). The general trend, with the exception of adults aged 20-24 and adults aged 25-29, indicates that the gap widens the higher in age you go. When looking at literacy skills and numeracy skills, for adults aged 20-24 there is a relatively wide gap of 17 points compared with similar OECD groups.

When looking at skills relating to problem solving in a technology-rich environment, 32.7 percent of Israel's adult population is not sufficiently skilled to solve problems in a computerized setting. This rate is higher than the OECD average (28.9 percent). Nonetheless, the percentage of Israeli adults at the highest level of problem solving in a computerized environment (6.4 percent) is higher than the OECD average (5.4 percent).

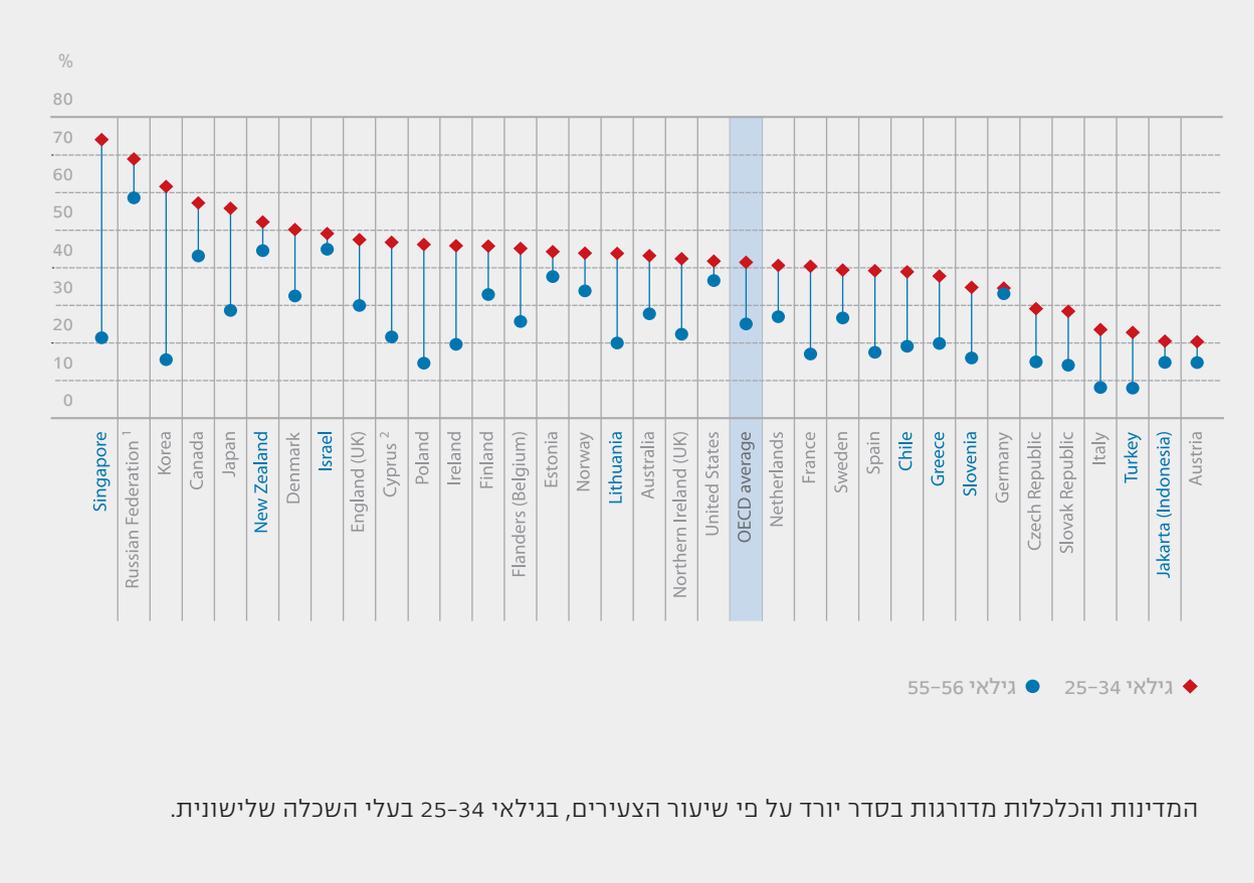
Another important index deals with the percentage of the population with tertiary education, that is, the number of people who have studied and/or are studying in post-secondary educational frameworks. The data for 2015 point to the fact that the rate of participation in higher education in Israel is among the highest in the world, and Israel is on the list of the ten leading countries. According to data found in the appendix, we can see that the proportion of people with advanced degrees is on the rise.

The last point in the indirect indices was added after this paper was completed. Two Israeli delegations returned from the International Mathematical Olympiad and the International Physics Olympiad with medals.

There were 109 countries participating in the International Mathematical Olympiad. The six Israeli pupils took six medals (three silver, three bronze), and came in 22nd place in the overall ranking. This is an increase of 18 places from Israel's ranking (40) the previous year.

Eighty-seven countries took part in the International Physics Olympiad. Five representatives from the Israeli team took home

Figure 9 – Percentage of population with tertiary (post-secondary) education, by age cohort



Source: Survey of Adult Skills (PIACC), 2012

four medals (three silver and one bronze), and an honorable mention. This achievement places the team in 19th place, and third among Western countries

State of Education in Israel – Comprehensive index

As previously noted, when examining a wide range of data utilized to indicate the state of education

in Israel, the result is mixed. But there are several important trends that can and should be noted:

1. As of this writing, **there are significant gaps between the input indices, which have shown a welcome increase in recent years, and the output indices** – both the direct and indirect indices – which present a mixed picture – an increase in certain areas and a decrease or inconsistent changes in others. We can offer a broad range of arguments to explain these findings, from

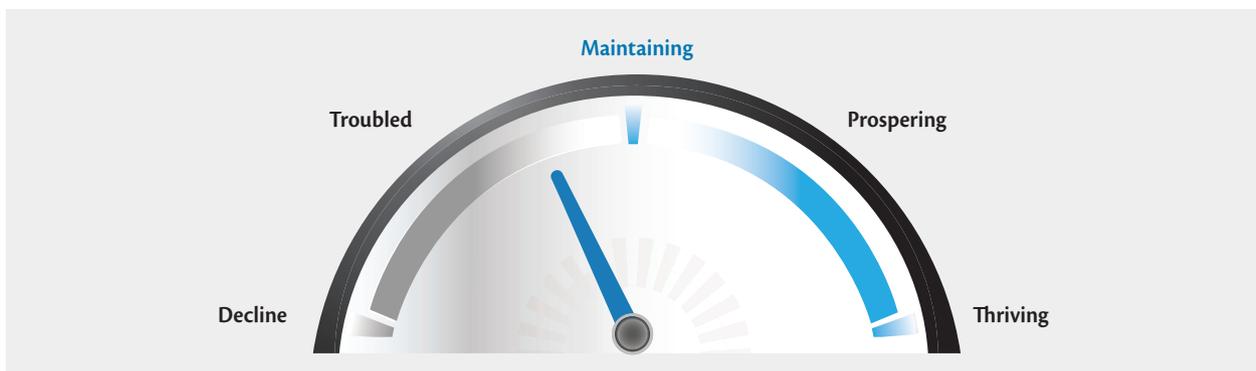
demographic trends to education investment choices, to educational policy, to the role of the establishment, to the argument raised in the research literature regarding the limited resources for improving the state of education. Each one of these arguments requires a deep and detailed investigation of the degree to which it would likely have an impact in Israel's unique case. Another explanation, one which no one disputes and that deserves the reader's attention, is the period of time it takes investments in the policy sphere in general, and the sphere of educational policy in particular, to bear fruit. Since the time frame is usually not immediate, the examination of investment impact can only occur a few years later;

2. Although the situation in Israel has improved, sometimes significantly so in certain parameters, for most of the indicators Israel is still below the OECD average; sometimes Israel's ranking is problematic and outcomes are considerably lower than those of many other countries. Some of the low scores are due to a difficult starting point, while others are apparently related to policy measures, which, even if they succeed in improving pupil

scores, are not actually sufficient to bring about the desired change.

3. Further to the previous paragraph, the most worrisome trend that can be seen from a wide spectrum of indices in all three spheres – input, output, and results – relates to gaps, which are growing ever-wider, between different population groups. The data presented here refer primarily to gaps between various population deciles, but the detailed indications presented by the OECD represent the gaps in a broad range of cross-sections, including ethnic, cultural, socio-economic, and geographical.

Based on the methodology JPPI has developed in recent years for identifying and integrating various indicators for each of the five dimensions (see this volume's Integrated Net Assessment chapter) influencing the interests of the Jewish people, we offer a sphere of education gauge (for now, in Israel only). The comprehensive index is based on three principal trends arising from a review of the data: Inputs versus outputs; Israel's importance in the international arena (outputs and results); and gaps between the top and bottom deciles. Despite the improvement in Israel's relative standing in



various individual indices, in each one of these three spheres Israel's relative situation is troubling. Therefore, it was decided to place the arrow slightly on the gauge's negative side, but the situation seems to be in the process of improving.

Parameter	Source	2015	2014	2013	2012	2011	2009	2006	Trend
Investment indices (inputs)									
Ministry of Education budget (NIS billions)	Economic Data on the Education System, 2015-2016	48.9			36.3	34.9		25.7	
National Expenditure on Education (as percentage of GDP)	Central Bureau of Statistics, Table A, National Education Expenditure			7.9 ³	7.8	7.6	7.5	7%	
Annual expenditure per student (in equivalent USD converted using PPPs ⁴ for GDP)-Primary	Education at a Glance (OECD) ⁵			No data	(8247) 6931	(8296) 6823	(7719) 5202	(6437) 4923	
Annual expenditure per student (in equivalent USD converted using PPPs for GDP)-Secondary	Education at Glance (OECD)				5689 (9518)	(9280) 5712	(9312) 5842	(8006) 5858	

Parameter	Source	2015	2014	2013	2012	2011	2009	2006	Trend
Average class size (primary education)	Education at Glance (OECD)			(21) 27	(21) 27	(21.2) 27.3	(21.4) 27.4	(21.5) 27.5	
Average class size (lower secondary education)	Education at Glance (OECD)			(24) 28	(24) 28	(23.3) 28.7	(23.7) 32.2	(24.0) 32.8	
Net teaching time in hours – primary	Education at Glance (OECD)			840 (772)	838 (782)	842 (790)	778 (779)	(812) 1025	
Net teaching time in hours –lower secondary education	Education at Glance (OECD)			644 (694)	629 (694)	614 (709)	589 (701)	(717) 788	
Net teaching time in hours –upper secondary education	Education at Glance (OECD)			570 (643)	558 (655)	521 (664)	524 (656)	(667) 665	
Teachers participation in mentoring programs (percentage of teachers who participated in professional development activities in the 12 months preceding the study)	TALIS – 2013	-----		91.1 (88.4) 16th and 17th place ⁶	----- ---	----- ---	Israel did not partici- pate	----- ---	

Parameter	Source	2015	2014	2013	2012	2011	2009	2006	Trend
School autonomy – dismissing or suspending of teachers from employment (Hebrew-speaking schools)	TALIS – 2013 Table 2.24 (Hebrew Report-RAMA)			90% (76%) ⁷					
Output indices									
Mean mathematics performance in PISA	PISA reports – 2006, 2009, 2012	Results not yet published		----- ---	466 (494) 40th place	----- ---	447 (496) 41st place	442 (494) 39	
Mean score variation in students' performance in mathematics-10th vs. 90th percentiles-PISA	PISA 2009, 2012 – What Students Know and Can Do.				275 (255)		271 (253)		
TIMSS mathematics achievement	TIMSS 2011	-----		----- ---	----- ---	516 (500) ⁸ 7th place	-----		
Mean science performance in PISA	PISA reports – 2006, 2009, 2012	Results not yet published		----- ---	470 (501) 41st place	----- ---	Average grades – 455 (501) 41st place	454 (498) 39th place	

Parameter	Source	2015	2014	2013	2012	2011	2009	2006	Trend
Mean score variation in students' performance in science- 10th vs. 90th percentiles- PISA	PISA 2009, 2012 – What Students Know and Can Do.				280 (252) Placed 1/64		276 (259)		
TIMSS science achievement	TIMSS 2011	-----		----- ---	----- ---	516 (477) 13th place			
Mean reading performance in PISA	PISA reports – 2006, 2009, 2012	Results not yet published		----- ---	486 (496) 33rd place	----- ---	474 (494) 37th place	439 (489) 40th place	
Mean score variation in students' performance in reading- 10th vs. 90th percentiles- PISA	PISA 2009, 2012 – "What Students Know and Can Do."				295 (251) Placed 2/64		289 (252)		
PIRLS reading achievement	Trends in the Developments of the Education System, Taub Center, Policy Paper No. 2014.13					541 (512) 12th place		512 18th place	
Performance in problem solving	PISA 2012				454 Placed 34/42				

Parameter	Source	2015	2014	2013	2012	2011	2009	2006	Trend
Mean score variation in students' performance in problem solving- 10th vs. 90th percentiles- PISA	PISA 2012				320 points placed 1/42				
performance in financial literacy (PISA)	PISA 2012	Results not yet published	----- ---	----- ---	476 (526) placed 14/16	----- ---	-----		
Achievement in Hebrew – Grade 5 (GEMS) Hebrew speakers	GEMS 2014-15 – achievement tests	537		532	539	528	513		
Achievement in Hebrew – Grade 8 (GEMS)	GEMS 2014-15 – achievement tests	540		537	539	551	535		
Achievement in English – Grade 5 – Hebrew speakers (GEMS)	GEMS 2014-15 – achievement tests	530		542	545	532	517		
Achievement in English – Grade 8 – Hebrew speakers (GEMS)	GEMS 2014-15 – achievement tests	531		537	530	537	531		

Parameter	Source	2015	2014	2013	2012	2011	2009	2006	Trend
Achievement in mathematics – Grade 5 – Hebrew speakers (GEMS)	GEMS 2014-15 – achievement tests	559		562	556	558	526		
Achievement in mathematics – Grade 8 – Hebrew speakers (GEMS)	GEMS 2014-15 – achievement tests	548		533	514	532	520		
Achievement in science and technology – Grade 8 – Hebrew speakers (GEMS)	GEMS 2014-15 – achievement tests	567		573	549	547	525		
Percentage of pupils eligible for matriculation from the age cohort – Jews including ultra-Orthodox	Educational Picture – data on matriculation eligibility, 2015	62.4%	58.7%	59.8%	55.3%	54.5%	52.2%		
Indirect indices – outcomes		2015	2014	2013	2012	2011	2009	2006	
Literacy proficiency (Hebrew) among adults(16-65)	Skills Matter, The Survey of Adult Skills (PIACC) – OECD	255 (268)							

Parameter	Source	2015	2014	2013	2012	2011	2009	2006	Trend
The share of adults proficient at or below Level 1 in literacy	Skills Matter, The Survey of Adult Skills (PIACC) – OECD	27% (18.9%)							
Numeracy proficiency among adults (16-65)	Skills Matter, The Survey of Adult Skills (PIACC) – OECD	251 (263)							
The share of adults proficient at or below Level 1 in numeracy	Skills Matter, The Survey of Adult Skills (PIACC) – OECD	30.9% (22.7%)							
Percentage of adults (25-64) who have attained at least upper secondary education	OECD – Education at a Glance		85% (76%)		85% (75%)	83% (75%)	81% (71%)	80% (71%)	

Endnotes

1 Thus last June, in the wake of the report by the Organization for Economic Cooperation and Development (OECD), newspaper headlines screamed that “Israelis are not as smart as citizens of developed countries (Dattel, Lior, June 28, 2016, “The sad facts: Israelis are not as smart as citizens of advanced countries,” The Marker); in July we were given another reminder that the high-tech engine is losing altitude (“The Start Up Nation is Running out of Steam,” The Economist); and more.

2 Eckstein, Zvi, Maristella Botticini (2012). The chosen

few – How education shaped Jewish history, 70-1492. Tel Aviv University, Haim Rubin Publications, pp. 24-31, 103-111.

3 Data are for American Jews; figures in parentheses indicate data for general USA population.

4 http://meyda.education.gov.il/files/MinhalCalcala/uvdot_venetunim_kalkali_2015_2016.pdf

5 Ibid.

6 OECD Reports, Education at a Glance. Data are summarized in the appendix.

7 National Authority for Measurement and Evaluation in Education (RAMA), November 2015: GEMS 2014-15: Growth and Effectiveness Measures for Schools, Part I – achievement examinations. Data are present in the Appendix.

8 Ministry of Education website, “The Educational Picture for secondary schools,” about the educational picture, data on matriculation eligibility for 2010-11, 2015 (available in August 2016).

<http://edu.gov.il/special/ExcellenceFramework/about/Pages/bagruyot.aspx>

9 For further reading (in Hebrew):

[Http://haaretz.co.il/news/education/.remium-1.3052575](http://haaretz.co.il/news/education/.remium-1.3052575)

[Http://haaretz.co.il/news/education/.remium-1.3053105](http://haaretz.co.il/news/education/.remium-1.3053105)

10 To read the key points of the report:

OECD, (28 June, 2016), Skills Matter: Further Results From the Survey of Adult Skills, Israel- Key Findings <<http://www.oecd.org/skills/piaac/Skills-Matter-Israel.pdf>>

To read the full report:

OECD, (June, 2016), OECD Skills Studies – Skill Matter, Further Results from the Survey of Adult Skills http://www.keepeek.com/Digital-Asset-Management/oecd/education/skills-matter_9789264258051-en#.V6gRovkrKUK#page1

11 Results of the survey are measured on a scale of 500 points, and the higher the score the higher the level of skills. In order to establish a basis for comparison, during the second stage the scale is divided into different skill levels. For literacy and numeracy skills the scores were divided into six skill levels: Below Level 1 is the lowest level and Level 5 is the highest level. Regarding problem-solving in a technology-rich environment, scores were grouped into four levels, where below Level 1 is the lowest level and Level 3 is the highest level. OECD, 2016, Skills Matter- Further Results from the Survey of Adult Skills, p. 21 <http://www.keepeek.com/Digital-Asset-Management/>

[oecd/education/skills-matter_9789264258051-en#.V7aVDfkrKUK#page23](http://www.oecd.org/education/skills-matter_9789264258051-en#.V7aVDfkrKUK#page23)

12 The definition of problem-solving skills in a technology-rich environment refers to “using digital technology, networks and media to acquire and evaluate information, communicate with others and to perform various tasks.” The test focuses on “the ability to solve problems for personal, work or civic purposes by setting appropriate goals and plans while accessing and using information through computers and the Internet.” OECD, 2016, Skills Matter – Further results from the Survey of Adult Skills, p. 53.

13 For further reading (Hebrew): Hayadan (July 19, 2016), “Double achievement for Israel in two science Olympiads: Six medals in mathematics, five in physics.” <http://www.hayadan.org.il/11-medls-to-israel-in-2-scientific-olympics-1907163>

14 The data relates to Israel; data in parentheses are OECD averages (unless indicated otherwise). When information is provided Israel’s ranking compared to other OECD countries is also noted.

15 Data not final.

16 Purchasing Power Parity

17 Data for 2013 are taken from the OECD report for 2015. In this year they changed the classification method of the various educational institutions (ISCED) so that the comparison between different countries was more reliable; thus, there may be slight changes between the data for 2013, when the new method went into effect, and previous years. In this table the changes are more relevant for higher education.

18 Israel shared the 16th and 17th places with Iceland, where the percentage also stands at 91.1.

19 The data refer to the percentage of teachers in Grades 7-9 for whom principals report that the school has a major responsibility with regard to teacher dismissal. Regarding data from Israel, according to the RAMA report

from February 2015: TALIS 2013 – An Israeli Perspective, this figure is surprising considering the fact that officially the school does not have the authority to hire or fire its teachers.

20 This score is the median and not the average. The average is not a reliable parameter due to the high percentage of students whose score is too low to assess.