

The Israeli Higher Education System - 2010-2019:

A Decade of Academic Excellence: Doubling Budgets, Accessibility, and Reinforcing Research

- **Doubling the budget of the higher education system:** From NIS 6.9 billion (2010) to NIS 11.8 billion (2020)
- **OECD Ranking:** Israel maintains its second place ranking in the world in the percentage of persons with a post-secondary and higher education among persons aged 25-64.
- Throughout the decade, there has been **a significant increase in the number of students in Israel** at all degree levels.
 - Since the middle of the current decade, the number of students has stabilized, primarily in undergraduate degrees, and there has been a clear increase in their numbers in the last two years.
- **Bachelor's Degrees Programs:** Engineering studies is the most popular course of studies in Israel.
- **Doubling the number of women in computer science** (including in mathematics and statistics).
- **Making higher education more accessible to the socioeconomic periphery:** Over four years, there has been an increase of more than 8,000 students coming from towns located in low socioeconomic clusters (clusters 1-4).
- **Making Higher Education Accessible to Arab Society:** For the first time ever, the Israeli higher education system has more than 50,000 Arab students.
- **The Excellence Program for Persons of Ethiopian Extraction:** There has been an increase of 35% in the number of Ethiopian students in the last 5 years.
- **The Digital Learning Revolution:** Persons above the age of 40 are returning to academia.

➔ **Strengthening Research** - within a decade: The annual budget for research funds in Israel has more than tripled.

➔ **Significant Increase in Awards from Research Funds and Academic Publications**

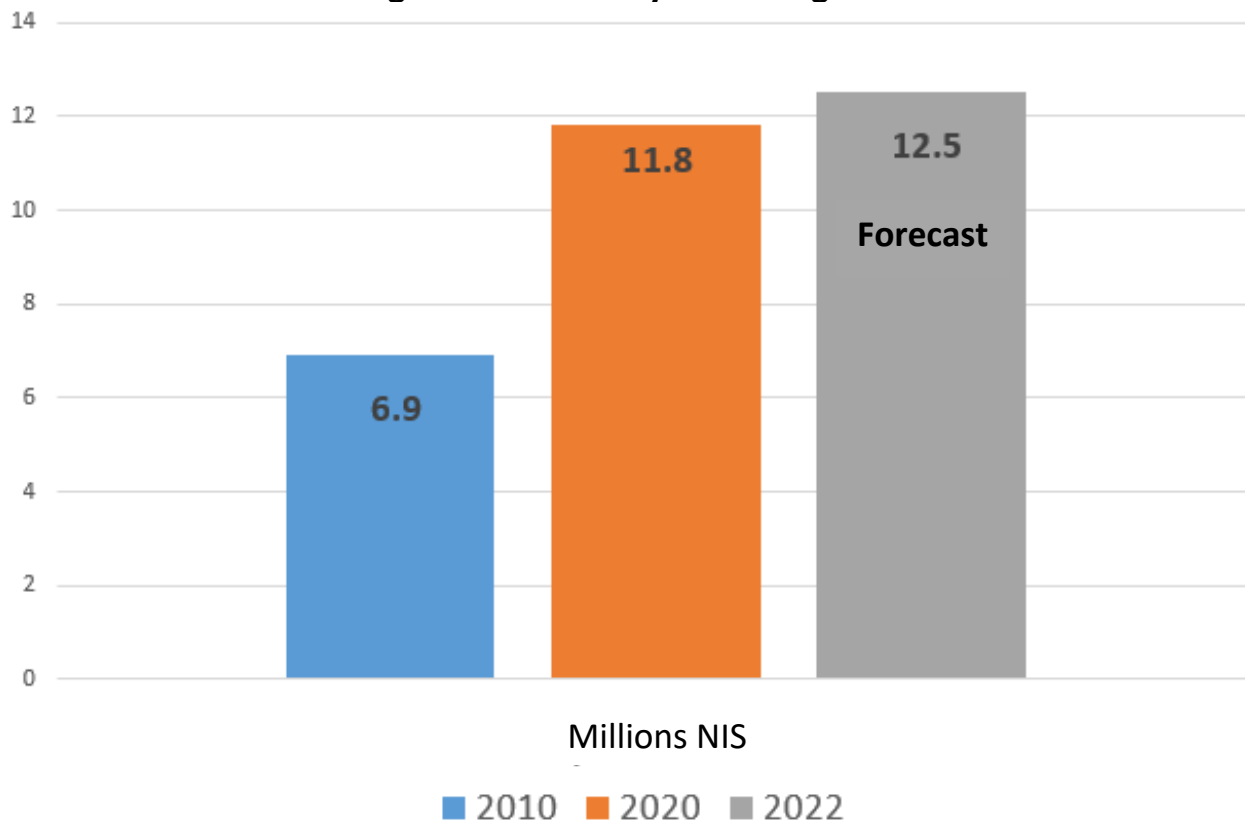
Chair of the Planning and Budgeting Committee, Prof. Yaffa Zilbershats: "The current decade has been characterized by excellence and amazing development in the academic system. Large budgets enabled the system to expand its accessibility programs and open the doors of academia to all population groups. There has been a significant increase in investment in research, funds, and infrastructures, as well as flagship subjects: Data science and artificial intelligence, personalized medicine, and quantum science and technology. Similarly, the number of academic publications has increased, and thanks to the national program for reinforcing high-tech subjects, engineering studies are currently the most sought after course of study in Israel. The digital academic learning revolution is at its apex, and now, for the first time ever, the system is promoting entrepreneurial and innovation studies and opening academia to collaborations with industry."

Deputy Chair of the CHE, Prof. Ido Perlman: "The CHE has, over the last decade, invested great resources in promoting academic excellence in research and teaching, in making higher education accessible to all strata of the population, and in developing a broad spectrum of fields of study, enabling every citizen of Israel to acquire a higher education. Israeli universities are located at the top of the international rankings, and Israeli researchers earn many achievements. The academic system in Israel will continue to act to integrate them into industry and research in all sectors, with an emphasis on gender, periphery, and unique populations."

1. Doubling the Budget of the Higher Education System:

After a decade (2000-2010) that was characterized by a sharp decrease in research and development budgets, the current decade has been characterized by a doubling of the higher education system budget (from 6.9 billion shekels in 2010, to 11.8 billion shekels in 2020, the highest budget allocated ever for higher education in Israel). In 2022, the annual budget is expected to surpass 12 billion shekels.

Israeli Higher Education System Budget

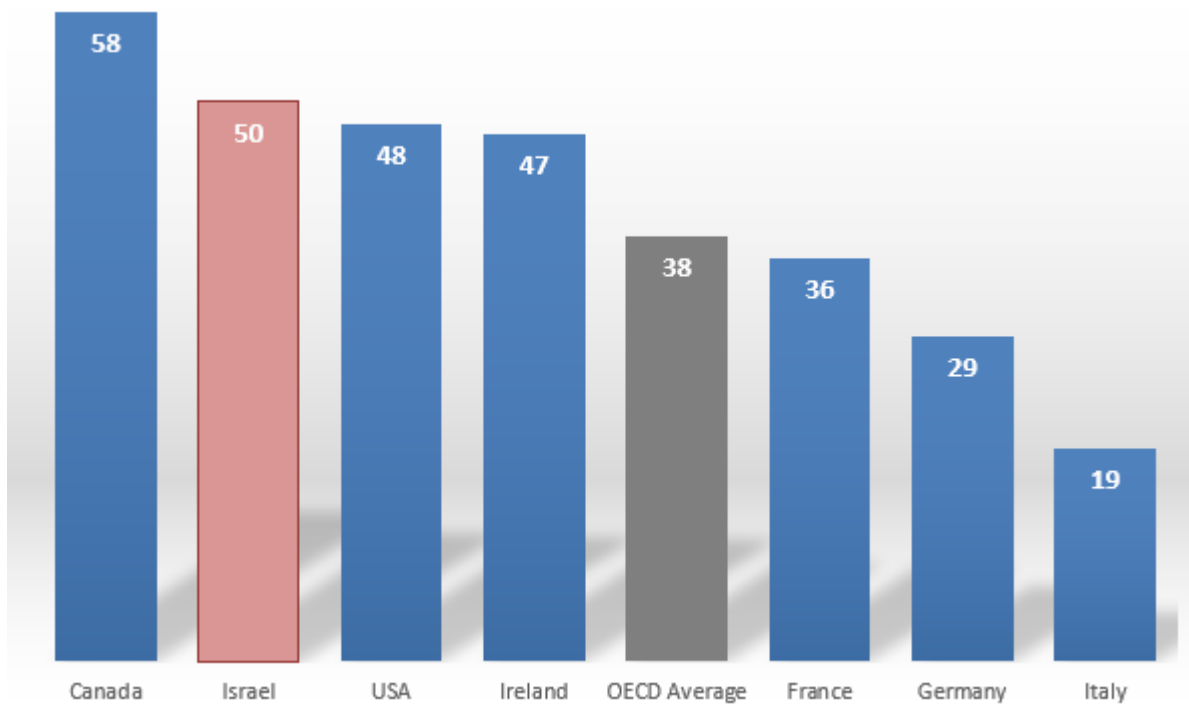


2. OECD Ranking: Israel maintains its second place ranking in the world in the percentage of persons with a post-secondary and higher education among persons aged 25-64

Planning & Budgeting Committee | הוועדה לתכנון ותקצוב

The most recently published OECD report (September 2019) ranked Israel second in the world (after Canada) in the percentage of citizens aged 25-64 possessing a post-secondary or academic education (50%). Thus, Israel retains second place for the second straight year.

- **The 2019 OECD Report: Percentage of Academics With a Post-Secondary and Higher Education Among Persons Aged 25-64**



3. Throughout the Decade, There Has Been a Significant Increase in the Number of Students at All Degree Levels.

- Since the middle of the current decade, the number of students has stabilized, primarily in undergraduate degrees. In the last year, an increase has been noted in their numbers, and it is expected that this increase will also continue in the 2019/20 academic year.

According to estimates, during the 2019/20 academic year, 31,600 students are expected to be enrolled in the 61 academic institutions in Israel,¹ including: 236,450 undergraduate students, 64,180 graduate students, 11,870 doctoral students, and 1,100 certificate students.²

When one looks at the number of students over the decade, it is clear that during the first years of the decade – 2010-2015, the increased trend in the number of students in all degree levels continued, albeit at a slower pace as compared to prior years. The second half of the decade – 2015-2019 – is characterized by stability in the overall number of students.

During the 2018/19 academic year, 308,320 students were enrolled in all institutions of higher education as compared to 283,850 in 2010. Since the 2014/15 academic year, there has been a clear trend toward stability in the number of students in general. During the 2017/18 academic year, slight decreases were noted, primarily in the number of undergraduate students. In the 2018/19 academic year, the number of undergraduate students increased by approximately 1,500, reaching a total of 232,365, and according to the forecast received from the institutions of higher education, during the 2019/20 academic year, we expect their number to increase by approximately 4,100, for a total of 236,450.

This increase that we are seeing in the 2019/20 academic year will apply to all institutions of higher education, starting with research universities, the Open University, budgeted and non-budgeted academic colleges, as well as academic colleges of education.

¹The student data appearing in this report were received from the Central Statistics Bureau in coordination with and with the guidance of the Planning and Budgeting Committee of the Council for Higher Education.

²The forecast data include those enrolled in the Open University. The Open University data does not include study writers. According to the Open University's data, this includes 3,358 undergraduate students and 174 graduate students during the 2018/19 academic year, and 3,500 undergraduate students and 180 graduate students during the 2019/20 academic year. These data were reported by the Open University to the CSB for the first time starting from the 2018/19 academic year.



The trend toward an increase in advanced degrees continues. During the course of the decade, the number of graduate students increased from 50,270 (2009/10) to 64,180 students (the forecast for 2019/20). During the course of the decade, the number of doctoral students increased from 10,570 (2009/10) to 11,870 students (the forecast for 2019/20).

Multiyear View - Breakdown of Students by Degree

| | 1989/90 | 1999/2000 | 2009/10 | 2014/15 | 2016/17 | 2017/18 | 2018/19 | Forecast for 2019/20 |
|--------------------------|---------|-----------|---------|---------|---------|---------|---------|----------------------|
| Total | 89,060 | 199,240 | 283,850 | 307,300 | 307,780 | 305,940 | 308,320 | 313,600 |
| Bachelor's Degree | 68,250 | 159,560 | 221,810 | 235,300 | 232,510 | 230,895 | 232,365 | 236,450 |
| Master's Degree | 16,100 | 31,340 | 50,270 | 59,700 | 62,960 | 62,655 | 63,180 | 64,180 |
| Doctoral Degree | 3,910 | 6,650 | 10,570 | 10,890 | 11,000 | 11,350 | 11,720 | 11,870 |
| Certificate | 800 | 1,690 | 1,200 | 1,410 | 1,310 | 1,040 | 1,055 | 1,100 |

Comment: The date on which forecast data is collected in most cases is approximately one month prior to the commencement of the school year. It is possible that there will be minor changes to the forecast in light of student registration at the start of the year and on later dates.

4. Bachelor's Degrees Programs – Engineering Studies Is the Most Popular Course of Studies in Israel.

- One in four students – More than 50,000 students in Israel are enrolled in an engineering studies program or in a computer science and mathematics program.
- This is the second straight year in which engineering studies (35,041) surpassed the social sciences (34,324). For several decades, the social sciences were considered the most sought after course of studies.
- In the course of a decade: A jump of 80% in the number of computer science students. In the 2018/19 academic year, 16,780 students studied computer science (including mathematics and statistics) as opposed to just 9,122 in the 2009/10 academic year.
- Throughout the decade, there have been decreases of approximately 20% to 25% in law and business administration programs, which had been considered, at the start of the decade, to be very sought after.
- The decrease in humanities: The CHE is promoting a program to promote the humanities, including integrating them with other fields of study.

Impressive achievement for the national plan to reinforce engineering and high-tech professions:

From 2018/19 data, we see that this is the second consecutive year in which engineering studies have the highest enrollment in Israel (35,041 students constituting approximately 18.4% of students).

Engineering studies have thus surpassed social sciences (34,324 students constituting 18% students) which, throughout the years, had been considered the most popular course of studies in Israel. Reinforcement of high-tech courses is also expressed in an impressive 80% jump in the number of students enrolled in mathematics, statistics, and computer science programs (16,780 students in the 2018/19 academic year as compared to 9,122 students in the 2009/10 academic year).

The weighted data shows that one out of every four students (more than 27%) in Israel studies engineering and computer science, mathematics, and statistics (51,821 students out of 190,648 undergraduate students).

Undergraduate Fields of Study – Multiyear View for the Decade

Planning & Budgeting Committee | הוועדה לתכנון ותקצוב

| Field of study | 2009/10 | 2012/13 | 2015/16 | 2017/18 | 2018/19 |
|--|---------------|---------------|---------------|---------------|---------------|
| Engineering Studies | 31,918 | 31,867 | 33,390 | 34,599 | 35,041 |
| Humanities | 13,849 | 14,248 | 12,074 | 11,051 | 10,698 |
| Teacher Education and Training | 22,502 | 26,439 | 30,969 | 32,244 | 31,683 |
| Art and Design | 5,530 | 5,343 | 5,939 | 5,927 | 5,990 |
| Social Sciences | 41,171 | 40,925 | 37,130 | 34,030 | 34,324 |
| Business Administration | 19,463 | 23,232 | 18,706 | 18,463 | 18,711 |
| Law | 15,790 | 16,189 | 15,217 | 13,168 | 12,223 |
| Medicine | 1,457 | 1,804 | 2,089 | 2,168 | 2,047 |
| Paramedical Studies | 8,185 | 9,746 | 12,534 | 12,376 | 12,913 |
| Mathematics, Statistics, and Computer Science | 9,122 | 10,924 | 12,992 | 15,553 | 16,780 |
| Physical Sciences | 2,484 | 2,365 | 2,660 | 2,699 | 2,644 |
| Biological Sciences | 4,675 | 4,893 | 4,974 | 4,745 | 4,831 |
| Agriculture | 970 | 1,099 | 1,153 | 1,009 | 963 |
| Architecture | 1,623 | 1,736 | 1,790 | 1,814 | 1,800 |

- Comments:
- 1. The data does not include the Open University. Similarly, updates are possible for 2018/19.
- 2. Engineering studies include the following fields: Electrical engineering and electronics, computer engineering and programming, information system engineering, civil engineering, mechanical engineering, chemical and material engineering, industrial engineering and management, and other forms of engineering.

In the framework of the multiyear high-tech tracks reinforcement plan and in light of the government's decision on the matter, the PBC allocated incentives in the amount of hundreds of millions of shekels to academic institutions in order to absorb students, hire academic staff, and build and upgrade research and instruction infrastructures in addition to encouraging development of innovative curricula in high-tech fields. The CHE believes that this trend is expected to continue and expand in the coming years as well.

The data further demonstrated that throughout the decade, there have been decreases of approximately 20% to 25% in law and business administration programs, which had been considered, at the start of the decade, to be very sought after. The number of law students decreased from 15,790 in the 2009/10 academic year to 12,223 in the 2018/19 academic year, and business administration students decreased from a peak of 23,232 students in the 2012-2013 academic year to just 18,711 students in the 2018/19 academic year.

~~The downward trend in humanities studies:~~ The CHE hopes to complete the program to promote the humanities at universities in the near future while making them accessible to a large variety of students and integrating them into various fields of study.

The CHE emphasizes that developments in technology warrant an appropriate response in the academic world, leading to the modification of the traditional distribution of departments and schools, the elimination of barriers, and the creation of interdisciplinary curricula that will impart a variety of tools to their graduates. Thus, students enrolled in high-tech, exact sciences, economics, and business administration programs will be able to integrate philosophy, literature and art, history, culture studies, etc. into their degree program.

5. Women - Undergraduate Courses of Study:

- Doubling the number of female students studying computer science (including in mathematics and statistics)
- A significant increase in the number of female students studying engineering

This impressive increase in high-tech subjects is also expressed in the breakdown of female students by fields of study. The data shows that since the start of the decade, the number of female students enrolled in undergraduate computer science programs (including mathematics and statistics) has increased from 2,622 (in 2010) to 5,602 female students in 2019. A significant increase has also been seen in engineering studies: From 8,581 female students in 2010 to 10,389 female students in 2019.

We note that in the framework of the general program for reinforcing high-tech subjects, the PBC has promoted a dedicated program in the last several years to increase the number of women enrolled in high-tech study programs with an emphasis on computer science. These programs include financial incentives for institutions in order to provide scholarships and grants to students as well as seminars that will expose students to high-tech subjects, and to provide a support structure that includes tutoring and personal accompaniment.

In addition, like the pattern evidenced by the general data, the breakdown of fields of study among women in the past decade has been characterized by a decrease in social sciences (from 27,222 female students in 2010 to 23,759 female students in 2019) and in law (from 7,695 female students in 2010 to 6,585 female students in 2019). Similarly, we note that in the past decade, a significant increase has been recorded in the number of female students in education and teacher training as well as in paramedical subjects.

➤ **Female Students, Undergraduate – By Field of Studies – Throughout the Decade, 2010-2019**

| | 2009/10 | 2012/13 | 2015/16 | 2017/18 | 2018/19 |
|---|---------|---------|---------|---------|---------|
| Humanities | 11,910 | 12,066 | 11,449 | 10,751 | 10,660 |
| Teacher Education and Training | 17,793 | 21,292 | 24,969 | 25,680 | 25,074 |
| Social Sciences | 27,222 | 27,544 | 25,287 | 23,501 | 23,759 |
| Business Administration | 9,180 | 11,809 | 10,691 | 11,044 | 11,182 |
| Law | 7,695 | 7,949 | 7,611 | 6,914 | 6,585 |
| Medicine | 804 | 980 | 1,228 | 1,302 | 1,205 |
| Paramedical Studies | 6,756 | 8,038 | 10,276 | 10,171 | 10,650 |
| Mathematics, Statistics, and Computer Science | 2,622 | 3,154 | 4,028 | 5,127 | 5,602 |
| Physical Sciences | 899 | 886 | 967 | 1,039 | 1,054 |
| Biological Sciences | 2,985 | 3,091 | 3,301 | 3,258 | 3,335 |
| Agriculture | 582 | 581 | 572 | 522 | 517 |
| Engineering Studies | 8,581 | 8,152 | 8,894 | 9,820 | 10,389 |
| Architecture | 926 | 1,054 | 1,135 | 1,225 | 1,245 |

- The data does not include the Open University. Similarly, updates are possible for 2018/19.

5B. Women Constitute Approximately 60% of the Students in Academia

- In a multiyear view of the decade: There has been a jump in the number of female graduate students.

The percentage of women students in the 2018/19 school year was approximately 59%, after a significant increase in the participation by women in academic studies, primarily in the 1990s. Women are currently the majority in each degree level: Undergraduate degrees – 58%, graduate degrees – 63%, and doctoral degrees – 53%.

There has also been an impressive increase over the years in the participation by women in advanced degree studies. In the 1989/90 academic year, the percentage of women among those studying for a master's degree surpassed 50%, and in the 2018/19 academic year, as previously noted, their numbers reached 63%. This increase in the percentage of women stems from academic colleges starting to offer graduate degree studies. The percentage of women among doctoral students surpassed the 50% mark for the first time at the end 1990s and has increased in the last several years, reaching 53% in the 2018/19 academic year.

Multiyear View – An Increase in the Percentage of Women in Academia

| | 1989/90 | 1999/2000 | 2009/10 | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
|--------------------------|---------|-----------|---------|---------|---------|---------|---------|
| Bachelor's Degree | 53.6 | 57.4 | 54.8 | 57.5 | 57.9 | 58.1 | 58.4 |
| Master's Degree | 50.3 | 57.8 | 58.4 | 61.9 | 62.5 | 62.7 | 63.1 |
| Doctoral Degree | 41.3 | 51.1 | 52.7 | 52.6 | 52.6 | 52.8 | 53.2 |

➤ **The Program for Gender Equality by Increasing the Representation by Women in Academic Staff**

Parallel to the actions taken to encourage women to enter high-tech studies, the PBC and the CHE as part of efforts to increase the representation by women among academic staff in institutions of higher education as well, made a series of decisions to advance this goal according to recommendations by the committee headed by Prof. Rivka Carmi, the former President of Ben-Gurion University, whose conclusions were submitted in 2011, and an additional committee headed by Prof. Ruth Arnon, the then President of the Israel Academy of Sciences and Humanities, which submitted a report in 2013. The program for "Gender Equality" conforms to the principles established by the CHE to increase the number of senior female academic staff and is based on the recommendations by Prof. Arnon's committee, the main points of which are increasing awareness of gender equality in institutions of higher education and hiring and promoting women in senior academic staff, in general, and in the fields in which women are especially poorly represented, such as the exact sciences and in the various engineering fields, in particular.

- ✓ Scholarships for outstanding female postdoctoral students in the sum of up to \$80,000 (for two years)
- ✓ Scholarships for female doctoral students in high-tech fields in the sum of NIS 150,000 (for three years) and scholarships for female graduate students in high-tech fields in the sum of NIS 80,000 (for two years)
- ✓ Prizes in the sum of approximately 1 million shekels per year to institutions that excel at promoting and implementing gender equality
- ✓ A dedicated budget for activities by presidential consultants on gender equality at institutions of higher education

6. Making Higher Education More Accessible to the Socioeconomic Periphery: Over Four Years, There Has Been an Increase of More Than 8,000 Students Coming from Towns Located in Low Socioeconomic Clusters (Clusters 1-4)

- In the 2018/19 academic year, more than 50,000 students came from towns located in low socioeconomic clusters (including Arab and ultra-Orthodox Jewish towns)

| | 1-2 | 3-4 | 5-6 | 7-8 | 9-10 |
|---------|---------------|---------------|----------------|----------------|--------------|
| 2015/16 | 10,335 | 32,670 | *68,480 | 48,144 | 3,643 |
| | 6.1% | 19.4% | 40.6% | 28.6% | 2.2% |
| 2016/17 | 12,402 | 34,415 | 42,384 | *67,614 | 4,489 |
| | 7.5% | 20.7% | 25.5% | 40.7% | 2.7% |
| 2017/18 | 13,103 | 34,787 | 41,503 | 66,017 | 4,441 |
| | 7.9% | 21.1% | 25.2% | 40.0% | 2.7% |
| 2018/19 | 14,158 | 36,383 | 42,038 | 68,247 | 4,609 |
| | 8.3% | 21.3% | 24.6% | 40.0% | 2.7% |

- Comment: From 2015 – 2017, there were changes in the data for clusters 5-6 and 7-8 resulting from changes in the placement of various towns in these clusters.

The sharp increase in the number of students in the last several decades is primarily expressed in significant achievements in expanding accessibility to higher education among the population living in the periphery and among weak population groups. The special data processing, performed for us by the Central Bureau for Statistics, examines the socioeconomic cluster of the town where the student resides at the time he or she was enrolled in the 12th grade.

From this data, we see that between 2015-2019, there has been an increase of more than 8,000 students coming from low socioeconomic clusters 1-4 (comprising Arab and ultra-Orthodox towns), such that in the 2018/19 academic year, more than 5,000 students, representing approximately 30% of all undergraduate students, came from towns located in these clusters.

According to the 2018/19 data, 14,158 students came from towns located in social clusters 1-2 as opposed to just 10,335 students in the 2015/16 academic year. Additionally, in 2018/19, 36,383 students came from towns located in social clusters 3-4 as opposed to just 32,670 students in the 2015/16 academic year.

➤ **Development of the Colleges Has Led to an Increase in the Number of Students in Academic Institutions in the Southern and Northern Districts**

In the 2018/19 academic year, approximately 24% of undergraduate students were enrolled in institutions located in the northern and southern districts (9.7% in the northern district and 14.6% in the southern district). The number of those studying in the northern district increased nearly threefold in comparison to the 1999/2000 academic year, primarily as a result of the expansion of existing programs in the academic colleges in the north and the opening of new curricula. This significant change on the map of higher education in Israel, which occurred in the last two decades, would not have been possible but for the allocation of the significant, necessary budgetary resources to the two socioeconomic periphery districts.

➤ **Multiyear View** – Undergraduate Students According to Districts of Institution

| | 1989/90 | 1999/2000 | 2009/10 | 2016/17 | 2017/18 | 2018/19 |
|------------------------------|---------------|----------------|----------------|----------------|----------------|----------------|
| Total – Absolute Nos. | 55,250 | 126,900 | 178,740 | 191,240 | 189,845 | 190,650 |
| Total – Percentages | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Jerusalem | 22.7 | 15.5 | 13.4 | 13.7 | 13.7 | 13.9 |
| North | .. | 5.3 | 9.2 | 9.7 | 9.8 | 9.7 |
| Haifa | 21.7 | 17.9 | 13.9 | 13.4 | 12.4 | 12.1 |
| Center | 4.1 | 15.9 | 17.4 | 17.6 | 17.8 | 17.9 |
| Tel Aviv | 42.8 | 31.5 | 30.8 | 31.2 | 31.8 | 31.9 |
| South | 8.7 | 13.9 | 15.3 | 14.3 | 14.5 | 14.6 |

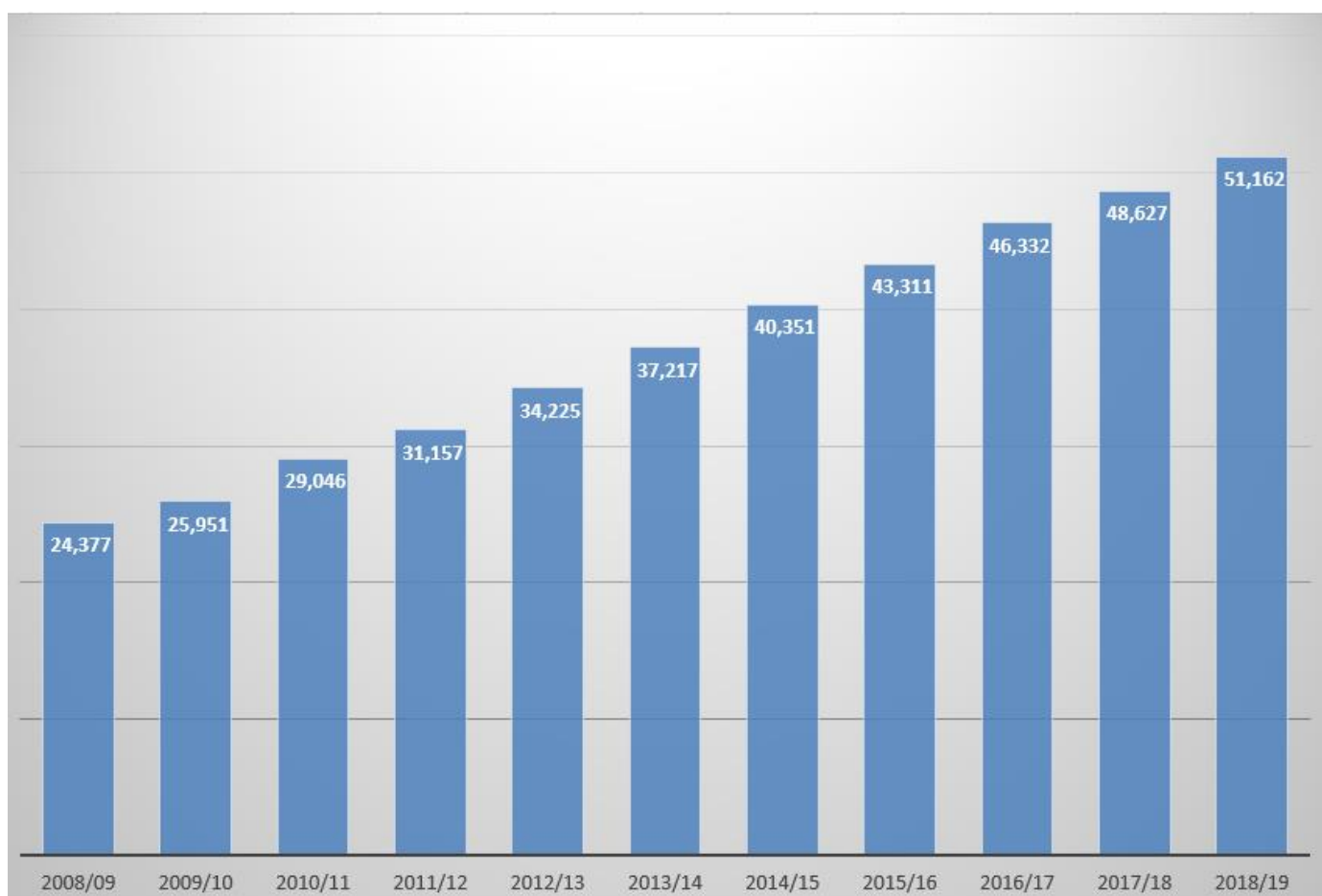
7. Making Higher Education Accessible to Arab Society: For the First Time Ever,

הוועדה לתכנון ומקצבים | Planning & Budgeting Committee

More Than 50,000 Arab Students

- Within a decade, a greater than 100% increase in the number of Arab students
- Bachelor's degrees – 95% increase in the number of students
- Master's degrees – 224% increase in the number of students
- Doctoral degrees – 118% increase in the number of students

Multiyear View Over a Decade: The Number of Students from Arab Society



Chairperson of the Planning and Budgeting Committee (PBC), Prof. Yaffa Zilbershats: “The revolution integrating Arab students into higher education is an unprecedented achievement for the Israeli higher education system. Students from Arab society currently excel at all Israeli educational institutions, a fact of which we are very proud. Alongside doubling the number of bachelor degree students, we are witness to impressive increases in students enrolled in advanced degree programs (more than 200% for master’s degree programs), and this is the best evidence that we have met our goal. Thanks to a comprehensive, holistic program, personal accompaniment and guidance, beginning in high school and continuing through advanced degrees, as well as a significant investment of resources, we have successfully removed barriers that have existed for decades.”

Deputy Chair of the CHE - Prof. Ido Perlman: “The higher education system is the key to integration into society in general and the Israeli market in particular. Doubling the number of Arab students, including in leading fields of study, is a revolution resulting from the efforts of many in the PBC and the CHE, and in turn leads to narrowing gaps and integrating them into the workforce. The CHE and the PBC will continue to expand their support of programs for integrating Arab students over the next several years as well, with emphasis being placed on directing young people toward self-realization and toward professions for which there is market demand: Sciences, high-tech, psychology, and other fields which are underrepresented in Arab society.”

During the 2018/19 school year, for the first time, more than Arab 50,000 students were enrolled in institutions of higher education in Israel. This is a greater than 100% increase since the start of the decade. In 2008/09, there were a total of 24,377 Arab students enrolled in such institutions in Israel.

According to data for the 2008/09 academic year, the number of Arab undergraduate students that year was only 21,142, approximately 10% of the total number of undergraduates in Israel. A decade later, in 2018/19, 41,087 Arab students were studying for bachelor’s degrees in Israel, accounting for 17.7% of the total number of undergraduate students.

On the master’s degree level, the number of Arab students studying in Israel grew by 224%. In 2008/09, only 2,855 Arab students were studying for master’s degrees in Israel, representing only 6% of the total number of master’s degree students in Israel. In 2018/19, the number had grown to 9,247, which is 14.6% of the total number of master’s degree students in Israel. During the same period, there was a significant increase of 118% in the number of doctoral students, such that in 2018/19, there were 828 Arab doctoral students - 7.1% of all doctoral students in Israel, compared to only 380 students in 2008/09.

➤ **Multiyear View – Breakdown of Arab Students by Degree**

| | BACHELOR'S DEGREE | MASTER'S DEGREE | DOCTORAL DEGREE | TOTAL |
|----------------|--------------------------|------------------------|------------------------|--------------|
| 2008/09 | 21,142 | 2,855 | 380 | 24,377 |
| 2009/10 | 22,268 | 3,270 | 413 | 25,951 |
| 2010/11 | 24,346 | 4,243 | 457 | 29,046 |
| 2011/12 | 25,843 | 4,847 | 467 | 31,157 |
| 2012/13 | 28,481 | 5,233 | 511 | 34,225 |
| 2013/14 | 30,969 | 5,692 | 556 | 37,217 |
| 2014/15 | 33,571 | 6,165 | 615 | 40,351 |
| 2015/16 | 35,758 | 6,929 | 624 | 43,311 |
| 2016/17 | 37,441 | 8,197 | 694 | 46,332 |
| 2017/18 | 39,160 | 8,708 | 759 | 48,627 |
| 2018/19 | 41,087 | 9,247 | 828 | 51,162 |

The increased integration of Arab students is a result of a comprehensive, holistic program implemented by the PBC starting in high school and continuing all the way through advanced degree studies:

Planning & Budgeting Committee | הוועדה לתכנון ותקצוב

As noted above, the number of students from Arab society in Israeli academia has doubled itself over the course of the last decade and is currently approximately 50,000 students. This significant increase is the result of a holistic program, broad in scope, implemented by the PBC over the last eight years. The program commences in high school by providing exposure to academia and continues by incentivizing and providing reinforcement through all stages of academia, starting with preacademic preparatory programs, through undergraduate studies, continuing with support for advanced degrees – graduate degrees, doctoral degrees, and postdoctoral degrees, all the way through appointment of academic staff at institutions of higher learning.

The Rowad (“Gate to Academia”) Program for high school students operates in 45 regional clusters, bringing together 70 villages and towns. The program exposes young people to the available options and provides information and assistance in selecting a field of studies to students in 173 high schools catering to primarily Arab students, including support for relevant courses (e.g., preparation for the psychometric aptitude test), college tours, and a higher education fair in cooperation with local educational institutions.

There are special support programs for Arab students in preacademic preparatory programs and those studying for bachelor’s degrees, including language enrichment in Hebrew and English, and academic, economic, and social support.

The significant support during undergraduate studies is given primarily during the first (freshman) year as this is a year that is particularly rife with challenges and success during this first year reduces the rate of dropouts and significantly increases the likelihood of success in obtaining the degree. Furthermore, during undergraduate studies, through financing by the PBC with the participation of the Ministry of Social Equality and the Ministry of Education, the “Irteka” scholarship (administered by PERACH) is awarded each year to 800 new students starting their freshman year during each cycle, for a total of approximately 2,250 students per year. The scholarship is granted throughout the entire degree program. The students are selected on the basis of their socioeconomic condition and enrollment in preferred fields of study in order to ensure variety in those fields of study that are needed in the Israeli employment market and are underrepresented in Arab society, including in the high-tech and music fields. This variation in fields of study is accomplished through a variety of PBC programs, such as Rowad, dedicated engineering tracks in preparatory programs, as well as an achievement program for high-tech studies, which brings youth from the socioeconomic periphery, including from Arab society, into the world of high-tech.

Similarly, using PBC financing, dedicated career centers were established for Arab students in academic institutions, which assist in preparing for the employment market. PBC also supports excellence and grants scholarships to outstanding students from Arab society who are studying for advanced degrees, including research master’s degrees, doctorates, and postdoctoral fellowships. It also supports the hiring of outstanding faculty members from Arab society.

➤ **Ma'of Grants and Hiring Outstanding Academic Staff from Arab Society**

הוועדה לתכנון ותקצוב | Planning & Budgeting Committee

From 2009/10 and until 2008/09, the PBC granted approximately 51 Ma'of grants for a total of approximately NIS 48 million to outstanding Arab academic staff members. Ma'of grants are intended for outstanding young scientists from the Arab sector. Their purpose is to enable the grant's recipients to be hired by institutions of higher education that are financed by the PBC in Israel - universities and academic colleges - in addition to existing tracks by adding dedicated budget lines. These institutions commit to accepting grant recipients as full-time staff members at the end of the scholarship.

8. The Excellence Program for Persons of Ethiopian Extraction: An Increase of 35% in the Number of Ethiopian Students Within 5 Years

| | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
|--------------------------|---------|---------|---------|---------|---------|
| Total | 2,937 | 3,287 | 3,591 | 3,800 | 3,996 |
| Bachelor's Degree | 2,608 | 2,903 | 3,194 | 3,377 | 3,567 |

The multiyear plan set a goal to increase the number of students of Ethiopian extraction enrolled in bachelor's degree programs such that the percentage of Ethiopian students will be approximately 1.7% by the end of the multiyear plan in 2021/22, commensurate with their percentage of the population. The multiyear plan set a goal to increase the number of students of Ethiopian extraction enrolled in bachelor's degree programs such that the percentage of Ethiopian students will be approximately 1.7% by the end of the multiyear plan in 2021/22, commensurate with their percentage of the population. In 2018/19, the number of Ethiopian undergraduate students was 3,567, representing 1.5% of all undergraduate students (nearly achieving this goal).

This significant increase is the result of a holistic program, broad in scope, advanced by the PBC over the last three years. The program commences after military service by providing exposure to academia in , continues by incentivizing and providing reinforcement through all stages of academia, starting with preacademic preparatory programs, through undergraduate studies, continuing with support and merit scholarships for advanced degrees – graduate degrees, doctoral degrees, and postdoctoral degrees, and all the way through appointment of academic staff at institutions of higher learning.

In the framework of the plan for making education accessible to students of Ethiopian extraction, over the last two years, we have reinforced the coordinators for the “Hesegim” program to make education accessible to students from the socioeconomic periphery. These coordinators are active in those towns that have the highest populations of persons of Ethiopian extraction. The coordinators' role is to locate and identify appropriate youth, guide them toward academia, and assist them in choosing a course of studies. Similarly, the PBC helps by means of the Hesegim program and through financed preacademic preparatory programs offering a psychometric course designed to help students meet the admissions requirements of academic institutions.

The PBC, through academic institutions, provides a broad framework for preacademic preparatory programs for undergraduate students of Ethiopian descent including academic reinforcement, learning skills, dormitory financing and travel costs, and so forth. This broad framework helps reduce the percentage of dropouts and increases the likelihood of success in undergraduate studies.

At the same time and as a central element, the Steering Committee is promoting a perception of excellence and leadership which includes support and encouragement for outstanding students throughout all degree levels, from bachelor's degrees through master's research degrees, doctorates, and all the way through hiring academic staff members of Ethiopian descent in institutions of higher education. This program facilitates supporting students on research tracks by means of broad merit scholarships as well as enlightening the Ethiopian community from the point of view of excellence and realizing the social academic potential inherent in students. The grants for hiring academic staff members are intended for young outstanding scientists of Ethiopian descent. The purpose is to enable the grant's recipients to be hired by institutions of higher education that are financed by the PBC in Israel; universities and academic colleges, in addition to existing tracks, by adding dedicated budget lines. These institutions commit to accepting grant recipients as full-time staff members at the end of the scholarship.

9. Multiyear View - Making Higher Education Accessible to Ultra-Orthodox Jews

The CHE and the PBC dedicates significant efforts and resources toward making higher education accessible to the ultra-Orthodox Jewish population and to integrate it into the Israeli workplace and society. These efforts rely on two guiding principles: 1. Recognizing the unique characteristics of the ultra-Orthodox population, primarily with regard to the educational differences between them and the general public as well as between ultra-Orthodox men and women. 2. Recognizing that the integration of ultra-Orthodox members of society who wish to do so into academia requires respecting their way of life and providing appropriate solutions to their needs.

The total number of Ultra-Orthodox students enrolled in institutions of higher education in 2018/19 was more than 12,700 students: Approximately 10,850 undergraduate students, approximately 1,750 graduate students, and approximately 130 doctoral students. Additionally, 2,000 students were enrolled in preparatory programs. In the 2010/2011 academic year, there were only approximately 6,000 ultra-Orthodox students integrated into higher education in Israel. The target for the 2022 academic year is 19,000 students. The total budget designated to the multiyear (6 year) program is approximately NIS 1.2 billion.

10. The Digital Learning Revolution: Persons Above the Age of 40 Are Returning to Academia.

2018/19 Data:

- ❖ Approximately 50,000 students are enrolled in digital academic courses.
- ❖ Approximately 10,000 students have successfully completed these courses.
- ❖ **Approximately 25% of the students who finished these courses are above the age of 40 (14.7%) or under the age of 20 (8.7%).**

By way of comparison, in "ordinary" academic education, only 5% of students are above the age of 40 and 5.4% are under the age of 20.

Chair of the Planning and Budgeting Committee, Prof. Yaffa Zilbershats: "The new data shows that the digital academic learning revolution is underway, and in the coming years, the breakdown of students in Israel is expected to change – and this requires academic institutions to update their methods of instruction, to adjust them to accelerated technological changes and to the fact that student ages will be diversified and spread over a spectrum starting at high school age and reaching all the way up through retirement age. Primarily, academic institutions must take into account the fact that in the new realms of employment, people frequently change their place of work, switch careers, and seek to enrich their professional knowledge. Academic digital learning enables alumni who integrated into the world of industry to return to academia at a place and time that are convenient for them and acquire relevant and updated knowledge."

The Minister for Social Equality, Gila Gamliel: "Campus IL is one of the harbingers of the social equality revolution, and in close and fruitful collaboration with the CHE, we are facilitating accessibility to higher education for all citizens of Israel, whoever they may be. Tens of thousands of female and male students who have already joined the revolution enjoy full access to a rich variety of courses, both academic and professional, with the best instructors and all for free, from any place and at any time in the day. This is the purpose of the national initiative – Digital Israel – at the Ministry for Social Equality, to remove barriers and to harness digital tools for real social change."

In the 2018/19 academic year, 50,487 students were enrolled in digital academic courses, and more than 10,000 students had finished their academic assignments and successfully completed these courses (55.4% women, 44.6% men).

The data demonstrates that digital academic learning enables students above the age of 40 to reintegrate into academia in order to enter a new career, supplement their professional education, or enrich their general knowledge. According to the available data, 25% of the students who finished these courses are above the age of 40 (14.7%) or under the age of 20 (8.7%). By way of comparison, in "ordinary" academic education, only 10% of students are above the age of 40 (5.9%) or under the age of 20 (5.4%).

Digital Academic Learning – Breakdown by Age

| Age | 16 - 19 | 20 - 30 | 31 - 40 | Over 40 |
|-----|---------|---------|---------|-------------------|
| | 8.7% | 64.8% | 11.9% | Approximately 15% |

Advancing academic learning is a joint venture by the **Council for Higher Education (CHE) and the Digital Israel Headquarters in the Ministry for Social Equality**. This is a process that commenced approximately two years ago with the establishment of the PBC's and the CHE's steering committee for digital learning and the publication of the first calls for proposals for budgeting and financing digital academic courses at institutions for higher education. So far, approximately 80 digital courses have been approved for production (approximately 50 courses are already active and others are in various stages of development), with a budget of tens of millions of shekels. These courses have been added to the worldwide edX website and to the national "Campus" platform.

The digital academic courses include the best lecturers that the universities and colleges have to offer in a variety of disciplines. These courses are produced at a very high academic level and give lecturers a variety of tools and options that make teaching much more experiential from the student perspective, including integrating interactive presentations and video clips and advanced media tools.

Digital academic courses also contribute to narrowing gaps in Israeli society and enabling broader access to higher education. Digital courses are open and accessible online to all and, therefore, enable candidates for higher education and the public at large to freely taste from a variety of subjects and disciplines and make an informed decision what to study at institutions of higher education.

In addition, broadening the use of digital courses will reinforce Israel's academic stature in the international arena and make Israeli academic knowledge accessible to the world.

As part of this and during the course of the previous year, the CHE approved, for the first time, the regulation of digital learning in Israeli academia, and it was decided that courses provided through digital learning will

be given the same academic weight as courses offered in the ordinary format. It is noted that to the extent that the scope of digital learning reaches one third of the total degree – it will be possible to spread undergraduate studies over two days a week on campus, as opposed to the ordinary format requiring three study days per week on campus.

11. Strengthening Research - Within a Decade: The Annual Budget for Research Funds in Israel has More Than Tripled.

The PBC's Annual Budget for Investment in Research Funds between 2010-2019:

- ✓ The budget for research funds has increased by a factor of 2.7: From NIS 450 million (2010) to NIS 228 billion (2019)
- ✓ The National Science Fund budget has more than doubled: From NIS 284 million (2010) to NIS 590 million (2019)
- ✓ The European R&D program has increased by a factor of 3.5: From NIS 149 million (2010) to NIS 519 million (2019)

The PBC's Participation in the Various Research Funds, 2010 Compared to 2019 – Millions of Shekels

| | 2009/10 | 2011/12 | 2013/14 | 2015/16 | 2017/18 | 2018/19 |
|---------------------------------------|----------------|----------------|----------------|----------------|------------------|------------------|
| The Israel Science Foundation | 284.200 | 332.902 | 375.000 | 460.810 | 542.619 | 590.6 |
| The Fund with the Ministry of Defense | 5.000 | 5.000 | 8.000 | 10.000 | 5.000 | 5.000 |
| The Pazy Fund | 3.181 | 5.000 | 4.304 | 7.878 | 9.610 | 11.000 |
| European Framework Program | 148.596 | 234.624 | 300.594 | 295.041 | 451.137 | 519.052 |
| The Biomedical Fund | 9.377 | 13.898 | 5.119 | 7.827 | 10.560 | 10.115 |
| GIF | | 3.313 | - | 3.120 | 2.718 | 3.060 |
| BSF | | | - | 17.090 | 23.852 | 33.703 |
| The China Israel Fund | | | 7.642 | 23.786 | 36.446 | 38.000 |
| The India Israel Fund | | | 0.303 | 9.967 | 11.331 | 11.550 |
| The Israel Singapore Fund | | | | | 4.218 | 6.400 |
| Total Use | 450.354 | 594.737 | 700.962 | 835.519 | 1,097.491 | 1,228,500 |

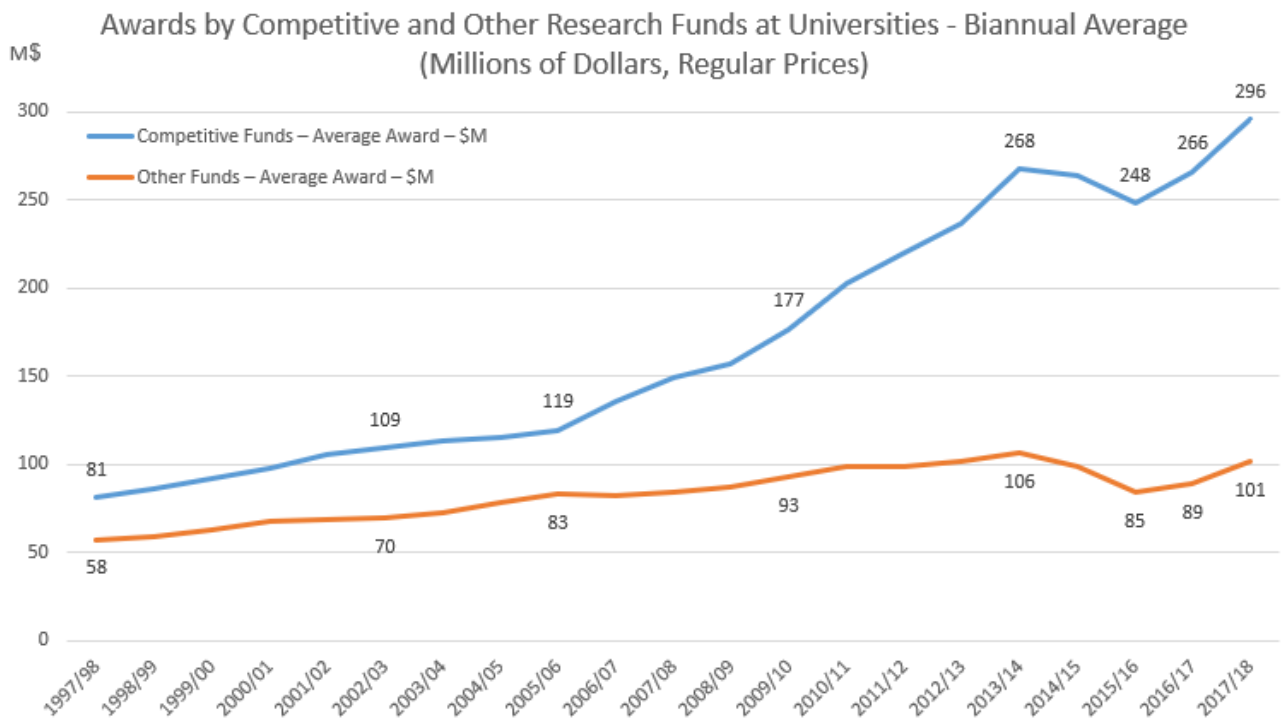
Unprecedented investment in research: Since the start of the decade, there has been a threefold increase in the annual budget for Israeli research funds. The budgetary increase is the result of the PBC's policy that views

~~these research funds as the backbone of basic competitive research whose reinforcement is essential and necessary in order to preserve the State of Israel's international status.~~ The budgetary supplements enable an increase in the number of research grants, an increase in the amount of research grants and an improvement of their quality.

- The most significant increase is expressed in the **doubling of the National Science Fund** budget from 284 million shekels (2010) to 590 million shekels (2019). The National Science Funds is incorporated as an association whose purpose is to “assess, select, and support proposals for basic research in the fields of the humanities and social science, life sciences and medicine, and exact sciences and technology by providing research grants for basic research proposals that will be selected through a competitive process on the basis of scientific excellence and quality.”
- **Increasing the European R&D program by a factor of 3.5:** From 149 million shekels (2010) to 519 million shekels (2019). Israel's share in the European R&D programs was determined according to the ratio of the domestic GDP to the total European GDP.
- **Since 2016, the PBC also finances the NSF-BSF research grant program:** This is a prestigious program for scientific collaboration between Israeli and American researchers. The program distributes grants within a series of fields of research, including: Exact sciences, engineering and computer science (the STEM subjects), natural and life sciences, earth and environmental sciences, economics, psychology, etc. In the 2018/19 academic year, the program was budgeted for a total of approximately NIS 33.7 million. For Israeli researchers, this is a particularly important program that significantly increases opportunities for research in collaboration with the American scientific establishment, considered to be the leading scientific establishment in the world.

12. Multiyear View – Significant Increase in Awards from Research Funds and Academic Publications

Publications



In the last decade, there has been an approximately two fold increase in the total winnings of competitive research grants, the decided majority of which (approximately 80%) is for the awarding of grants by the Israel Science Foundation and the European R&D Fund. The highest total of awards is in medical and life sciences (approximately 40% of all awards), and it has been maintained over time. However, the most significant increase in terms of percentages is in engineering, mathematics, and computer sciences, where the total awards has increased by 2.5 since 2008/09.