Human resources in higher education in Israel

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About this thematic policy brief

This thematic policy brief examines the frameworks that govern the employment of academic staff in publicly funded higher education institutions in Israel. It compares these frameworks to those in place in comparable OECD higher education systems and draws on these comparisons, along with insights from discussions with higher education experts in Israel, to identify policy options for enhancing human resources policy in Israel's public higher education system.

The policy brief focuses specifically on academic staff in Israel's publicly funded universities and academic colleges. It takes account of the specific characteristics of academic careers and academic workforce policies within the broader context of public sector employment arrangements. In this respect, the analysis and findings complement those in the recent OECD publication "The Public Sector Pay System in Israel" (OECD, 2021[1]), which examines the frameworks for managing public sector compensation in Israel and provides recommendations on job definition, performance management and centralised collective bargaining in Israel's public sector more generally.

Israel has a diversified higher education system, with a network of research universities, academic colleges, teacher education colleges and a large and long-established Open University. The system has expanded rapidly since the creation of the non-university academic colleges in the early 1990s. Total student numbers in physical higher education institutions in Israel have increased by over 60% since 2000, with enrolment in public and private colleges more than tripling in the same period (Central Bureau of Statistics, 2021[2]). The expansion of higher education has helped Israel to increase the educational attainment level of its younger population. In 2020, 47% of those aged 25 to 34 in Israel held some form of tertiary education qualification, compared to an OECD average of 45%, placing the country on a par with Belgium, Denmark, Spain and France in terms of tertiary education attainment (OECD, 2021[3]).

However, the rapid expansion of higher education has also created challenges. In particular, financial and human resources have not always kept pace with increases in student numbers, leading to recurrent concerns about student-to-staff ratios and the quality of education. As in many other OECD member countries, the proportion of teaching staff working on non-standard, part-time and temporary contracts has increased in recent decades, creating a two-tier academic workforce. Traditional academic career models and reward systems have come to sit uneasily in a more diversified higher education sector, where many institutions focus on professional skills, practice-oriented research and engagement with business, rather than fundamental research. Moreover, higher education institutions complain that rigid employment rules, modelled on those in the wider public sector, have increasingly constrained their ability to compete with other employers in Israel and internationally for highly qualified individuals, particularly in high-demand fields such as computing, engineering and business services.

Against this backdrop, this policy brief analyses the context and policy frameworks that affect human resources in public higher education institutions and explores whether the experience of other OECD higher education systems holds lessons for Israel.

The brief was prepared in the OECD Secretariat by Simon Roy, drawing on input from Cláudia Sarrico and Rob McIntosh. Particular thanks go to Nathan Nehorai, Shmuel Applbaum and Adi Ben (Ministry of Finance), Yoav Taubman (Council for Higher Education) and Sivan Kfir Katz (Israel's Permanent Delegation to the OECD) for their support in preparing the brief. The OECD is also grateful for the time and input of higher education stakeholders in Israel interviewed in the preparation of this brief.

1. Human resources in Israeli higher education

1.1 The higher education system in Israel

A diversified system with universities and academic colleges

The higher education system in Israel encompasses universities, professionally oriented academic colleges and specialised teacher education colleges. Israel's two oldest universities – the Technion and the Hebrew University of Jerusalem – predate the foundation of the State. A first wave of expansion occurred in the 1950s and 1960s, with the creation of five new universities, including the Weizmann Institute of Science, specialised in post-graduate education and research. The 1970s saw the creation of the Open University – specialised in distance education – and the integration of the first non-university and teacher education institutions into the higher education system. During the 1990s, the system saw a major expansion of non-university education, with the creation of additional academic colleges, some publicly financed and others established as independent private, non-profit institutions. The private independent colleges rely primarily on tuition fees for their income, receive no public funding and are not subject to government regulations governing the human resources in publicly funded colleges.

In the academic year 2019/20, there were 60 higher education institutions in operation in Israel, as summarised in Table 1.

Table 1. Higher education institutions in Israel

	Number	Enrolment 2019/20	Proportional of total enrolment
Public universities	8	127 783	39%
Open University (public)	1	48 808	15%
Public academic colleges	20(1)	64 313	20%
Private academic colleges	10	45 184	14%
Public teacher education colleges	18	41 224	12%
Total	60	327 312	100%

Note: (1) Three teacher education colleges (Kibbutzim College, Beit Berl College and Herzog College) have since been re-classified as public academic colleges, bringing the total number of public academic colleges to 23 and reducing the number of public teacher education colleges to 15.
Source: Central Bureau of Statistics (2021[2]), Higher Education, https://www.cbs.gov.il/en/subjects/Pages/Higher-Education.aspx, (accessed on 9 May 2022).

Table 2 provides an overview of the universities and publicly funded colleges, which are the primary focus in this policy brief, along with enrolment figures for the year 2019/20. The university sector currently comprises six comprehensive universities, of which the University of Tel Aviv and the Hebrew University of Jerusalem are the largest, the Technion, specialised in science, engineering and related fields, and the post-graduate-level Weizmann Institute of Science. The public college sector encompasses a diversity of institutions, focusing on engineering, other forms of professionally oriented programme and education in the visual and performing arts. Colleges are smaller than universities, typically enrolling between 2 000 and 4 500 students, and more evenly dispersed across the territory of Israel.

Table 2. Universities and publicly funded academic colleges in Israel (2019/20)

University	Enrolment 2019/20	Public academic colleges	Enrolment 2019/20	Public academic colleges	Enrolment 2019/20
Tel Aviv University	26 570	The Sapir Academic College	4 412	ORT Braude College of Engineering	3 040
Hebrew University of Jerusalem	20 898	The Holon Academic Institute of Technology	4 308	Shenkar – Engineering, Design, Art	2 934
Ben-Gurion University of the Negev	17 820	The Academic College of Tel Aviv-Yaffo	4 251	Zefat Academic College	2 680
Bar-Ilan University	17 764	Ruppin Academic Center	4 237	The Western Galilee College	2 577
Haifa University	17 396	SCE the Sami Shamoon College of Engineering	4 097	The Achva Academic College	2 466
Technion - Israel Institute of Technology	13 787	Max Stern Academic College of Emek Yezreel	4 038	Bezalel – Academy of Arts and Design	2 345
Ariel University	12 333	Hadassah Academic College	3 933	The Kinneret Academic College in the Jordan Valley	2 286
Weizmann Institute of Science	1 215	Ashkelon Academic College	3 917	Azrieli College of Engineering Jerusalem	1 438
Open University	48 808	Jerusalem College of Technology	3 880	The Jerusalem Academy of Music and Dance	790
		Tel-Hai Academic College	3 545		
		Afeka Tel Aviv Academic College of Engineering	3 139		

Note: (1) Three teacher education colleges (Kibbutzim College, Beit Berl College and Herzog College) have since been re-classified as public academic colleges, bringing the total number of public academic colleges to 23.
Source: Central Bureau of Statistics (2021[2]), Higher Education, https://www.cbs.gov.il/en/subjects/Pages/Higher-Education.aspx, (accessed on 9 May 2022).

Seven of the nine public universities offer programmes at bachelor's, master's and doctoral level. The Weizmann Institute of Science offers exclusively post-graduate (master's and doctorate) programmes. The Open University and academic colleges offer primarily bachelor's programmes, but are permitted to offer post-graduate programmes. In the academic year 2019/20, 92% of all students at public academic colleges and 94% of Open University students were enrolled in bachelor's programmes, with the remaining students mostly enrolled in master's programmes[1]. The proportion of students enrolled in master's degrees in private colleges, where students pay the full cost of their studies, was higher, at almost 25% (Central Bureau of Statistics, 2021[2]).

The Council for Higher Education oversees the system, with public funding allocated by the Planning and Budgeting Committee

The Council for Higher Education (CHE), established by the 1958 Higher Education Law, is the government agency with primary responsibility for oversight of the higher education system and regulation and funding of public higher education institutions. The 25-member governing Council oversees the work of CHE staff and is chaired by the Minister of Education. The remaining Council members come from the higher education sector – in most cases universities – and, in smaller number, from other spheres of public life. Council members are appointed by the President of Israel upon the recommendation of the government for a period of five years.

The CHE has a broad remit, which encompasses:

- approval and initial accreditation of higher education institutions and study programmes

[1] A small number of students in the Open University are enrolled in short-cycle "diploma" programmes.

- quality assurance of existing study programmes
- strategic oversight of the higher education sector and advising government on higher education policy
- through its Planning and Budgeting Committee, allocating public funds to higher education institutions.

The CHE's Planning and Budgeting Committee (PBC), known in Israel by its Hebrew acronym, VATAT, is primarily responsible for the funding of public (budgeted) higher education institutions and policies which have a direct influence on financial resources for higher education institutions. The PBC is composed of seven members (including the Chair): four are university professors (two from the social sciences and humanities and two from the exact and engineering sciences); two are representatives of the public; and one senior staff member of a public college. PBC members are appointed by the CHE for a period of three years, with the possibility of extending the appointment for a further three years.

Public funding for higher education institutions is allocated using a formula with input and output parameters

The Planning and Budgeting Committee oversees public funding for higher education in Israel. The key components of PBC funding for higher education institutions are:

- Core institutional grants for teaching, infrastructure and operations provided to Israel's nine universities and the 23 publicly funded academic colleges using a standard allocation formula with fixed unit payments for each student in different subject fields and multipliers to reflect graduation rates and student-to-staff ratios.
- Institutional grants for research that are allocated to universities only, using a separate, output-based allocation formula. Unlike funding for teaching, which draws on a semi-open budget envelope, the research formula distributes a fixed budget envelope between institutions.
- Project-based funding for research, much of which is administered on behalf of the PBC by the Israel Science Foundation (ISF), Israel's main competitive research funding agency.

Private academic colleges do not receive core public funding from the PBC, while the Ministry of Education funds the network of teacher education colleges, which is thus also outside the Committee's funding remit.

The current funding allocation model was introduced in 2010/11 as part of a wider reform of higher education resourcing, which followed a period of rapid growth and falling levels of spending per student. The allocation model for the main grant for teaching and operations is designed to provide higher education institutions with a high degree of transparency and predictability, while rewarding them for high rates of student completion and ratios of students to each senior academic staff member that align with national targets. The maximum number of funded study places for each institution (student quota) is established periodically by the PBC, taking into account enrolment levels in previous years and the evolution of the programme offering. The calculation method for the teaching grant for universities and publicly funded colleges is summarised in Box 1. Funding is awarded as a block grant, with each institution free to allocate the public funding received in accordance with its own priorities, provided it maintains a balanced budget.

Box 1. Allocation formula for the teaching grant to higher education institutions

The allocation formula for the teaching grant to higher education institutions in Israel multiplies:

1. S(i): The number of students by discipline and degree level (bachelor's and master's degrees only).
2. T(i): A fixed tariff per discipline and degree level (which differs between universities and academic colleges).
3. E(i): A graduation rate coefficient based on the number of graduates divided by the total number of students. A lower graduate rate results in a lower level of payment.
4. F: A coefficient representing the difference between the observed average ratio of students to academic faculty ratio in the institution and national target values established by the Council for Higher Education. On average, these target values are 21.5 students per faculty member at universities and 35 students per faculty member at academic colleges. Student-to-staff ratios that exceed the target values result in lower payments.

$$\sum_i (S(i) \times T(i) \times E(i)) \times F$$

Source: Council for Higher Education; EACEA (2017[4]) Overview of the Higher Education System in Israel, http://dx.doi.org/10.2797/335061.

The institutional grant for research is allocated to universities through a competitive model that takes account of past research performance. The allocation parameters include the value of third-party research grants (almost 50% of funds), the number of publications weighted by impact factor (34% of funds), the number of doctoral candidates, weighted by efficiency coefficients and field of research (around 15% of funds), and number of graduates from research master's (2% of funds). In each of nine recognised scientific fields, the two top-performing institutions in terms of average research output per senior staff member and earned grants receive a 20% bonus. The share of the total annual budget for research received by each university is calculated annually based on its performance in the research indicators.

1.2 Academic staff in Israel

A distinction between senior and junior staff and between universities and colleges

Institutional and national regulations governing academic human resources in Israel make a distinction between "senior staff", employed in posts that guarantee or give access to tenure, and "junior staff", employed in temporary or part-time positions, generally without access to tenure.

Both universities and public colleges in Israel employ academic staff in the ranks of lecturer, senior lecturer, associate professor and professor, with those in the rank of senior lecturer and above typically employed on permanent contracts in tenured positions. As colleges are primarily teaching institutions and progression to the rank of professor depends on individuals' track record in research, the proportion of academic staff with the rank of professor in colleges is considerably lower than in universities. Moreover, colleges must refer decisions on the appointment of individuals to the rank of professor to a central appointments commission co-ordinated by the Council for Higher Education.

In addition to the academic positions above, classified as the "regular track", universities also employ a proportion of their academic staff on specific tracks for teaching and research posts. The "adjunct track" is used to employ artists and professionals with nationally and internationally recognised achievements in their respective fields in the positions of adjunct associate professor (or associate professor of practice or creative arts) and adjunct professor (or professor of practice or creative arts). Teaching appointments in

these ranks may initially be on a fixed-term basis, but access to tenure is possible (Tel Aviv University, 2018[5]). A "parallel track" for teaching-only staff also exists, with the ranks of teacher and senior teacher categorised as senior staff with access to tenure. A separate "researcher track" includes the ranks of research fellow, researcher and senior researcher, with tenure possible in the rank of senior researcher (Tel Aviv University, 2018[5]).

In public colleges, senior academic staff on the "regular track" are doctorate holders, as in universities, although in comparison to their colleagues in universities, senior staff in colleges have fewer research duties given the mission of colleges as primarily teaching institutions. Colleges also use a "parallel track", with no specific qualification requirements, for recognised experts in specific fields of study and a "teaching track" for teachers in areas such as language and computer applications.

In addition to individuals appointed to positions as senior staff, Israel's universities and public colleges employ a growing number of "junior staff", primarily as part-time teaching staff, employed as assistant and associate teachers and "teaching fellows". Whereas full-time staff can only be employed on fixed-term contracts, typically for a maximum of five to seven years, there is generally no limit on the length of time that individuals can be employed on part-time teaching contracts (Tel Aviv University, 2018[5]). Interviewees in the higher education sector consulted in preparing this policy brief noted that it is challenging for those employed as part-time teachers to progress to permanent positions, both for budgetary reasons and the difficulty that such individuals have in developing the kind of research portfolio needed to access permanent posts, even in colleges.

Many aspects of staff conditions are governed by national regulations and collective agreements

The employment conditions of academic and teaching staff in Israel's universities and the 23 publicly funded academic colleges are established through a combination of national regulations or guidelines issued by the Council for Higher Education and Ministry of Finance, which are national collective agreements covering the university or college sectors and institution-level collective agreements. National collective agreements are negotiated between the Director for Wages and Labour Agreements at the Ministry of Finance, the Planning and Budget Committee (PBC) and the national and institution-level unions of academic staff, representing, respectively, senior and junior staff.

Table 3. System-level employment main guidelines and collective agreements for academic staff

Staff type	Type of instrument	Date of adoption	Main issues covered
All staff in universities	Guidelines issued by the Council for Higher Education	1994	• Terms and conditions • University academic grants (full-time commitment to employing institutions and "criteria grant")
Junior staff in universities	Collective agreement	2008	• Definitions of staff categories (teaching fellow etc.) • Duration of employment, weekly teaching hours • Salaries and pension contributions • Funding for conferences (Science Relations) and definitions for additional terms of employment
All staff in colleges	Guidelines (booklet) issued by the Council for Higher Education	2014 (updated in 2021)	• Appointments • Duration of employment, weekly teaching hours • External activities and employment • Pre-academic preparatory courses
Senior staff in public colleges	Collective agreement	2011	• Terms and conditions of employment • Terms and conditions of academic grants • Professional training of staff

Staff type	Type of instrument	Date of adoption	Main issues covered
	Collective agreement	2018	• Terms and conditions of employment • Employment conditions under strike • Terms and conditions of academic grants • Training of staff
Junior staff in public colleges	Framework for collective agreement	2020	• Terms and conditions of employment • External activities and employment • Professional training of staff • Study and training funds

Note: Based on copies of guidelines and agreements supplied by the Israeli Ministry of Finance. Ministry of Finance (2008[6]), Collective agreement for junior academic staff at universities; Ministry of Finance (2011[7]) Collective agreement for senior academic staff at colleges.

The most significant national guidelines and collective agreements applying to universities and public colleges are summarised in Table 3. In addition to the main regulations and national collective agreements, additional national guidelines (circulars) exist covering specific aspects of the terms of conditions of academic staff. These include rules for the employment of senior staff in universities on personal contracts with beneficial terms (Planning and Budgeting Committee, 2013[8]), a similar arrangement for colleges (Ministry of Finance, 2012[9]), and rules about installation allowances for senior academic staff recruited from abroad or among junior academics – the so-called "absorption basket" (Planning and Budgeting Committee, 2013[10]).

The latest framework collective agreement for junior staff in colleges was negotiated in 2020 to end a long strike by junior academic staff. The full collective agreement was negotiated in 2021 and is the first collective agreement for junior staff in colleges.

Overall, the combination of guidelines issued by the PBC and the Ministry of Finance and national collective agreements creates a detailed legal and administrative framework for the employment of academic staff, within which all universities and public colleges in Israel must work. The most significant aspects of human resources policy governed by these frameworks are:

- *Academic ranks and related basic salary scales, agreed nationally*. Although differences between universities and colleges exist in the career tracks used and access to the rank of professor (which, in the majority of cases, is possible in colleges only through a decision of CHE Professors Appointments Committees), the basic academic ranks and related salary scales are the same for universities and colleges.
- Rules governing the employment of a limited proportion of senior staff in universities and public colleges on "personal contracts" with higher salaries, outside the nationally agreed salary scales. The proportion of senior academic staff that can be employed on such contracts is limited to 5% in universities and 15% in colleges.
- Additional allowances and bonus payments, including those linked to performance, full-time dedication of the employing institution, installation allowances, specific allowances for attending conferences and bonuses linked to securing externally funded research projects (see Table 4).
- Regulation of minimum teaching hours (workload) in colleges, but not in universities.
- Rules regarding the accumulation of professional activities outside the main employer institution (such as academic roles in other higher education institutions, consultancy or employment or self-employment in external businesses).
- Rules regarding sabbaticals and leaves of absence ("chalat" in Hebrew).

Numerous additional allowances and bonus payments for senior academic staff are a notable feature of the Israel's academic workforce policies

As discussed in the conclusion in Section 3 of this brief, the existence of a large number of additional allowances and bonus payments – primarily for senior staff – is a striking feature of the Israeli model for employment of academic staff in publicly funded institutions in comparison to the generally simpler systems of compensation in comparable OECD higher education systems. For ease of reference, the main allowances and bonus payments are summarised in Table 4.

Table 4. Allowances and bonus payments for academic staff in Israel

Allowance or bonus payment	Universities	Public colleges	Key purpose and features
Absorption Basket *(installation and recruitment allowance)*	✓	✓ **	• The "absorption basket" is a form of installation allowance or recruitment bonus designed to help (primarily) universities attract talented senior academic staff, primarily from overseas, but also for junior staff from other institutions in Israel. The allowance is designed primarily to cover costs associated with housing, transport, bills and childcare (Planning and Budgeting Committee, 2013[10]). • The allowance can only be paid once to a single individual. • The median payment in universities is NIS 150 000 (USD 43 500) and the maximum allowance is NIS 330 000 (USD 96 000) and is subject to income tax. • Payments are made over the first six years of the academic's employment, with 1/6 of the value paid each year. • The allowance is initially paid as a standing loan, with 1/12 of the value converted to a grant over a period of 12 years. If the academic leaves the institution before the 12 years are completed, they have to repay the outstanding value of the loan. • ** Senior academic staff employed in colleges under a personal contract can also be paid an "absorption" payment.
Academic grant for full-time dedication to the institution *(previously called "Research Increment C")*	✓		• Bonus payments to senior academic staff who are employed full-time in their employing institution and have no additional personal income beyond a ceiling (between NIS 3 324 and NIS 3 742 per month). • A number of exceptions apply that effectively raises the income ceiling for some staff. • Payments are made four times a year and increase with academic rank with each payment worth between 13% and 15% of the starting salary for each rank. • Eligibility is verified twice a year through a declaration by the staff member.
Academic grant based on criteria	✓	✓ **	• Bonus payments to senior academic staff who can demonstrate that they perform tasks that are nominally beyond what would be expected of staff in their position. • Staff must demonstrate through a declaration every year that they meet at least four of 11 criteria relating to additional work in four areas: significant research activity, research support, teaching and promoting academic-society relations, contribution to the economy and society. • Payments are made four times a year and increase with academic rank with each payment worth between 13% and 15% of the starting salary for each rank. • ** "Reward for excellence" payments can be made to staff in academic colleges, which are partly equivalent to the academic grant based on criteria in universities.
Research increments	✓	✓	• Bonus payments to staff who are principal investigator in research projects funded by external research grants (such as the Israel Science Foundation, European Union or other foreign research funding agencies). • "Research Increment A" is included in – and paid from – the grant itself (or grants) and can amount to a maximum of 50% of an academic's basic salary for the period of the grant. • "Research Increment B" is paid by universities to academics in receipt of grants that do not allow payments to the principal investigator and may amount to a maximum of 25% of an academic's basic salary for the period of the grant. • Academics in receipt of both types of grant can accumulate both types of bonus (allowing them to receive 55% of their salary in additional payments).

Allowance or bonus payment	Universities	Public colleges	Key purpose and features
International Science Relations Fund annual allowances	✓		• An annual allowance originally intended to allow senior academic staff to attend conferences overseas. • Payments are made each year in US dollars and range from USD 4 500 for lecturers to USD 11 250 for full professors annually. • The individual academic accumulates the funds and can recuperate unused funds when they leave the employing institution (e.g. on retirement).
Sabbatical benefits	✓		• Full-time senior academics accumulate a right to two months' sabbatical for every year of work. • During any sabbatical taken abroad, academics do not formally receive their salary or bonuses, but instead a monthly sabbatical pay ranging from USD 3 700 for lecturers to USD 7 150 for full professors (between 85% and 107% of basic monthly salary levels).

Note: Allowances and bonus payments are only for senior academic staff, unless otherwise indicated
Source: Summary based on documents supplied by the Israeli Ministry of Finance: Planning and Budgeting Committee (1991[11]) Regulations for Providing Research Increments; Planning and Budgeting Committee (1994[12]) University Academic Grant; Planning and Budgeting Committee (2013[10]) Guiding Principles for Payment of an Absorption Basket at Universities; Planning and Budgeting Committee (2016[13]) Update of the University Academic Grant.

1.3 Human resourcing in higher education in Israel: trends and challenges

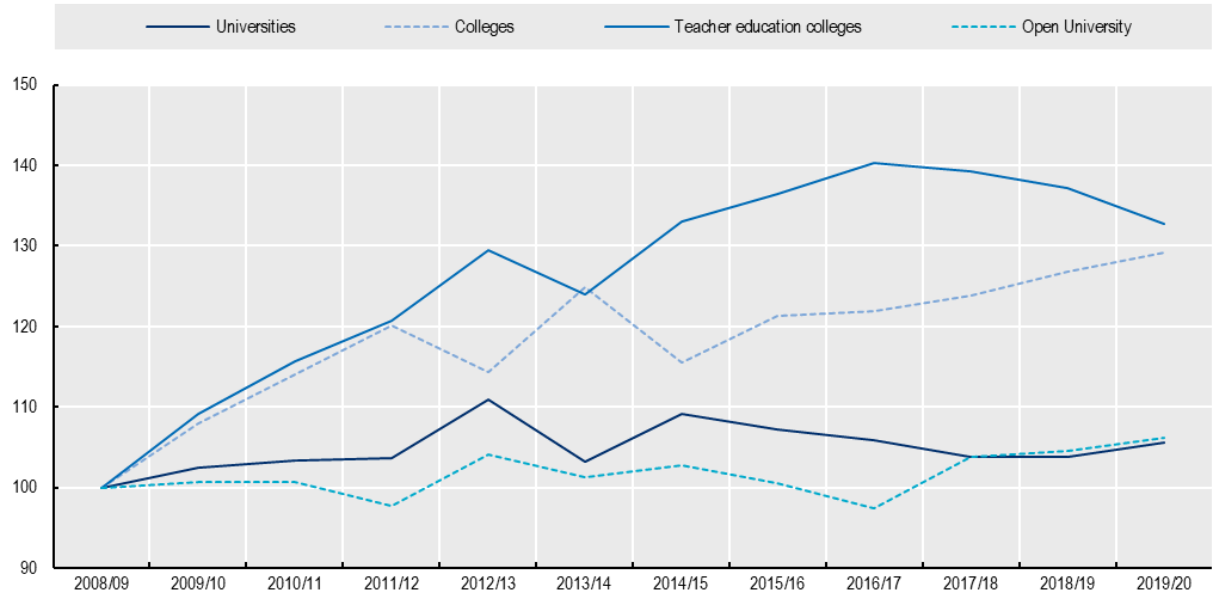
Enrolment has increased considerably in the college sector but remained comparatively stable in universities in recent years

As noted in Table 1, Israel's eight mainstream universities enrol just under 40% of all higher education students in Israel (127 700 students), while academic colleges enrol a further third of students (20% in public colleges and 15% in private colleges). Teacher education colleges, which are considered to be part of the higher education sector, but are funded by the Ministry of Education, enrol 12% of students (41 200 students) and the Open University enrols the final 15% of students (around 48 800) in distance education programmes. While enrolment in universities has almost doubled (an increase of 90%) in the three decades since 1990, enrolment in the academic college sector (public and private) increased nearly thirty-fold, from only 3 600 students in the academic year 1989/90 to almost 110 000 in 2019/20.

Following a period of rapid expansion during the 1990s and early 2000s, the college sector has continued to grow over the last decade, albeit as a slower pace. As shown in Figure 1, enrolment in colleges increased by 29% between 2008/09 and 2019/20. In contrast, enrolment in mainstream universities and the Open University increased by only 6%. Enrolment in the teacher education colleges increased most rapidly in this period, with combined enrolment growth in bachelor's and master's programmes of 33% (Central Bureau of Statistics, 2021[2]). Interviewees consulted for this brief suggest that concerted efforts to reduce class size in schools – and thus increased demand for teachers – were an important factor in driving this latter trend.

Figure 1. Change in enrolment in higher education in Israel by sector over the last decade

Total enrolment in universities, colleges, teacher education colleges and the Open University in headcount per academic year from 2008/09 to 2019/20. Index: 2008/09 = 100



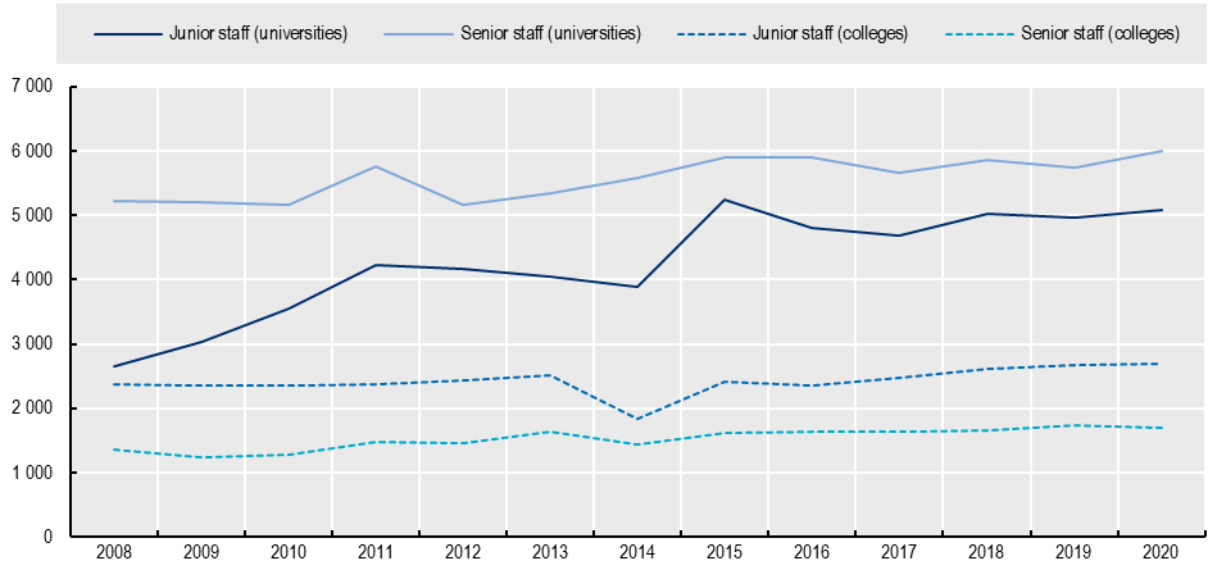
Note: To ensure comparability over time, enrolment data for teacher education colleges exclude enrolment in diploma programmes (data for which have been published only since 2018/19).
Source: Central Bureau of Statistics (2021[2]) Higher Education, https://www.cbs.gov.il/en/subjects/Pages/Students-in-Higher-Education.aspx, (accessed on 9 May 2022).

Staff numbers have increased more rapidly than enrolment in universities, but more slowly in colleges

In the same period, from 2008 onwards, the number of full-time equivalent (FTE) academic staff also increased in both universities and public colleges in Israel. However, total FTE staff numbers in public colleges increased by only 14% between 2008 and 2018, compared to the 27% increase in student numbers in the college sector noted above. As illustrated in Figure 2, the number of FTE senior staff positions in public colleges increased by 22% between 2008 and 2018 (from 1 349 to 1 648), while the number of FTE junior staff positions in the sector increased by 10% (from 2 375 to 2 605). In contrast, the number of FTE academic staff positions in universities increased by 38%, albeit with change driven primarily by an increase in the number of junior staff. Between 2008 and 2018 the number of FTE senior staff positions in universities increased by 12%, while the number of FTE junior staff positions increased by 90%.

Figure 2. Full-time equivalent academic staff in universities and public colleges in Israel

Numbers of senior and junior academic staff in full-time equivalent units (FTE) 2008 to 2020



Note: The data used for this figure are based on findings from a multi-year database of academic staff occupations created by the Central Bureau of Statistics. The source of these data is annual files reported by higher education institutions to the Council for Higher Education's Planning and Budgeting Committee (PBC).

Virtually all senior staff in universities work full-time, meaning there is little difference between the number of FTE positions (as shown in Figure 2) and the number of individual staff (headcount). Senior staff in public colleges work on average 90% of full-time, reflecting the higher proportion of professionals and artists who occupy part-time positions as senior staff in the college sector.

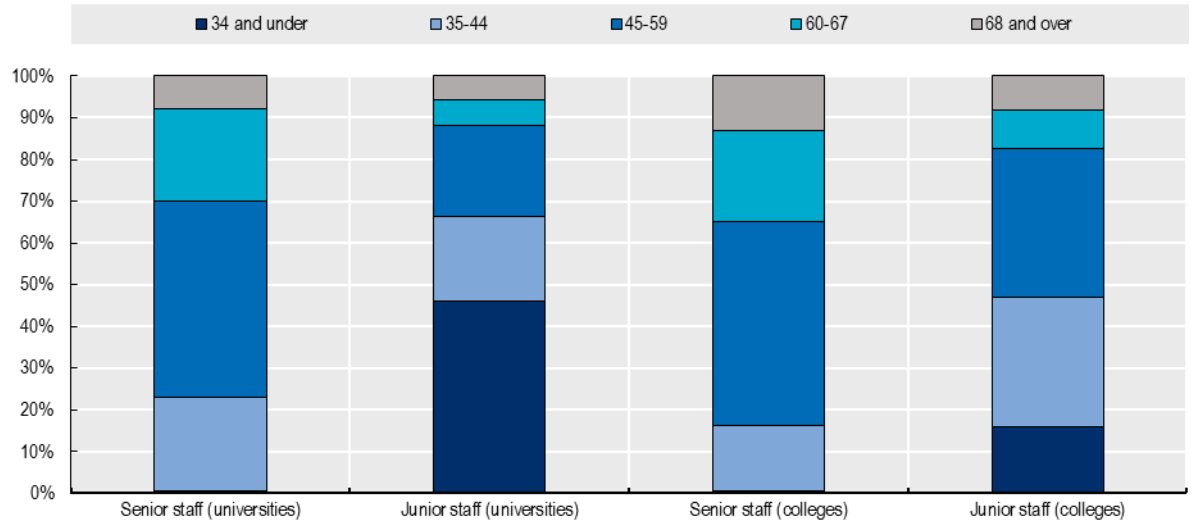
In contrast, most junior staff in both universities and public colleges work as part-time lecturers, teaching assistants and research assistants. On average, in 2020, there were almost 15 000 individual junior staff members employed in universities (headcount), on average working slightly more than one-third of full-time (resulting in 5 086 FTE positions). In the same year, public colleges in Israel employed almost 6 300 individuals as junior staff, who worked 43% of full-time on average (resulting in just under 2 700 FTE positions).

Senior staff at universities assume, on average, 54% of the total FTE workload in universities, whereas senior staff in public colleges assume just under 39% of the total FTE workload in that sector. Given the diverse responsibilities of senior staff in both universities and colleges, it is not possible to infer from these broad FTE calculations the proportion of total teaching hours in either sector assumed by senior and junior staff.

Senior and junior academic staff have distinct profiles. As shown in Figure 3, almost half (46%) of junior staff in universities in 2020 were under 35, while 99% of senior academics in universities were 35 and over. This situation reflects the that fact that junior staff positions in universities attract individuals in the doctoral or immediate post-doctoral phase of their careers, as well as the general (but not universal) requirement for senior academic staff to have acquired a PhD before appointment. In 2020, 79% of senior staff in universities held a PhD, as did one-quarter of junior staff. That 34% of junior staff are aged 45 and above illustrates that many people in adjunct, part-time and temporary teaching roles are not particularly "junior". While staff in this category will represent a diverse set of profiles, a significant proportion are likely to be individuals who sought to pursue a full-time academic career, but were unable to secure a senior staff position.

Figure 3. Age profile of senior and junior academic staff in universities and colleges

Proportion of senior and junior academic staff (headcount) by age category (2020)



Note: For colleges, the last two age classes are 60-66 and 67 and over, as opposed to 60-67 and 68 and over. The data used for this figure are based on findings from a multi-year database of academic staff occupations created by the Central Bureau of Statistics. The source of these data is annual files reported by higher education institutions to the Council for Higher Education's Planning and Budgeting Committee (PBC).

The age profile of senior academic staff in colleges (a total of 1 850 individuals compared to the over 6 000 senior staff in universities), is broadly similar to that of senior staff in universities. In 2020, 72% of senior staff in colleges held a PhD. In contrast, the 6 270 junior academic staff in public colleges are, on average, older than their counterparts in universities, with only 16% under 35 and 53% over 45. In public colleges, 26% of junior staff hold a PhD.

The student-to-staff ratio in public colleges has deteriorated in recent years

The relationship between the enrolment figures illustrated in Figure 1 and the staff data shown in Figure 2 can be expressed in terms of average student-to-staff ratios. Such ratios can provide a general indication of class sizes and the level of possible interaction between staff and students in higher education. However, the involvement of academic staff in research, service and administrative activities alongside teaching and supervision here too makes it hard to infer the impact of different student-to-staff ratios on the student experience and potential quality of the learning environment.

In 2020, the average number of students per FTE academic staff member (senior and junior) in universities in Israel was 12.51, while the equivalent figure for public colleges was 12.45. As illustrated in Figure 4, these averages mask considerable differences between student-to-staff ratios between senior and junior staff and between the university and public college sectors. Notably, in 2020, 36.3 students were enrolled for every FTE senior staff member in public colleges, compared to only 23.5 students for every FTE senior staff member in the university sector. This pattern is explained to a large extent by the higher level of engagement of senior university staff in research. As research absorbs a far higher proportion of the time of senior staff in universities, the lower nominal student-to-staff ratio in universities does not necessarily imply a higher level of teaching contact hours involving students and senior staff in the university sector.

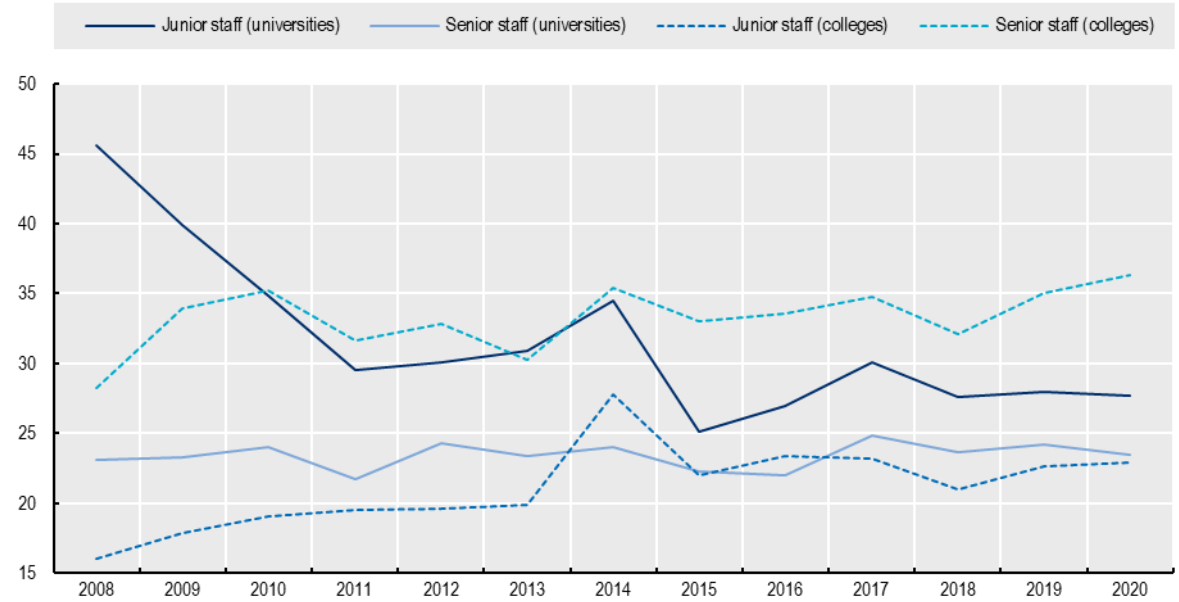
In the same year, 22.9 students were enrolled for every FTE junior staff member in public colleges, compared to 27.7 students for every FTE junior staff member in the university sector. The comparatively high student-to-senior staff ratio in public colleges, is thus partly compensated by the lower ratio of students

to junior staff members, who, as noted, outnumber senior staff and assume a majority of the total workload in public colleges.

Figure 4 also illustrates the evolution of the student-to-staff ratios for senior and junior staff in universities and public colleges in the period after 2008. In universities, the student-to-senior staff ratio has remained broadly constant since 2008, reflecting the fact that senior staff numbers have increased in line with enrolment. The sharp increase in junior staff in universities noted earlier, has led to a steep reduction in the student-to-staff ratio (from 45.6 in 2008 to 27.7 in 2020). Following a steep rise in the years immediately following the 2008 financial crisis, the student-to-senior staff ratio in public colleges fluctuated between 30 and 35 for much of the following decade, before reaching a peak of 36.3 in 2020. The student-to-staff ratio has also deteriorated for junior staff in public colleges, from around 16 in 2008 to 23 in 2020.

Figure 4. Student-to-staff ratios in universities and public colleges in Israel

Average number of students (headcount) to full-time equivalent (FTE) academic staff members (senior and junior) in the university and public college sectors, 2008 to 2020.



Note: The data used for this figure are based on findings from a multi-year database of academic staff occupations created by the Central Bureau of Statistics. The source of these data is annual files reported by higher education institutions to the Council for Higher Education's Planning and Budgeting Committee (PBC).

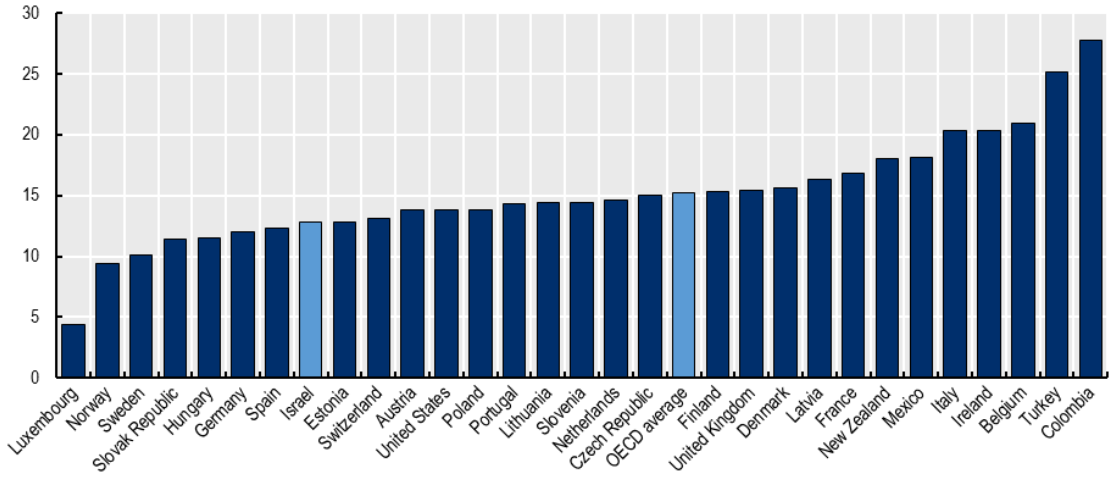
Student-to-staff ratios in Israel remain lower than the OECD average, although international comparisons are challenging

Despite some deterioration in the student-to-staff ratios in the public college sector in the last decade, available international data suggest that the average number of students for each FTE academic staff member in Israel remains below the average observed in OECD member countries. Israel has not supplied the comparable data on academic staff to the UNESCO-OECD-Eurostat data collection that would allow the calculation of directly comparable student-to-staff ratios. Nevertheless, a comparison of the national data presented above and the international data available for other OECD jurisdictions suggests Israel's average student-to-staff ratio of 12.8 in 2018 is situated around the same level as equivalent ratios in Germany, Spain, Estonia and Switzerland and below the OECD average of 15.2 (see Figure 5). The data for Israel presented here cover only the eight universities and the public college sector, whereas the data

for other OECD jurisdictions cover all educational programmes at ISCED[2] levels 5 to 8. If the private colleges and teacher education colleges were included, it is possible that the average student-to-staff ratio would be somewhat higher, although the difference is likely to be modest given that these institutions are likely to follow staffing patterns broadly similar to those observed in public colleges.

Figure 5. Student-to-staff ratios in OECD jurisdictions

Average number of full-time equivalent (FTE) students to each FTE academic staff in public and private higher education institutions (ISCED 5-8) in 2018



Note: The value for Israel is taken from national data for 2018 supplied by the Central Bureau of Statistics covering only universities and public colleges (58% of total enrolment in higher education). The data for Israel include senior and junior academic staff measured in full-time equivalent units.
Source: OECD (2020[14]) Education at a Glance 2020 Table D2.1 https://doi.org/10.1787/888934165320

Two main issues need to be taken into account in comparing student-to-staff ratios between higher education systems:

1. Despite standardised international definitions, academic positions and ranks vary between countries and the staff categories counted as "academic staff" can vary between national statistical systems. In particular, as explained in Box 0.2, differences may exist regarding the categorisation and inclusion of junior academic staff, such as junior lecturers and staff on part-time contracts.
2. Not all academic staff engage in teaching. Even when the staff categories included within "academic staff" in two systems are entirely comparable, a large proportion of academic staff are engaged in research, service and administration activities alongside teaching and, in some research-intensive university systems, may spend a large proportion or all of their time engaged in research. In such research-intensive systems and institutions, a lower student-to-staff ratio may not equate to a higher level of student-staff interaction and the attendant positive effects for quality.

[2] International Standard Classification of Education

Box 0.2. Academic staff in international education statistics

The handbook guiding collection of international education statistics by UNESCO, the OECD and Eurostat defines "academic staff" as staff employed in institutions that deliver educational programmes at ISCED levels 5 to 8, "whose primary or major assignment is instruction or research". This includes staff who hold an academic rank with such titles as professor, associate professor, assistant professor, instructor or lecturer and staff with other titles (such as Dean, Director, Associate Dean, Assistant Dean, Chair or head of department), if their principal activity is instruction or research. The category "academic staff" excludes students employed on a part-time basis for the primary purpose of assisting in classroom or laboratory instruction or in the conduct of research.

The classification of permanent academic staff – senior staff in the terms used in Israel – within this statistical framework is comparatively straightforward. However, differences in the prevalence, roles and classification of junior staff, such as teaching fellows or post-doctoral researchers, leads to some variation in the way staff are categorised in statistics between OECD member countries. International data on academic staff, while providing an accurate overview, should be interpreted with some caution, particularly when making direct comparisons between systems.

Source: OECD (2018[15]) OECD Handbook for Internationally Comparative Education Statistics 2018, https://doi.org/10.1787/9789264304444-en.

Israel invests a higher proportion of national wealth in higher education than the average of OECD countries, but per-student spending is moderate

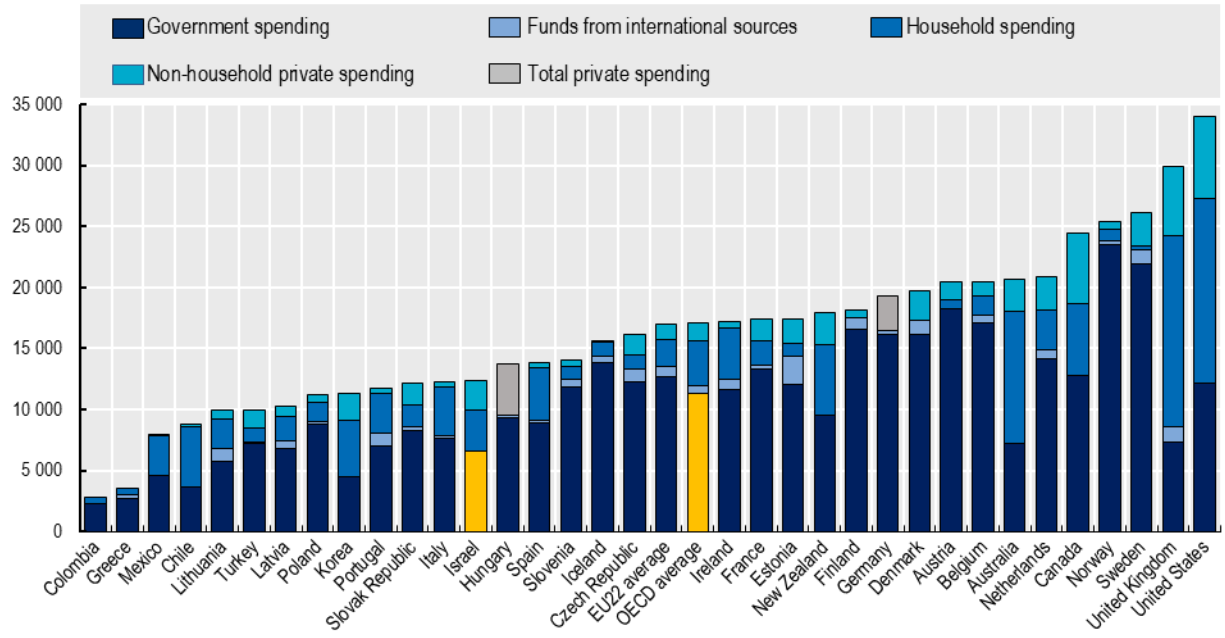
Spending on human resources – in the form of salaries and other benefits – accounts for an average of 68% of total spending on higher education institutions in OECD jurisdictions – the same average proportion as reported for Israel (OECD, 2021[3]). The overall level of investment in higher education thus has a significant impact on human resources policies and practices within the sector. In 2018 (the most recent year for which comparable international data are available), Israel spent the equivalent of 1.4% of its annual Gross Domestic Product (GDP) on higher education (1% when spending on research and development is excluded), the same proportions as the average in OECD member countries (OECD, 2021[3]).

However, the average total annual expenditure per full-time equivalent student on higher education institutions in Israel, at around USD 12 300 in 2018, when adjusted for purchasing power parity (PPP), was only 73% of the average level in OECD member countries. As shown in Figure 6, total (public and private) spending per student on higher education institutions in Israel is at an equivalent level, once the cost of living is taken into account, as the levels seen in Italy, Slovenia and Hungary. OECD data suggest that the level of total per-student spending on higher education institutions in 2018 in Israel was about 60% of the average level seen in the Netherlands, 41% of that seen in the United Kingdom and 36% of the level seen in the United States in the same year (OECD, 2021[3]).

As also illustrated in Figure 6, only 53% of total spending on higher education institutions in Israel in 2018 came from public funds, compared to an average in OECD member countries of 66%. An average of around one-third of the income of higher education institutions in Israel comes from households in the form of tuition fees. This average figure includes payments to private colleges that are predominantly funded by tuition. Estimates provided by the Council for Higher Education suggest almost 70% of spending on public universities and colleges in Israel comes from public sources. Nevertheless, household contributions to higher education in Israel are comparatively high, with tuition fees for bachelor's programmes in public institutions in Israel among the highest in OECD countries with available data (OECD, 2020, p. 323[14]).

Figure 6. Spending per student on higher education institutions in the OECD

Average total spending per FTE student on all public and private higher education institutions by source of funds in 2018 (USD adjusted for purchasing power parity – PPP).

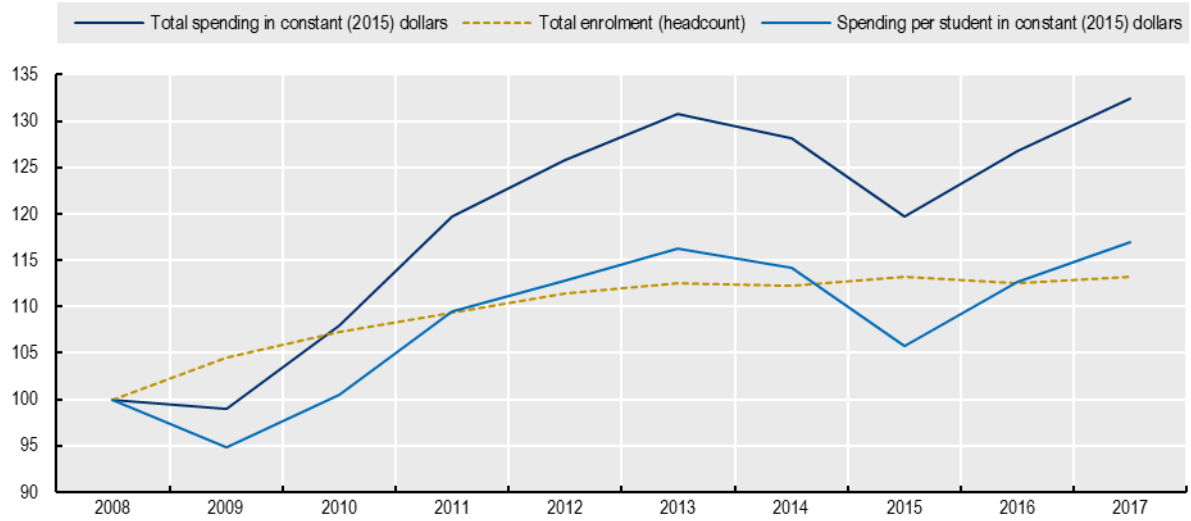


Source: OECD Education Online Database, https://www.oecd.org/education/database.htm, (accessed on 9 May 2022).

Although per-student spending in Israel remains comparatively low, investment in higher education has increased in real terms in recent years. As shown in Figure 7, total expenditure on higher education institutions increased by around 30%, after adjusting for inflation between 2009 and 2013 and again, following a dip in 2015, in the period up to 2017, when it reached a level 32% above its 2008 value. In the same period, total enrolment in higher education in Israel increased by 13% and spending per student increased by 17% in real terms.

Figure 7. Trends in total and per-student spending on higher education institutions in Israel

Total and per-student spending on all public and private higher education institutions (ISCED levels 5 to 8) in constant (2015) prices and constant purchasing power parity (PPP) and total enrolment 2008-17. Index: 2008 = 100.



Note: Per-student spending calculated using Central Bureau of Statistics enrolment data by academic year (also plotted in chart), as the enrolment data adjusted to the financial year for Israel held by the OECD contains unexplained breaks in series.
Source: Data on spending from OECD Education Online Database https://www.oecd.org/education/database.htm; Data on enrolment from Central Bureau of Statistics (2021[2]) Higher Education https://www.cbs.gov.il/en/subjects/Pages/Students-in-Higher-Education.aspx, (accessed on 9 May 2022).

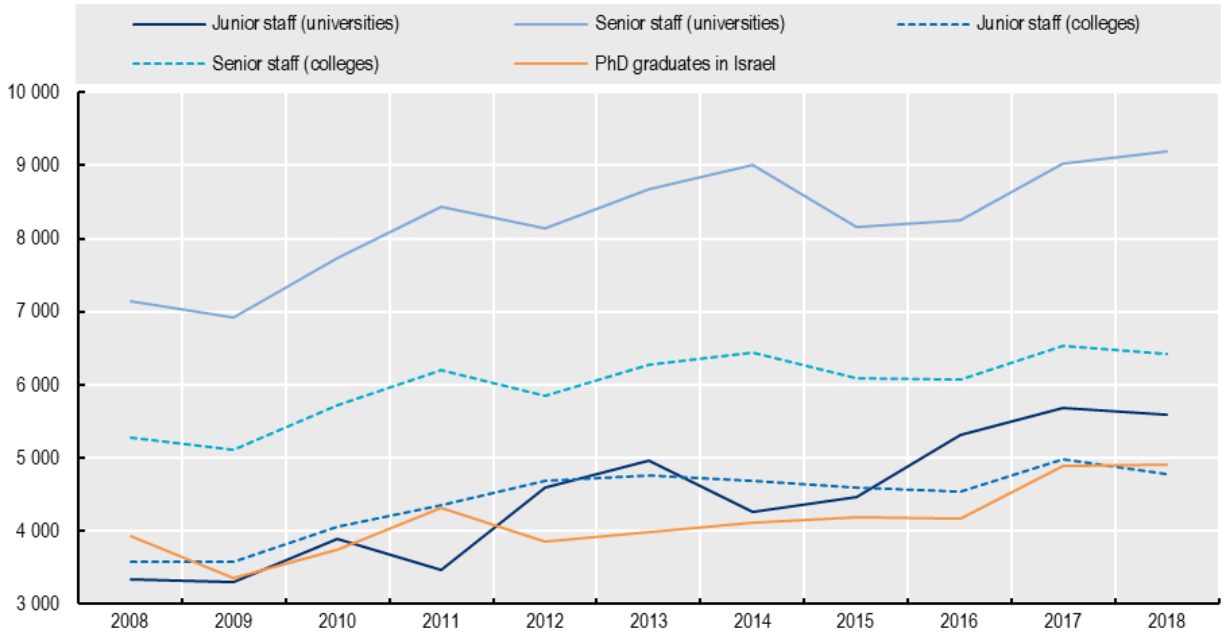
Average remuneration for academic staff in Israel remains competitive, although tensions are reported in certain fields

As noted, around 68% of total spending on higher education institutions in Israel is estimated to be spent on staff remuneration. Figure 8 shows the average monthly salaries for a full-time job for senior and junior academic staff in Israel's universities and public colleges in nominal US dollars from 2008 to 2018. In absolute values, in the period concerned, salaries for senior staff in universities increased by 29%, for senior staff in colleges by 22%, for junior staff in universities (from a low base) by 67%, and for junior staff in colleges by 33%. After accounting for inflation, the real terms increases were 14% for senior staff in universities, 8% for senior staff in public colleges, 48% for junior staff in universities and 19% for junior staff in public colleges.

As illustrated in Figure 8, tax data suggest that in 2018, average salaries for junior staff in colleges were around the average level for all PhD holders in the Israeli economy, while average salaries for junior staff in universities were 14% higher. Average salaries for senior staff in universities and public colleges in 2018 were, respectively 87% and 31% higher than the average gross earnings of PhD graduates in the Israeli labour market.

Figure 8. Average salaries of academic staff in universities and public colleges in Israel

Average gross monthly salaries for a full-time job for junior and senior academic staff in universities and public colleges, as well as for all PhD holders in the Israeli economy in USD 2008-18.



Note: The data used for this figure are based on findings from a multi-year database of academic staff occupations created by the Central Bureau of Statistics. The source of these data is annual files reported by higher education institutions to the Council for Higher Education's Planning and Budgeting Committee (PBC).

Over 2% of people employed in Israel work in research and development (R&D) – almost double the average of OECD countries (OECD, 2017[16]). The business enterprise sector employs over 70% of all researchers in Israel, with information and communication technologies (ICT) accounting for over 50% of business enterprise expenditure on R&D (BERD), compared to an OECD average of 25%.

2. How Israel's human resources frameworks compare

2.1 Comparison with a focus on similar systems

This section considers how key aspects of the frameworks that govern human resources in publicly funded higher education in Israel compare to the systems that exist in comparable OECD jurisdictions. With the notable exception of work on European systems completed by the European Commission's Eurydice network in 2017 (European Commission/EACEA/Eurydice, 2017[17]), comparable and reliable information on human resources policy in higher education in OECD member countries is limited. To complement existing information sources, this brief draws on the results of the 2020 OECD Higher Education Policy Survey (HEPS) on higher education resourcing, as well as additional targeted research into comparator higher education systems with similarities to the system in Israel. This targeted research has focused on Denmark, Finland, Ireland, the Netherlands, New Zealand and Portugal, which, like Israel have:

- Small to medium-sized higher education systems, with moderate to strong research performance, where responsibility for system oversight rests with central government;
- A largely binary system structure, with a differentiation between universities and colleges, often with distinct human resources policies applied in each sub-sector (see Table 5);

- Established traditions of collective bargaining for higher education staff or specific legal frameworks that regulate academic employment in some detail.

The focus on these systems has not precluded analysis of human resources policies in other OECD member countries, but has aimed to ensure the policy and practice examples highlighted can offer relevant insights for policymakers and higher education professionals working in the Israeli context.

Table 5. Key features of comparator higher education systems

	National population (2019)	Total enrolment (full- and part-time) in higher education ISCED 5 to 8 (2019)	Research universities	Non-university institutions
Denmark	5 814 461	308 567	8	7 University Colleges 8 Business Academies
Finland	5 521 605	295 451	13	22 Universities of Applied Science
Ireland	4 921 496	232 512	7	7 Institutes of Technology 3 Technological Universities (1)
Israel	9 054 000	327 312	9	23 Public academic colleges 10 Private academic colleges
Netherlands	17 344 876	889 506 (2018)	14	36 Universities of Applied Science
New Zealand	4 979 200	255 198	8	16 Institutes of Technology and Polytechnics (2)
Portugal	10 286 263	368 181	14	20 Polytechnics

Note: (1) Ireland is reforming of its institutional landscape in higher education, with the merger of Institutes of Technology to create new "Technological universities". (2) Institutes of Technology and polytechnics in New Zealand also offer vocational programmes below ISCED 5.
Source: OECD Statistics https://stats.oecd.org/ population and enrolment data, (accessed on 9 May 2022).

Different forms of legal frameworks govern employment of academic staff in higher education

The source of the rules and guidelines that influence the terms and conditions of employment for academic staff varies between OECD jurisdictions. Under the simplest arrangements, higher education institutions employ their academic staff under general, economy-wide employment legislation without reference to additional sector-specific regulatory frameworks. However, among the 28 OECD jurisdictions that responded to the 2020 Higher Education Policy Survey, only England (United Kingdom) and Poland indicated this was the case. Moreover, even in England, the still-current 1988 Education Reform Act contains specific provisions relating to academic staff (UK Government, 1988[18]) and a majority of academic staff are employed on salary scales agreed nationally between higher education employers and staff unions (UCU, 2021[19]).

Table 6. Frameworks governing employment of academic staff in OECD jurisdictions

	General employment law	Legal frameworks governing employment in the public sector	Legal frameworks specific to the higher education sector	Sector or system-level collective agreements
Austria		✓	✓	✓
Belgium (Flemish Community)		✓	✓	
Belgium (French Community)	✓		✓	
Canada	✓	✓	✓	✓
Chile	✓	✓		
Czech Republic	✓		✓	
Denmark	✓	✓	✓	✓
Estonia	✓	✓	✓	
Finland	✓	✓	✓	✓
France		✓	✓	
Hungary		✓		
Ireland	✓	✓		✓
Israel		✓	✓	✓
Italy		✓	✓	✓
Japan	✓	✓	✓	✓
Lithuania		✓	✓	
Luxembourg			✓	
Netherlands	✓	✓	✓	✓
New Zealand	✓		✓	✓
Norway	✓	✓	✓	✓
Poland	✓			
Portugal		✓	✓	✓
Slovak Republic		✓	✓	✓
Slovenia		✓	✓	✓
Sweden	✓	✓	✓	✓
Switzerland	✓	✓	✓	✓
Turkey		✓	✓	
England (United Kingdom)	✓			

Note: Countries indicate multiple options because different frameworks may apply to different categories of academic staff or different aspects of employment terms and conditions. Systems highlighted in blue are those selected for additional comparative research.
Source: Golden and Troy (2021[20]) How are higher education systems resourced? Evidence from an OECD policy survey, https://doi.org/10.1787/0ac1fbad-en.

In most OECD jurisdictions, specific rules and guidelines apply to the employment of academic staff, stemming primarily from legislation governing employment in the higher education sector or from system-level collective agreements – negotiated between employers and unions – that are typically specific to higher education or sub-sectors such as universities and non-university institutions. As summarised in Table 6, 23 of the 28 OECD jurisdictions replying to the 2020 HEPS regulate at least some aspects of human resources policy in higher education through sector-specific legislation. In most cases, primary legislation is likely to specify broad principles, with detailed guidelines specified in regulations (government orders, administrative guidelines or equivalents) issued by public authorities. In 17 of the same 28 jurisdictions, employment of academic staff is also influenced – sometimes to a significant extent – by collective labour agreements negotiated between higher education employers (sometimes including representation from government, as in Israel) and unions representing academic staff.

The jurisdictions where system-level collective agreements govern key aspects of the terms and conditions of academic staff include the northern European countries, such as the Nordic countries, Belgium and the Netherlands, with strong, economy-wide traditions of collective bargaining. In addition, however, collective

agreements for academic staff exist in countries such as Ireland and New Zealand, which have generally adopted more economically liberal approaches to labour market regulation in recent decades (OECD, 2019[21]). Among the OECD jurisdictions responding to the 2020 HEPS, those that have collective agreements for academic staff most commonly report that these agreements cover the salaries, duties, and workload of academic staff, while rules regarding contract types and duration and aspects of career structure are more typically established in legislation and related guidelines and regulation.

2.2 Employment status and contract types for academic staff

A mix of permanent and fixed-term employment contracts are used for academic staff

Many OECD member countries have distinct employment regimes for some or all categories of employees in the public sector, with at least some rights and obligations that differ from the rights and obligations applying to employees in the private sector under national employment law. Historically, academic staff in public higher education institutions – and sometimes in government-dependent private institutions – in many OECD countries were subject to these public sector employment regimes. Employment of academic staff civil servants – with a similar status as employees in government ministries or public agencies – is now comparatively uncommon in OECD jurisdiction. As summarised in Table 7, only eight of the 28 jurisdictions responding to the 2020 HEPS report academic staff can be employed with general civil servant status in their systems, with only five reporting this status is common for newly appointed staff. However, 14 jurisdictions report having specific public servant status for academic staff, of which eight (including Belgium, France, Italy, Portugal and Sweden) indicating this status is used frequently for new appointments.

Open-ended (permanent) contracts with a more protected status than offered by standard employment law (perhaps reflecting the principles of academic “tenure”) are used in ten of the 28 jurisdictions and are commonly used in some Canadian provinces and territories, Italy, the Netherlands and Portugal, as well as Israel. Open-ended contracts under general employment law are the most common form of permanent employment form for academic staff in the jurisdictions responding to the 2020 HEPS. They are used in 17 jurisdictions, commonly used in 12 systems and the most common form of permanent employment for academics in eight systems. 23 of the 28 systems make use of fixed-term contracts with the possibility of conversion to open-ended contracts for academic staff and all but six systems also use fixed-term contracts for academic staff with no possibility of direct conversion to permanent positions.

Table 7. Possible and most common contract types for academic staff in OECD jurisdictions

	General civil or public servant status		Specific civil or public servant status for higher education		Open-ended contract, with enhanced protection against dismissal compared to standard employment law		Open-ended contract with the institution under general employment law		Fixed-term contract with the possibility of conversion		Fixed-term contract without the prospect of conversion		Other types of contract (such as hourly contracts etc.)	
	Possible	Commonly used for new hires	Possible	Commonly used for new hires	Possible	Commonly used for new hires	Possible	Commonly used for new hires	Possible	Commonly used for new hires	Possible	Commonly used for new hires	Possible	Commonly used for new hires
Austria					✓		✓	✓	✓	✓	✓		✓	
Belgium (Flemish Community)			✓	✓					✓					
Belgium (French Community			✓	✓			✓		✓		✓			
Canada	✓	✓	✓	✓	✓	✓	✓		✓		✓		✓	
Chile	✓		✓				✓		✓		✓		✓	
Czech Republic							✓	✓	✓		✓		✓	
Denmark	✓	✓					✓		✓		✓			
Estonia					✓		✓	✓	✓		✓		✓	
Finland							✓	✓	✓		✓		✓	
France			✓	✓					✓		✓		✓	
Hungary	✓		✓		✓									
Ireland			✓				✓		✓		✓		✓	
Israel					✓	✓					✓		✓	
Italy			✓	✓	✓	✓			✓	✓	✓		✓	
Japan							✓	✓	✓		✓		✓	
Lithuania							✓	✓	✓				✓	
Luxembourg					✓	✓			✓		✓			
Netherlands					✓	✓	✓	✓	✓	✓	✓		✓	
New Zealand							✓	✓			✓		✓	
Norway	✓	✓	✓				✓	✓	✓		✓		✓	
Poland							✓	✓	✓				✓	
Portugal			✓	✓	✓	✓					✓		✓	
Slovak Republic	✓	✓	✓						✓	✓				

	General civil or public servant status		Specific civil or public servant status for higher education		Open-ended contract, with enhanced protection against dismissal compared to standard employment law		Open-ended contract with the institution under general employment law		Fixed-term contract with the possibility of conversion		Fixed-term contract without the prospect of conversion		Other types of contract (such as hourly contracts etc.)	
	Possible	Commonly used for new hires	Possible	Commonly used for new hires	Possible	Commonly used for new hires	Possible	Commonly used for new hires	Possible	Commonly used for new hires	Possible	Commonly used for new hires	Possible	Commonly used for new hires
Slovenia	✓								✓		✓		✓	
Sweden			✓	✓			✓		✓	✓	✓		✓	
Switzerland	✓	✓	✓				✓	✓	✓		✓		✓	
Turkey			✓	✓	✓	✓			✓				✓	
England (United Kingdom)							✓	✓			✓			

Note: The Question in the HEPS was "Which of the following forms of employment contracts are possible for academic and non-academic staff in your jurisdiction and (if more than one employment contract type selected) what is the most frequent contractual status for staff newly appointed to permanent positions?" ✓ ✓ indicates the most frequently used form of contract for staff newly appointed to permanent positions. Chile, Ireland, Hungary and Slovenia did not provide an indication of the most commonly used contract type. Canada submitted a single response on behalf of all its provinces and territories, which apply various differing staffing models. Austria, Italy, the Netherlands, Norway, Portugal, the Slovak Republic, Sweden, Switzerland and Turkey indicated multiple options as the most common (rather than a single "most" common) forms of contract for staff newly appointed to permanent positions. These are interpreted as contract forms that are commonly used. Systems highlighted in blue are those selected for additional comparative research.

Source: Golden and Troy (2021[20]) How are higher education systems resourced? Evidence from an OECD policy survey, https://doi.org/10.1787/0ac1fbad-en.

Part-time and fixed-term employment contracts for academic staff are common, even in OECD jurisdictions with strong collective bargaining traditions

Among the six comparator jurisdiction, the legal basis for the contracts of academic staff in higher education varies. In Ireland and Portugal, academic staff are, as a rule, employed as public servants subject to the specific rules of public employment law, although employment of part-time staff under general employment law is common. At the other end of the spectrum, in Finland and New Zealand, the employment arrangements of academic staff are entirely the responsibility of institutions – working within private employment law. Denmark is an example of a country where employment arrangements are transitioning away from a traditional public service model, but where public employment still plays an important role. In the six systems, the same legal bases for employment apply to both universities and non-university institutions. In the Netherlands, academic staff are employed primarily under the country's relatively protective general employment laws, albeit with enhanced protection for senior tenured staff.

Table 8. Contractual arrangements for academic staff in comparator jurisdictions

	Maximum period in fixed-term positions	Tenure track	Academic positions that are frequently fixed-term	Academic positions that are typically permanent
Denmark	8 years	Exists for assistant professor (Adjunkt) and research positions in universities. Transfer to associate professor / senior researcher after maximum 6 years if performance successful	Assistant professor Research Lecturer / researcher	Associate professor Senior researcher Professor
Finland	Successive fixed-term contracts formally prohibited if their duration indicates a permanent need of labour. (open to interpretation)	Exists for selected "highly promising" candidates in universities. Can involve fixed-term appointment for 3-5 years as assistant professor and 3-5 years as associate professor (University of Helsinki, 2021[22]).	Junior positions in universities: 50% of university employers have fixed-term contracts (Tieteentekijät, 2021[23])	University professor Associate professor Most positions in UAS (1)
Ireland	Since 2016, a two-year qualification period has existed for granting of contracts of indefinite duration (CIDs)	Lecturers/Assistant Professors can apply to be awarded tenure during the final year of their (typically 3-year) induction period. Tenure confers a higher level of employment protection than permanent contracts (2)	Junior academic positions (around 1/3 teaching staff employed on fixed-term basis)	Most senior positions
Netherlands	2 years (universities) National employment law limits fixed-term contracts to 4 years (2 years in certain cases)	Exists in universities as "the formally established procedure towards permanent employment for academic staff" (VSNU, 2020, p. 55[24]). Tenured staff can be made redundant through restructuring or redundancy	Junior academic positions	A majority of academic staff, given employment regulations
New Zealand	No specific rules	Tenure no longer exists in New Zealand higher education (open-ended contracts can be terminated as in the wider economy)	Junior academic positions and many teaching staff	A majority of senior staff
Portugal	4 years for full-time "invited" academic staff (*convidados*) No limit for part-time staff – most invited staff are part-time	Auxiliary Professors (universities) and Adjunct Professors (polytechnics) are employed for a trial period of 5 years, after which, they can accede to tenure (3). *Agregação* (*Habilitation*) is needed to accede to the rank of professor	Teaching Assistants, Auxiliary and Adjunct Professors. "Invited" academic staff (*convidados*) of all ranks - specialists who mostly teach part time	Associate and Full Professor in universities (Co-ordinating Professor and Principal Co-ordinating Professor in polytechnics)

Note: (1) UAS = University of Applied Science. (2) Tenure confers the right to enjoy the full protection of the Universities Act, 1997 in relation to terms and conditions of employment; (3) The English word "tenure" was introduced into national legislation in 2009.
Source: Government of Denmark (2019[25]) Ministerial Order on Job Structure for Academic Staff at Universities; Tieteentekijät (2021[23]) Fixed-term employment; VSNU (2020[24]) Collective Labour Agreement for Dutch Universities; Vereniging Hogescholen (2020[26]) Collective Agreement for the Universities of the Applied Sciences; Government of Portugal (2009[27]) Decree-Law 448/79 Statute of University Staff; Government of Portugal (2009[28]) Decree-Law 207/2009 Statute of Polytechnic Staff.

The growth in employment of academic staff on temporary and fixed-term contracts has been a concern in many OECD jurisdictions, given the potential risks for continuity in the support offered to students and for the principle of academic freedom (ILO, 2016[29]; Rathenau Instituut, 2020[30]; AAUP, 2021[31]). The issue has received considerable attention in the United States, where the increase in the proportion of "contingent" academic staff has been particularly significant over recent decades. On average, 73% of instructional positions in US higher education institutions in 2016 were employed "off the tenure track", with tenured positions accounting for only 20% of faculty positions in two-year institutions (AAUP, 2018[32]). Consolidated international data on the contractual status of academic staff are not collected. National data from 2019 suggest that around a 30% of academic staff (excluding doctoral candidates) are employed on temporary contracts in the Netherlands (Rathenau Instituut, 2020[30]), as are a third of academic staff in the United Kingdom (HESA, 2021[33]) and around 40% of academic staff in Portugal (DGEEC, 2021[34]). Around half of academic staff in universities in Finland have temporary contracts (Tieteentekijät, 2021[23]).

In Germany, where only Full Professors have permanent contracts, 92% of academic staff under the age of 45 (excluding the relatively few professors under this age) are employed on temporary contracts (BMBF, 2021[35]).

As summarised in Table 8, junior academic staff are more likely to be employed on a fixed-term contract than senior academics in the six comparator jurisdictions examined for this brief. In all systems except New Zealand, some form of a "tenure track" system exists (at least in universities) for academic staff with ranks equivalent to assistant professor or lecturer to accede to the rank of associate professor or equivalent. However, indefinite contracts do not generally mirror the concept of tenure as used in the US context, where it implies an almost unbreakable right to employment. The permanency of tenured appointments is strong in Portugal, where national legislation uses the English term "tenure" and academics in both the university and the polytechnic sectors have the right to be reassigned to another institution if their current institution is unable to sustain their employment. In most other systems, academics employed on indefinite contracts can be made redundant if their institutions need to cut back on staff numbers, because of reorganisation or financial pressures, for example.

The increasing use of fixed-term employment contracts has prompted policy change in some countries. In 2016 in Ireland, concern about the potential negative impact of increasing "casualisation" of the academic workforce led the government to commission an independent experts group to examine the issue, which then led to new guidelines to improve the situation of those employed on fixed-term contracts. In the Netherlands, collective agreements include limits on the extension of fixed-term contracts, although the country's generally protective labour legislation limits the temporary contracts to a maximum of four years for all workers.

2.3 Guidelines on staff responsibilities and workload models

Many OECD jurisdictions establish staff responsibilities and workload in system-level rules and guidelines

System-level rules or guidelines – whether in legislation or collective agreements – contain at least some provisions about the duties and workload of academic staff in 18 of the 28 OECD jurisdiction responding to the 2020 HEPS (see Table 9). Legal frameworks governing employment in the public sector, which are reported to affect duties or time allocation of academic staff in six jurisdictions, are most likely to specify maximum working hours and rules relating to overtime. Legal frameworks specific to the higher education sector (which specify duties and time allocation in ten of the jurisdictions) may be more detailed, setting out the broad functions of teaching and research staff and – in some cases – minimum weekly teaching hours, for example. In nine systems, collective agreements further specify the responsibilities and workload models for academic staff in systems where these exist, often complementing basic principles established in law.

Table 9. Regulation of responsibilities and time allocation of academic staff in OECD jurisdictions

	Legal frameworks governing employment in the public sector	Legal frameworks specific to the higher education sector	Collective agreements
Austria		✓	✓
Belgium (French Community)		✓	
Canada			✓
Finland			✓
France		✓	
Hungary	✓		
Ireland			✓
Israel		✓	✓

	Legal frameworks governing employment in the public sector	Legal frameworks specific to the higher education sector	Collective agreements
Italy		✓	
Japan	✓		
Lithuania		✓	
Netherlands	✓		✓
New Zealand			✓
Norway	✓		✓
Portugal		✓	
Slovak Republic		✓	✓
Slovenia	✓	✓	
Switzerland	✓	✓	

Note: Systems highlighted in blue are those selected for additional comparative research.
Source: Golden and Troy (2021[20]) How are higher education systems resourced? Evidence from an OECD policy survey, https://doi.org/10.1787/0ac1fbad-en.

Combining teaching and research is the norm for senior academic staff, but few OECD systems regulate workload models at system-level

With the exception of New Zealand, where collective agreements are concluded in each institution, system-level rules and guidelines in the six comparator OECD higher education systems specify academic positions and career structures. As a rule, permanent academic staff in universities – broadly equivalent to "senior staff" in the Israeli context – are expected to be engaged in both teaching and research, although formal teaching and research tracks for staff below the rank of professor exist in Finnish universities (see Table 10). Universities in other systems also draw on teaching assistants and part-time lecturers, but staff in full-time core academic posts are all expected to be research active.

The situation in non-university institutions varies between the six systems. In all systems, lecturers and senior lecturers in universities of applied science (or equivalent institutions) are primarily engaged in teaching, although they may also have responsibility for some practice-oriented or applied research. A number of systems have sought to develop the role of universities of applied science in research activity. This is notably the case in Portugal, where polytechnic staff have been incentivised and supported to acquire PhDs, and the senior position of "Principal Co-ordinating Professor" (*Professor coordenador principal*) was created to provide a career structure in polytechnics that largely mirrors that in universities. Polytechnics nevertheless retain a clear focus on professionally oriented education, practice-oriented and applied research and engagement with their regional environments (OECD, 2019[36]). The Netherlands has also created the senior position of "lector" (reader) in its universities of applied science, creating leadership roles of applied research activities in these institutions. Similarly, in Ireland, where lecturers in Institutes of Technology have historically focused on teaching, the new policy to create "technological universities" aims to enhance applied research capacity (HEA, 2020[37]).

As also summarised in Table 10, system-level collective agreements or regulations sometimes specify maximum working hours for academic staff, although these generally mirror those in standard employment law. Of the six systems examined in detail, only Portugal and Ireland establish minimum teaching loads in system-level rules or guidelines – and in the case of Ireland, this is only for Institutes of Technology. Collective agreements or regulations in other systems tend to create the expectation that staff will be afforded sufficient time to fulfil all the responsibilities of their role.

Table 10. Responsibilities and time allocation in comparator jurisdictions

	Main source of system-level rules / guidelines on responsibilities	Nature of teaching-only positions	Specific maximum working hours per week or year	Minimum teaching hours
Denmark	Ministerial Order	Universities: teaching assistant, associate professor (teaching), part-time lecturer. Non-university institutions: Teaching is primary function of academic staff	37 hours per week	No regulation of time allocation for specific tasks
Finland	Collective Agreements (for universities and UAS)	Universities: a "teaching track" exists for posts below professor UAS: Lecturers primarily focus on teaching. Professors lead applied research	1612 hours per year (universities) 1600 hours per year (UAS)	No standard rules: workload negotiated for each employee
Ireland	Collective Agreements (for universities and UAS)	Universities: part-time lecturers are teaching only (no specific "teaching track") UAS: Teaching is primary function of academic staff	National maximum (48 hours per week) theoretically applies	No regulation in universities In IoT: minimum teaching load of 16-18 hours per week
Netherlands	Collective Agreements (for universities and UAS)	Universities: part-time lecturers are teaching only (no specific "teaching track") UAS: Teaching is primary role, but "lector" (reader) position created to focus on practice-oriented research	38 hours per week (universities) 36-40 hours per week (UAS)	No regulation of time allocation for specific tasks
New Zealand	No system-level agreements, although high level of *de facto* consistency	Universities: teaching fellow positions are becoming more common. Non-university institutions: Teaching is primary function of academic staff	No specific rules (national labour law applies)	Institution-level collective agreements may specify hours
Portugal	Government Order (Decree-Law - *Decreto-Lei*)	Universities and polytechnics: teaching assistants and many (mostly part-time) "invited" positions are primarily teaching. Polytechnic staff must also engage in (applied) research	National maximum theoretically applies	6-9 hours per week (universities) 6-12 hours per week (polytechnics)

Note: UAS = University of Applied Science; IoT = Institute of Technology;
Source: Government of Denmark (2019[25]) Ministerial Order on Job Structure for Academic Staff at Universities; Sivista - Finnish Education Employers (FEE) (2021[38]) General Collective Agreement for Universities; Sivista - Finnish Education Employers (FEE) (2020[39]) General Collective Agreement for the private teaching sector and regulations specific to educational institutions; VSNU (2020[24]) Collective Labour Agreement for Dutch Universities; Vereniging Hogescholen (2020[26]) Collective Agreement for the Universities of the Applied Sciences; University of Auckland and TEU (2019[40]) Academic Staff Collective Agreement - 1 September 2019 to 31 August 2022; Government of Portugal (2009[27]) Decree-Law 448/79 Statute of University Staff; Government of Portugal (2009[28]) Decree-Law 207/2009 Statute of Polytechnic Staff.

2.4 Remuneration: salaries and benefits

Central salary scales for academic staff exist in many OECD jurisdictions

In a majority of higher education systems in OECD member countries, system-wide pay scales exist that provide a reference framework for establishing the salaries of academic and non-academic staff at different grades. As in Israel, such systems-wide salary scales exist in 17 of the 28 OECD jurisdiction responding to the 2020 HEPS. As shown in Table 11, although some jurisdictions specify salary scales in legislation or government regulation, the most common approach in the higher education systems covered is to establish salary scales in collective agreements. This is the case in 12 of the jurisdictions responding to the HEPS, including Denmark, Finland, Ireland, the Netherlands and New Zealand. Portugal, which has a different legal tradition to the other jurisdictions, specifies in government regulation the starting salary levels for each academic grade as a percentage of the salary for a full professor – itself fixed with reference to the salary of senior judges (Government of Portugal, 2009[27]). The actual values of the salary bands for each grade of academic staff are then specified in separate salary tables, which are updated regularly (SNESUP, 2020[41]).

Table 11. System-level regulation of salary scales for academic staff in OECD jurisdictions

Legal frameworks governing employment in the public sector	Legal frameworks specific to the higher education sector	Collective agreements
• Hungary • Portugal • Slovak Republic • Switzerland • Turkey	• France • Israel (principles established in national guidelines) • Italy • Portugal • Turkey	• Austria • Canada • Denmark • Finland • Ireland • Israel • Italy • Netherlands • New Zealand • Norway • Slovenia • Switzerland

Note: When countries appear in more than one column this means that all indicated frameworks apply.
Source: Golden and Troy (2021[20]) How are higher education systems resourced? Evidence from an OECD policy survey, https://doi.org/10.1787/0ac1fbad-en.

Comparable information on academic salaries is collected only infrequently

Information on the salaries and real earnings of academic staff in higher education is not collected systematically or regularly through international data collections, unlike data on the salaries of schoolteachers (see OECD (2020[14]), Indicator D.3). The OECD conducted an ad hoc survey on academic salaries in 2016 and obtained information from 18 countries on average salaries for full-time academic staff and – for 14 countries – professors for the academic year 2013/14 (OECD, 2016, p. 408[42]; OECD, 2019[43]). At the time, this survey found average gross annual salaries for full-time academic staff, adjusted for purchasing power parity (PPP), ranged from USD 26 726 a year in Slovakia to USD 80 203 in the United States. Average annual salaries for full professors ranged from USD 39 116 in Slovakia to USD 112 697 in the United States.

Table 12. Salaries of academic staff in 2013/14 in OECD member and partner countries

Average actual annual salaries of full-time equivalent (FTE) tertiary academic faculty at public and government-dependent private institutions (2013/14) in equivalent USD converted using PPPs

Country	All FTE academic staff	FTE full professors	Country	All FTE academic staff	FTE full professors
United States	80 203	112 697	Slovenia	51 337	
Italy	80 043	117 718	Finland	47 234	80 012
Australia	74 990		Brazil	41 277	75 837
Chile	74 471		Poland	40 862	61 448
Belgium (French Community)	62 500		Iceland	40 643	53 610
Norway	61 000	73 322	Hungary	30 342	48 600
United Kingdom	60 555	95 463	Czech Republic	27 693	56 961
France	55 283		Slovak Republic	26 726	39 116
Sweden	55 009	81 039			

Source: OECD (2016[42]) Education at a Glance 2016 https://doi.org/10.1787/eag-2016-31-en

Such data on average gross salaries provides a broad indication of salary differences between countries, but must be interpreted with caution. Gross salary data tells us little about the net, take-home salaries of

academic staff, as income tax rates vary considerably between OECD countries, and between individuals in each country, depending on their personal circumstances. Salary data do not always capture all bonus payments and cannot capture benefits in kind (such as housing, health insurance or transport allowances). Moreover, average figures can, as always, mask considerable variation between academics within the same categories. The OECD data collected above, for example, do not provide an indication of the average salaries of junior academics and the values presented for "all academic full-time staff" are likely to be inflated in some countries (notably the United States) by the high salaries of a relatively small proportion of academic staff.

An alternative approach to collecting data on the real earnings of academic staff is to compare salary scales in systems that establish these centrally in a transparent manner.

Table 13, overleaf, presents a summary of the starting and maximum monthly salaries for the three main academic grades for senior academic staff in comparator OECD jurisdictions, converted into US dollars. This information is taken from published national salary scales from 2020 or 2021 and thus provides a more up-to-date indication of salary levels than the real earnings data presented above. A number of caveats must, however, be taken into account in comparing the values across countries:

- Although academic ranks are generally consistent and equivalent across the countries concerned, there are some differences. For example, Israel, has both the rank of senior lecturer and associate professor in universities, although these titles are used to refer to (or translate) equivalent ranks in other jurisdictions. Moreover, the salary scales for these positions overlap to a large extent in Israel. Similarly, the boundary between posts equivalent to teaching assistant or teaching fellow (i.e. junior staff positions in Israel) and lecturer (a senior academic staff position in Israel) may differ between jurisdictions. The proportion of academic staff who attain the rank of professor may also differ between systems.
- Salary scales provide ranges of monthly salaries, but do not indicate the average position of academic staff within these salary bands, nor the flexibility that institutions have – and use – to position newly recruited staff within the salary bands. It is fair to assume that, as a rule, staff who are newly appointed to an academic grade are placed on the starting salary for that grade.
- The base salaries indicated take into account job and person-related salary components in systems like Finland that establish salaries in this way. However, they do not include all additional payments (for taking on additional duties or exceptional performance) that are paid or provided in addition to base salaries. The evidence collected for this brief suggests, however, that additional financial payments – which, as shown in Table 4, are particularly numerus in Israel – are comparatively uncommon and generally modest in the comparator systems shown. The impact of such additional payments on real salary levels in comparator systems is thus likely to be modest.
- For transparency, the salary figures shown are currently presented in US dollars, without adjustment for purchasing power parity. As the cost of living varies considerably between some of the systems shown, such differences should be taken into account when interpreting the salary levels. The OECD estimates that the general cost of living in Israel in 2020, for example, was 30% above the average of OECD countries and the second highest of all OECD countries, after Switzerland (OECD, 2022[44]).

Table 13. Salary scales for senior academic staff in comparator jurisdictions

Official monthly salary scales (minimum and maximum published values) for academic staff in 2020/21, converted to USD

		Assistant professor / lecturer or equivalent		Associate professor / senior lecturer or equivalent		Professor	
		Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
Denmark (1)	Universities	**5023.05**	**6457.72**	**5617.19**	**7051.86**	**8 102.05**	**8 390.98**
		Adjunkt		Lektor		Professor	
	Non-university institutions	**4860.34**	**6295.01**	**5382.59**	**6817.27**		
		Adjunkt		Lektor			
Finland (2)	Universities	**3934.55**	**6452.94**	**5451.54**	**7633.63**	**6 278.07**	**12 313.31**
		Yliopistonlehtori - University Lecturer (no tenure)		Apulaisprofessori - Assistant and Associate Professor (tenure)		Professori	
	Universities of applied science	**3993.28**	**5560.28**	**4448.48**	**6310.05**		
		Lehtor - Lecturer		Yliopettaja – Senior Lecturer			
Netherlands (3)	Universities	**4278.67**	**6654.44**	**5928.00**	**7926.84**	**7 315.77**	**11 543.04**
		Universitair Docent		Universitair Hoofddocent		Hoogleraar	
	Universities of applied science	**3250.10**	**6530.22**	**5816.08**	**7782.46**	**6 105.18**	**9 395.33**
		Docent		Hogeschool Hoofddocent		Lector	
Ireland (4)	Universities *	**3307.23**	**8208.11**	**6553.54**	**9475.19**	**7 955.21**	**14 707.88**
		Lecturer / Assistant Professor		Senior Lecturer / Associate Professor		Professor	
	Institutes of Technology	**3 830.93**	**8 445.78**	**7 457.69**	**10 557.80**		
		Lecturer		Senior Lecturer			
Israel (5)	Universities	**4 294**	**5 268****	**4 692**	**6 674**	**6 029**	**9 434**
		Lecturer		Senior Lecturer / Associate Professor		Full Professor	
	Academic Colleges	**4 294**	**5 268**	**4 692**	**6 674**	**6 029**	**9 434**
		Lecturer		Senior Lecturer / Associate Professor		Full Professor	
Portugal (6)	Universities	**3 656.62**	**4 594.21**	**4 125.42**	**5 344.29**	**5 344.29**	**6 188.12**
		Professor auxiliar		Professor associado		Professor catedrático	
	Polytechnics	**3 469.10**	**4 219.18**	**4 125.42**	**5 344.29**	**5 344.29**	**6 188.12**
		Professor Adjunto		Professor Coordenador		Professor Coordenador Principal	
United Kingdom (7)	Universities	**3 718.38**	**4 991.24**	**4 705.66**	**6 317.84**	**7 321.69**	**12 099.47**
		Lecturer		Senior Lecturer		Professor	

Note: Values converted from national currency using average exchange rate for USD in 2020. * Based on values for University College Dublin; ** Maximum salary for a "Teacher" in the parallel (teaching-only) track.

Source: (1) Djoef (2021[45]) Lønoversigt 2021 (Salary Overview 2021); (2) Sivista - Finnish Education Employers (FEE) (2021[38]) General Collective Agreement for Universities; Sivista - Finnish Education Employers (FEE) (2020[39]) General Collective Agreement for the private teaching sector and regulations specific to educational institutions; (3) VSNU (2020[24]) Collective Labour Agreement for Dutch Universities; VSNU (2021[46]) Function categorisation system for universities, Vereniging Hogescholen (2020[26]) Collective Agreement for the Universities of the Applied Sciences; (4) UCD (2021[47]) UCD Human Resources - Pay Scales; Department of Education and Skills (Ireland) (2020[48]) Public Service Stability Agreement 2013-2020 and the Public Service Pay and Pensions Act 2017-Application of revised rates of salary with effect from 1 October 2020; (5) Ministry of Finance, Israel (data supplied to OECD); (6) SENSUP (2020[41]) Salary scales for 2020; (7) UCU (2021[19]) HE single pay spine.

Taking into account the caveats above, the salary levels across the comparator systems are relatively consistent. In the comparator systems, starting salaries for junior full-time academics (lecturers or assistant professors) are highest in Denmark and in universities in the Netherlands. This may in part reflect the high

cost of living in Denmark and the fact that university academics in the Netherlands typically spend a lengthy period employed as post-doctoral researchers before securing a permanent academic post. The average age of those obtaining a first post as university lecturer (*Universitair Docent*) in the Netherlands is 37 (Rathenau Instituut, 2020[49]). Monthly starting salaries for lecturers in Israeli universities are in line with those in comparator systems at around the same level as in the Netherlands. Unlike in several comparator systems, where starting salaries are lower in non-university institutions, starting salaries for lecturers in academic colleges in Israel are the same as those for lecturers in universities. As a result, newly appointed lecturers in colleges in Israel are likely to have higher nominal salaries than their counterparts in any of the comparator systems considered here. As noted above, Israel's higher cost of living must be taken into account in interpreting this finding.

The maximum salaries for lecturers and the starting salaries for senior lecturers in Ireland are notably higher than in other comparator jurisdictions. At least for Institutes of Technology, this may reflect the limited opportunities for progression beyond the rank of lecturer, although the broad salary scales also create greater scope for institutions to position staff within the salary band to meet labour market rates in fields such as computing or business. The highest salaries within official salary scales for professors are also in Ireland, followed by Finland, the United Kingdom and the Netherlands. In the United Kingdom, universities have considerable flexibility to establish the salaries of top professors, outside the commonly agreed national pay spine. The maximum salaries for professors in Israel indicated in the national pay scales are somewhat lower than those in the first four comparator systems, although higher than in Denmark and Portugal. Moreover, as discussed, Professors in Israel are eligible for a number of bonuses (see Table 2.4), notably related to research activity, which are not typical in any of the other systems examined here. The Israeli Ministry of Finance indicates that the take-home remuneration of senior academic staff in universities in Israel, including academic grants and research increments, can reach 190% of the base salary.

Bonus payments and wage supplements exist, but are typically modest in OECD comparator jurisdictions

Although it is not possible to measure and compare internationally the value of bonus payments and wage supplements that academic staff receive in different OECD jurisdictions, it is possible to get a broad overview of systems in place for salary progression and additional payments in selected countries from collective agreements and government regulations. As summarised in Table 14, whereas some salary systems, such as those in Denmark, Finland and the Netherlands simply set minimum and maximum salary ranges for different academic grades, others, such as Ireland and Portugal establish steps within grades with the principle of automatic progression (typically annually) to the next step in the grade based on seniority.

In all systems, progression to a higher grade requires a formal selection procedure. In principle, progression between steps in the systems that have them is dependent on a positive annual appraisal, but the salary progression based on seniority remains the default option (i.e. only when inadequate performance is identified can progression normally be refused). In contrast, in Denmark, Finland and the Netherlands, progression to a higher salary (beyond annual adjustments applying to all salaries) requires a proactive intervention by the employer – as a consequence of a (particularly) positive annual appraisal, for example.

Table 14. Features of pay systems for academic staff in comparator jurisdictions

	Source for salary scales	Automatic progression through steps in each grade based on seniority?	Additional allowances for extra responsibilities	Specific performance bonuses / salary components
Denmark	System-level collective agreement	No	Yes	Yes
Finland	System-level collective agreements	No	Yes	Yes
Ireland	System-level collective agreements / Government Order	Yes (subject to positive performance assessment)	Yes	No (progression through steps linked to performance)
Netherlands	System-level collective agreements	No	Yes	Additional step increases within a grade a possible for excellent performance
New Zealand	Institutional collective agreements (high level of similarity)	Yes (subject to positive performance assessment)	Yes	Yes
Portugal	Government Order	Yes (subject to positive performance assessment)	Yes	No

Source: Government of Denmark (2019[25]) *Ministerial Order on Job Structure for Academic Staff at Universities*; Sivista - Finnish Education Employers (FEE) (2021[38]) *General Collective Agreement for Universities*; Sivista - Finnish Education Employers (FEE) (2020[39]) *General Collective Agreement for the private teaching sector and regulations specific to educational institutions*; VSNU (2020[24]) *Collective Labour Agreement for Dutch Universities*; Vereniging Hogescholen (2020[26]) *Collective Agreement for the Universities of the Applied Sciences*; University of Auckland and TEU (2019[40]) *Academic Staff Collective Agreement - 1 September 2019 to 31 August 2022*; Government of Portugal (2009[27]) *Decree-Law 448/79 Statute of University Staff*; Government of Portugal (2009[28]) *Decree-Law 207/2009 Statute of Polytechnic Staff*.

All the systems examined in depth appear to provide for some additional salary payments for staff who assume management and administrative roles within their higher education institutions, although these payments typically represent a modest percentage of base salaries. Moreover, in all cases identified, system-wide collective agreements and regulations merely permit such bonus payments or salary adjustments to account for increased responsibilities, leaving considerable autonomy to institutions to implement them (see, for example, Articles 3.12 to 3.14 of the Collective Labour Agreement for Dutch Universities (VSNU, 2020[24])). The Danish and Finnish academic salary models explicitly include mechanisms to provide additional payments for good or outstanding performance. As discussed in the next section, all academic salaries in Finland comprise a performance-related component. In Denmark, the system provides for one-off bonus payments for exceptional performance (Djoef, 2021[45]).

2.5 Performance evaluation and career advancement

System-level frameworks tend to establish broad principles for staff performance evaluation

Among the 28 OECD jurisdictions responding to the 2020 HEPS, 18 have system-level legal or collective bargaining frameworks that provide at least some guidelines on the performance evaluation of academic staff and the possible consequences of positive or negative evaluation outcomes. In other systems – as is also the case in the18 systems that do have provisions in legal frameworks and collective agreements – the organisation of performance evaluation may be influenced by requirements in other system-wide policies, such as external quality accreditation and quality assurance arrangements.

As shown in Table 15, general rules regarding performance evaluation are specified in regulations governing public sector employment in three countries and in specific legislation for the higher education sector in 11 countries, including Austria, the French Community of Belgium, France, Italy, Norway and

Switzerland. Guidelines relating to performance evaluation are established in collective agreements in seven of the 28 systems, including five of the six comparator systems.

Table 15. Frameworks guiding performance evaluation of academic staff in OECD jurisdictions

Jurisdictions where rules or guidelines on performance evaluation are specified in a) legal frameworks governing public sector employment; b) legal frameworks specific to higher education or c) collective agreements.

	Performance evaluation			Merit-based rewards			Sanctions for poor performance		
	Public employment rules	HE-specific legal frameworks	Collective agreement	Public employment rules	HE-specific legal frameworks	Collective agreement	Public employment rules	HE-specific legal frameworks	Collective agreement
Austria		✓							
Belgium (French Community)		✓						✓	
Canada			✓			✓			✓
Chile	✓						✓		
Denmark						✓	✓		
Estonia		✓							
Finland			✓			✓	✓		✓
France		✓							
Hungary	✓			✓					
Ireland			✓						✓
Israel					✓	✓			
Italy		✓			✓			✓	
Lithuania		✓						✓	
Luxembourg		✓							
Netherlands			✓			✓			✓
New Zealand			✓			✓			✓
Norway		✓	✓		✓	✓	✓		
Portugal		✓	✓	✓	✓		✓	✓	
Slovenia	✓	✓		✓		✓	✓		
Switzerland		✓							

Note: HE = Higher Education. Systems highlighted in blue are those selected for additional comparative research.
Source: Golden and Troy (2021[20]) How are higher education systems resourced? Evidence from an OECD policy survey, https://doi.org/10.1787/0ac1fbad-en.

The HEPS also asked about the existence of system-level guidelines on rewards for good or outstanding performance (merit-based rewards) and sanctions in the case of poor performance. As shown in Table 15, system-level guidelines on merit-based rewards in higher education systems are less common than those for performance evaluation more generally. Only six of the 28 jurisdictions, including Israel, including such provisions in general or higher-education-specific legal rules and eight, including Israel, covering these issues in collective agreements. The selected comparator jurisdictions are among the systems that do include at least some provisions on merit-based rewards in their system-level frameworks for human resources. The question of sanctions for poor performance is covered to some extent in system-level frameworks in 13 of the 28 jurisdictions. Here again, Finland, Ireland and New Zealand include references to this topic in their collective agreements.

In general, the provisions on performance evaluation for academic staff and its consequences contained in system-level frameworks formulate general principles, while leaving the detailed implementation of appraisal systems to individual higher education institutions and academic departments. Frequently, regulations and collective agreements refer to a requirement for performance evaluation, its periodicity

(e.g. whether it occurs annually) and specify that a positive performance evaluation is a pre-condition of salary progression (e.g. based on seniority) within a given grade. A limited number of systems include more detailed provisions in their system-level frameworks regarding performance evaluation and links to remuneration. Among these, the collective agreement for Finnish universities is one of the most developed (see Box 3).

Box 3. Performance-related pay in Finland's universities

Salaries for academic staff in Finnish universities comprise a job-related element that reflects the level of the tasks and responsibilities involved and a personal salary element based on personal performance. The **requirement level for each post** is assessed by an internal assessment group composed of human resources staff and staff representatives, based on a taxonomy of job responsibilities and skills requirements for 11 levels that is established in the General Collective Agreement. Separate job requirement taxonomies exist for academics staff in artistic fields and for non-academic university staff (i.e. those in support and professional roles). Salary scales fixed in the General Collective Agreement for Universities specify (in 2021) a base salary for each of the 11 levels (currently from EUR 1 869.13 to EUR 7 108.72 a month).

The **personal salary element** is determined based on performance as a percentage of the basic salary (between 6% and 50%). The minimum and maximum percentages for each of four performance categories (where staff in category I require improvement and those in IV exceed expectations) are established in the General Collective Agreement. The personal salary on appointment to a given academic post is initially fixed by the employer (typically in the category corresponding to successful performance). Staff performance is assessed through a personal staff appraisal, which, since 2019, must occur at least every five years. Employees have the right to request an appraisal every two years or after six months in a new post. Academic staff are appraised in relation to their job requirements and specific objectives, under three main criteria specified in the General Collective Agreement: "pedagogical merit"; "research merit" and "university community and social merit". Teaching-only or research only staff are evaluated according to the relevant criteria.

If the appraisal identifies a decline in personal performance that would lead to a reduction in an academic's performance category and related personal salary element, measures for improvement in work performance must be mutually agreed and a new appraisal must be undertaken with 12 months. If the new appraisal indicates that the previous performance level has not been restored, then the personal salary element is revised to correspond to the new performance category.

Source: Sivista (2021[38]) *Yliopistojen yleinen työehtosopimus (General Collective Agreement for Universities)* https://www.sivista.fi/tyosuhdeasiat/tyoehtosopimukset-ja-palkkataulukot/yliopistot-ja-harjoittelukoulut/yliopistojen-yleinen-tyoehtosopimus/ (accessed on 21 July 2021); Tieteentekijät (2021[50]) *Salaries*, https://tieteentekijat.fi/en/support-of-working-life/salaries/ (accessed on 21 July 2021).

The Finnish example detailed in Box 3 is notable because of the strong integration of remuneration and performance evaluation approaches; the relatively high proportion of the salaries of university academics that is explicitly tied to the outcomes of performance evaluation and the potential for individuals' salaries to go down if evaluations are negative and remedial action is ineffective. As noted, it is also one of the few examples of a consistent, relatively detailed sector-wide approach to linking remuneration and performance.

Other performance-oriented policies for higher education influence the evaluation and career progression of academic staff

The focus in the preceding paragraphs has been on the place of performance evaluation within system-level frameworks that specifically govern the working conditions of academic staff. However, a range of other government or sector policies influence the criteria used by higher education institutions in staff evaluation and the incentives that exist for academics to pursue particular objectives. Among the most important of these are:

- The *external accreditation and quality assurance* systems already noted. The 2020 HEPS found that external quality assurance systems in 13 of the 28 responding OECD jurisdictions, including Italy, the Netherlands, Norway, Portugal and Switzerland incorporate standards and guidelines specifically relating to staff evaluation. This is consistent with the European "Standards and Guidelines for Quality Assurance in the European Higher Education Area", which call for higher education institutions to "assure themselves of the competence of their teachers" and "apply fair and transparent processes for the recruitment and development of the staff" (ESG, 2015, p. 13[51]). In line with this principle, external quality assurance agencies in most European higher education systems would typically seek to verify that effective policies for staff evaluation exist within institutions, rather than prescribing particular approaches to evaluation.
- Various forms of *performance-related funding for higher education institutions*. Governments in many OECD jurisdictions have made a proportion of the public funding provided to higher education institutions dependent on the level of outputs or outcomes achieved by the institutions concerned. For the teaching component of funding, this has most frequently involved incorporating student-related output parameters, such as credit acquisition or graduation rates, into funding formulas, as has occurred in Israel (see Section 0). For core institutional research grants (as opposed to competitive research funding), funding mechanisms have tended to reward research output (numbers of publications) and impact (citations), as well as production of PhD graduates, also in common with the broad approach adopted in Israel. In both cases, there is an underlying (and generally implicit) expectation that the link between performance and funding will incentivise institutional management and staff to strive towards the objectives rewarded by funding criteria (increased graduation rates or research outputs, for example) and reflect these goals in internal staff evaluation and reward systems.
- *Performance agreements* between individual higher education institutions and government, which may or may not be linked to a small proportion of institutional funding. As a complement or alternative to performance-related institutional funding distributed through formulas, governments in many OECD jurisdictions, including Austria, Denmark, Finland, Ireland and the Netherlands, have introduced institution-specific agreements, which set out specific objectives for institutional development and performance. Although the design and contents of such agreements varies, they typically include specific objectives relating to the student experience (as in the current system of agreements in the Netherlands) and measurable targets to be achieved over the lifetime of the agreement (typically between three and five years). Here too, available evidence on the implementation and effects of performance agreements suggests institutional objectives are translated into departmental objectives, which may, in turn, influence staff behaviour (de Boer et al., 2015[52]). The quality of evidence on these micro effects of such agreements is, however, limited.
- *Institutional performance information* published to provide transparency and quality guarantees. Whereas traditional models of accreditation and quality assurance have tended to focus on institutional review by external expert commissions, some OECD jurisdictions have shifted their quality assurance approaches partially or entirely to indicator-based systems, designed to provide information for students and wider society on the performance of individual institutions. This is notably the case in England (United Kingdom), where the Office for Students oversees a Teaching Excellence Framework (TEF), which produces ratings of teaching standards for each institution,

based on a combination of indicators and student feedback data (Office for Students, 2020[53]). The objective here is also to incentivise change in institutional, departmental and staff behaviours, although the precise impact achieved in reality is hard to quantify (TEF Independent Review, 2019[54]).

Evidence on the precise effects of these four types of policy instrument on staff evaluation practice in higher education institutions and the behaviours of academic staff members is understandably limited, given the challenges of measuring the impacts in question. Accreditation and quality assurance practices are widely considered to have been effective in eliminating very poor higher education provision in systems where these existed (OECD, 2018[55]). However, evidence on the impact of these systems on promoting quality enhancement in systems and institutions that might be considered of reasonable quality is more limited (OECD, 2018[55]). Equally, evidence on the effects of performance-related funding on the outputs and outcomes targeted by performance parameters is mixed, with several studies, particularly from the United States, pointing to the risk of such systems creating perverse incentives, such as excluding students of disadvantaged backgrounds (Ortagus et al., 2020[56]). The precise effects of institutional performance agreements are also challenging to measure. However, the balance of evidence from the European systems that have implemented them is that they provide an effective steering tool and a framework for broader discussions about quality and performance, involving government, institutions and staff (de Boer et al., 2015[52]; O Shea and O Hara, 2020[57]; Reviewcommissie Hoger Onderwijs en Onderzoek, 2017[58]).

2.6 External activities and employment

In most OECD jurisdictions, academics' rights to engage in external activities are governed by institutional policies and regulations

As noted in Table 4, senior academic staff in Israel receive payments in addition to their basic salary four times a year if their earnings from activities outside their main academic job do not exceed specified thresholds. One of the objectives of this system of bonus payments was to encourage academic staff to dedicate themselves to their core academic roles and responsibilities (Planning and Budgeting Committee, 2016[13]). This form of system-wide regulation of external activities appears to be comparatively rare in OECD jurisdictions.

In systems where a proportion of academic staff have the formal status of public servants, general public sector rules regarding engagement in external activities may also apply to academic staff. Such rules typically require staff to seek prior approval to engage in external remunerated activities. More generally, however, academics' rights to engage in external remunerated activities and related procedures are regulated by individual higher education institutions, much as they would be for employees in other types of organisation. Although there is no consolidated information on such procedures at institutional level, academic staff generally have some flexibility to be employed in roles alongside their academic position if this is accepted to complement, rather than compete with, their role as an academic. University academics may have part-time employment with a research institute or professors of medicine may hold a clinical position in a hospital, for example. Academics may also have flexibility to derive additional income from consultancy or commissioned research in their area of expertise and, to some extent, this can be seen as helping to fulfil the mission of academia. However, academics must typically seek approval to engage in such activities from university authorities, if income exceeds a certain threshold.

In the selected comparator jurisdictions, full-time academic staff are not generally able to accumulate jobs in multiple institutions, although there are examples of formalised co-operation arrangements between higher education institutions and related research institutes that allow for double affiliation. In the Netherlands, for example, many senior academics (lectors) in universities of applied sciences are employed jointly in the University of Applied Science and a research university. Multiple appointments are also frequent in university hospitals, and between universities and specialised government research

institutes. Academics in the Netherlands more generally are obliged to seek approval from their employing institutions to hold multiple jobs. Among the six comparator jurisdictions, Portugal is the only system where there is a focus on full-time dedication to the main employing institution. However, the Portuguese policy of rewarding academics that demonstrate "exclusive dedication" to a single higher education institution was developed as part of a concerted policy effort to reduce the number of lecturers employed in multiple institutions. This contrasts with the situation in Israel, where bonus payments for academics whose earnings outside their home institution remain below a specified level were introduced primarily to maintain and increase the attractiveness of employment in the higher education sector.

Box 4. "Exclusive dedication" in Portuguese higher education

Historically in Portugal, a large number of academic staff worked in more than one higher education institution, particularly by combining a nominally full-time post in a public institution with a part-time position in a private institution (OECD, 2019[36]). A new system of programme accreditation introduced in the first part of the 2000s included stricter rules on the numbers and profiles of academic staff delivering specific educational programmes and curtailed the tendency for academics to accumulate positions. Despite this change in the broader environment, which was also accompanied by a substantial increase in investment in higher education and academic research, the regulatory regime for higher education staff maintains a distinction between academic staff who work exclusively for their institution (*dedicação exclusiva* or "exclusive dedication") and those who also take on other work alongside their academic position.

Academics employed under the regime of "exclusive dedication" receive the full salary specified in the relevant salary scales (see Table 13), while those who take on additional work (under what is counter-intuitively called the "full-time" regime) receive two-thirds of this salary. The "exclusive dedication" regime requires academics to give up external, remunerated professional activities, including professional practice (as a lawyer or doctor outside a university hospital, for example). However, the system allows a number of exceptions, including delivery of short courses and lectures and activities in institutions and research centres formally affiliated with the employing institution. It is notably the case in Portugal that many academic staff are affiliated to both a university and a specialised research centre affiliated to, but legally separate from, the university. Nevertheless, this latter arrangement has minimal implications for salary levels, as both organisations form part of the higher education system and are regulated by the same legal framework.

Source: Government of Portugal (2009[27]) *Decreto-Lei nº 448/79 Estatuto da Carreira Docente Universitária (Decree-Law 448/79 Statute of University Staff)*, https://dre.pt/legislacao-consolidada/-/lc/72930784/201906200128/diploma?rp=indice (accessed on 22 July 2021).

2.7 Retirement

Academics generally retire at the national retirement age, but higher maximum retirement ages exist in some systems

Specific provisions establishing retirement ages for academic staff exist in system-level frameworks in 15 of the 28 OECD jurisdictions responding to the 2020 HEPS. In most of these cases, these provisions stem from legal frameworks governing employment in the public sector and academic staff are generally expected to follow the retirement rules applying to public servants more generally. In Finland, Israel, the Netherlands and Switzerland, the retirement age for academic staff is specified in system-level collective agreements, although the ages established do not differ from those applied more generally in the economies concerned. In general, OECD member countries have tended to increase national retirement

ages in recent years, in an effort to reduce the dependency ratio in their economies as the population ages. Among the six comparator jurisdictions examined in more depth for this policy brief, the retirement age has recently been raised – or is in the process of being raised – to 67 in both the Netherlands and Portugal, for example. In both countries this is now (or will be) the standard retirement age for academic staff (see Table 16).

While the standard retirement age fixes the age at which academics may retire with a full pension, it does not necessarily represent the age at which they must retire. In both Ireland and Portugal, academics are required to retire at the age of 70, although in both cases, the status of emeritus professor or equivalent exists for the most senior staff. In many national public services, the standard retirement age is also a compulsory retirement age, although it appears that more flexibility is typically exercised in higher education institutions.

Table 16. Retirement ages for academic staff in comparator jurisdictions

	Standard retirement age	Compulsory retirement age
Denmark	66	None: standard retirement age is norm
Finland	65	None: standard retirement age is norm
Ireland	66	70
Netherlands	67*	None: standard retirement age is norm
New Zealand	No national retirement age (may be established in institutional collective agreements)	None
Portugal	66 and 5 months **	70

Note: * The national retirement age in the Netherlands was raised from 66 to 67 in 2021; ** In Portugal, the national retirement age is being progressively raised to 67 by 2029.

2.7 Attracting academics back to their home country

The issue of "brain circulation" is addressed in policy in some OECD jurisdictions, although specific programmes to attract foreign and émigré academics are rare

Emigration among the highly education population has been a concern in Israel for several decades. A recent analysis showed that 11% of those who acquired a PhD and 9% of those who graduated from Israel's eight research universities between 1980 and 2010 had been living abroad for at least three years in 2017 (Ben-David, 2019, p. 9[59]). The growing trend of highly skilled Israeli graduates to emigrate has developed alongside a long-standing tradition for Israeli academic staff to spend time on sabbatical in overseas universities – primarily in the United States. Between 2015 and 2017, there were nearly 1 700 temporary scholars from Israel in US universities, while there were only around 5 600 individuals employed as senior staff in the eight research universities in Israel in the same period (Ben-David, 2019, p. 14[59]). The number of Israelis in tenured and tenure track academic positions in the top 40 academic departments in US universities is significant. In 2019, there were 63 Israeli academics in top US computer science departments and 101 in business departments, equivalent to respectively 21% and 43% of all senior faculty in these fields in Israeli universities in the same year (Ben-David, 2019, p. 18[59]).

Although the connections established with top US universities are widely viewed as positive for the quality of research in Israel, the pattern of exchange has historically been one-sided, with limited mobility of US academics to Israel. The Israeli authorities have attempted to attract émigré academics back to Israel through such initiatives of the Israeli Centers of Research Excellence (I-CORE) programme and the, since discontinued, Israel Brain Gain Programme (Ben-David, 2019[59]). Moreover, the "absorption basket" for newly recruited senior faculty (see Table 4) was introduced by Planning and Budgeting Committee (PBC) guidelines to allow universities to attract talented academic staff from abroad.

In the comparator jurisdictions examined for this policy brief, there are few examples of system-wide efforts specifically to attract émigré or international academics to the countries concerned. Among the six comparator jurisdictions, both Ireland and Portugal have historically experienced a high level of emigration. In Portugal, a large proportion of academics historically acquired their PhDs abroad, often in the United States or the United Kingdom, while the historically comparatively low salaries in Portuguese higher education incentivised many Portuguese doctoral holders to work abroad (OECD, 2019[36]). In recent years, increased investment in research and higher education in Portugal, as well as a significant increase in domestic doctoral training capacity have altered the picture, although, anecdotally, outward mobility of researchers remains high. Efforts to attract Portuguese researchers back to Portugal, and international researchers to the country, are primarily driven by individual higher education institutions, exploiting national and European research and investment funding. The rigid salary structures in place (see above) mean that Portuguese institutions have difficulty competing on remuneration, although are able to emphasise the relatively high quality of life in Portugal (OECD, 2019[36]).

In Denmark, Finland, Ireland and the Netherlands, as in Portugal and Israel, higher education institutions establish staff salaries with reference to national, uniform pay scales, which also limits their scope to compete internationally – notably with the United States – purely in terms of remuneration. In the comparator systems examined, universities and non-university institutions have flexibility to offer newly recruited staff – including international staff – salaries at different points within the range allowed by national pay scales for appointments at a given rank. This allows some differentiation between fields of study, allowing institutions to attract staff in fields with high-demand, high-salary fields such as computing, finance and engineering. Nevertheless, salary differentiation remains within strict limits. The challenges faced in Israel of attracting domestic and international staff in particular high-demand fields are widely shared in OECD higher education systems.

That is not to say institutions have no flexibility in setting salaries for international staff. In Ireland, for example, universities, but not Institutes of Technology, can offer higher salaries and pay relocation costs to recruit researchers with international experience. Moreover, as all four countries are relatively high-wage economies, in many cases with strong research infrastructure and reputations in research production, they are able to attract talented international researchers (KNAW, 2018[60]). Among the comparator jurisdictions, the Netherlands stands out as having the longest tradition of policy initiatives to attract and retain promising young academics (see Box 5).

Box 5. Policies to promote "brain circulation" in the Netherlands

The proportion of academic staff from abroad in the Netherlands has been increasing steadily at all levels over the last two decades. In 2019, a fifth of professors, nearly 30% of associate professors and 40% of assistant professors (lecturers) held non-Dutch nationality (Rathenau Instituut, 2020[49]). Recent data suggest that the highest numbers of international researchers in the Netherlands come from Germany, Italy and China. Conversely, the United States, United Kingdom and Germany are the primary destinations for Dutch researchers and academics moving abroad (KNAW, 2018[60]). Attracting talented international researchers has been a key priority in the strategies for the higher education sector pursed by the Dutch government, university associations and research funding agencies (Vereniging Hogescholen / VSNU, 2018[61]).

A recent report by the Royal Netherlands Academy of Arts and Sciences (KNAW) took an in-depth look at the international attractiveness of the country's science system. It noted the quality of research infrastructure and general quality of life as key strengths of the Dutch system, but raised concerns about the ability of long-term funding for curiosity-driven research (KNAW, 2018[60]). The KNAW review recommended building on an existing initiative and creating a new one to further enhance the attractiveness of Dutch higher education and research for international researchers:

- The Dutch Research Council's (NWO) **Talent Programme** was originally established in 2000, and offers individual research grants to talented researchers, irrespective of nationality. Three categories of grant exist: *Veni* (for researchers who have recently obtained a PhD), *Vidi* (for experienced researchers who have already conducted several years of research after gaining their PhD) and *Vici* (for senior researchers who have already demonstrated the ability to develop their own line of research). The scheme is widely viewed as having been a successful mechanism for promoting brain circulation, with more than 90% of laureates remaining after their grant ends.
- The review recommended creating a **common platform**, through which Dutch universities could steer the international positioning of Dutch universities as a group and their co-operation to recruit and guide foreign talent. The review proposed that the platform could use international branding to attract research talent, create networks for new researchers to integrate them into the professional research community in the Netherlands, support researchers' partners to find jobs and promote inclusive recruitment of researchers, to raise the proportion of researchers with minority backgrounds.

Source: Rathenau Instituut (2020[49]) *Academische carrière van wetenschappers (The academic career of scientists)* https://www.rathenau.nl/nl/wetenschap-cijfers/wetenschappers/personeel-aan-de-universiteiten-en-umcs/academische-carriere-van (accessed on 23 July 2021); KNAW (2018[60]) *De aantrekkelijkheid van Nederland als onderzoeksland (The attractiveness of the Netherlands as a country for research)* https://www.knaw.nl/shared/resources/actueel/publicaties/pdf/20180129-advies-de-aantrekkelijkheid-van-nederland-als-onderzoeksland (accessed on 23 July 2021).

3. Conclusions and key policy issues

Based on the overview of the Israeli context in Section 1 and the international comparisons in Section 3, and drawing on insights from targeted interviews conducted for the preparation of this brief, this section summarises conclusions from the analysis and outlines key policy issues for Israel's human resources policies in higher education.

3.1 Main conclusions

The analysis in the preceding sections makes it possible to draw some broad conclusions in relation to human resources and human resources policy in Israel's public higher education system:

1. The **institutional landscape** in which academic staff in Israel work is broadly similar to those in comparable OECD jurisdictions. Like Israel, higher education system such as Denmark, Finland, Ireland, the Netherlands and Portugal have binary higher education systems with a strong role for non-university institutions. Somewhat in contrast to Israel, however, several comparator systems have made considerable efforts in recent years to define and update the distinct missions and profiles of non-university institutions, with implications for academic staffing. In the Netherlands, Portugal and, most recently, Ireland, an increased focus on applied research and innovation in non-university institutions has led to the creation of additional research roles, changes to workload models for academic staff more generally and an increase in academic staff trained to PhD level.
2. Publicly funded higher education institutions in Israel have a **low degree of autonomy over human resources issues** in comparison to their counterparts in many other OECD member countries. This situation reflects the broad tradition of centralised human resources in the public sector in Israel (OECD, 2021[1]) and the historical development of national frameworks for academic pay in Israel, which have been adapted and expanded repeatedly over the last three decades, including in the wake of prolonged periods of industrial action. System-level frameworks such as higher education acts and regulations and national collective agreements are commonplace in OECD jurisdictions, including the comparator systems considered in this brief. However, these frameworks tend to be **less complex and less prescriptive** in other OECD systems compared to the frameworks in place in Israel, leaving higher education institutions more flexibility in implementation. Moreover, higher education institutions in comparator OECD systems, through their national associations, typically play a **more active role in negotiating collective national agreements** with staff unions than is the case in Israel. In this respect, the strong role of the Ministry of Finance in collective bargaining arrangements stands out as a distinctive feature of the Israeli system.
3. In broad terms, academic **job profiles and career structures** in Israel mirror the dominant patterns in other OECD countries, including the comparator jurisdictions examined for this brief. However, academic ranks and career models in the academic colleges in Israel are derived – at least for senior academic staff – from those in the research universities and do not generally reflect the distinctive mission of academic colleges and specific nature of the work of their academic staff. Career progression in colleges – in particular to the rank of professor – is currently conditioned on staff performance in academic research. However, there is scope to create more clearly distinct career models in colleges that are **more closely aligned with the real mission of these institutions** and reward staff more effectively for their contributions to this mission. It is notable that, unlike most comparator systems analysed for this brief, Israel lacks system-wide guidelines on performance evaluation for academic staff.
4. As in many OECD member countries, the **proportion of teaching staff on part-time and fixed-term contracts** has increased steadily over the last two decades, exacerbating a pre-existing two-tier system of academic employment. There is nothing inherently wrong with a proportion of

academic staff working part-time or on fixed-term contracts. Institutions need a degree of flexibility in their staffing and cost management and part-time and temporary contracts are widespread in higher education throughout the OECD, including in highly regulated labour market environments such as the Netherlands or Finland. Nevertheless, evidence suggests that a high proportion of contingent staff impacts negatively on the student experience and can have negative impacts on progression and completion (Baldwin and Wawrzynski, 2011[62]; Jaeger and Eagan, 2011[63]; Ehrenberg and Zhang, 2005[64]). Moreover, the existence of a strong distinction between junior and senior staff and the existence of large body of staff with limited career progression options is likely to have the same negative consequences for staff cohesion and human resources management within higher education institutions, as it does in other parts of the public service (OECD, 2021[1]). There is thus scope in Israel – as in many other OECD systems – to review whether the current ratio between senior and junior staff is appropriate for the long-term development of the higher education system and to ensure career development opportunities are available for junior staff.

5. While certainly not at US levels, **average academic salaries** in Israel generally compare favourably with those in European comparator jurisdictions. Like Israel, leading comparator higher education systems use system-level salary scales established and differentiated by academic rank, but consistent across disciplines. In Israel, as in other systems, such standardised salary grading systems can create challenges for institutions seeking to recruit staff in high-wage fields, where they may not always be able to offer market rates. Although it is impossible to measure easily or assess in detail, it appears that higher education institutions in at least some of the comparator jurisdictions using standard salary scales have **more flexibility** than those in Israel to place new staff within these scales and offer differentiated market salaries. However, the research for this brief has not found an equivalent of the Israeli system of **personal contracts**, which, even though rarely used in practice, theoretically allow institutions to appoint a limited proportion of senior staff outside the standard salary scales.
6. **Student-to-staff ratios** must be compared between higher education systems with caution for the reasons discussed in this brief. Nevertheless, despite the comparatively low level of funding received by public higher education institutions in Israel (see Figure 6), the number of students to each academic staff member does not appear to be particularly high in comparison to other OECD jurisdictions, including the six comparator systems analysed for this brief. Given the time commitments of many senior staff in universities to research, care must be taken in using student-to-staff ratios as indicators in policy, taking into account actual teaching and supervision time.
7. Israel's **complex system of bonuses and allowances** for senior staff is not consistent with international practice in leading higher education systems and, as with bonus systems in other parts of the public sector, detracts from the transparency of the compensation system (OECD, 2021[1]). Additional payments for research grant recipients exist in the United States, but are not universal. In European comparator systems, the capacity of staff to attract external research funding is frequently a **feature of evaluation systems** and a factor in performance-related pay and career advancement, but principal investigators do not receive salary bonuses as a result of winning grants. Research Councils in Europe do not pay salary supplements to salaried academic and researchers, although they do frequently fund research posts as part of project grants. No other comparator system identified allows academic staff to accumulate allowances as occurs with the International Science Relations Fund payments in Israel.
8. As discussed, Israel has a comparatively strongly developed system of performance-related bonuses for academic researchers who attract external research funding. However, there is no more general **system of performance-related pay** related to the outcomes of staff appraisal. The academic grant based on criteria, which is sometimes portrayed as a form of performance-related remuneration, was in reality introduced following a prolonged period of industrial action to provide academics with additional income and is received by nearly all academic staff. Performance-related pay is not universally deployed in European higher education systems. However, among the

comparator jurisdictions analysed for this brief, both **Denmark and Finland offer interesting models** of performance-related pay in public, relatively closely regulated higher education systems.

3.2 Policy issues and options

In light of the main conclusions above, in order to enhance its national policy frameworks for human resources in higher education, Israel would be well-advised to take steps to address the following policy issues:

1. Establishing clear institutional profiles and career models to support these

Following the rapid expansion of the college sector in recent decades, it is an appropriate moment for Israel's higher education community to take stock of the institutional landscape that has developed and the particular missions and profiles of different higher education institutions. As part of this, it will be important to reflect on the specific missions of academic colleges, as institutions with particularly close connections to professional communities and a particularly strong potential to support skills development and innovation in their regional economies. It may be appropriate to develop a national strategy for the institutional landscape in higher education, based on wide-ranging debate and consultation and leaving space for institutions to develop and publish their own mission statements. The Council for Higher Education would be best placed to co-ordinate the development of such a strategy, in close collaboration with higher education institutions and other relevant stakeholders. In developing this national vision, it would be instructive for Israel to take into account the experience of comparator OECD systems, such as those in Finland, the Netherlands and Ireland.

The distinct missions of colleges and universities identified in the national strategy should be reflected in the academic career models that exist for the two sectors. In particular, it will be necessary to reflect on how to create distinctive career paths in the college sector that permit academic staff to progress based on their performance and activities in areas such as professionally oriented teaching, practice-oriented research and engagement and innovation activities undertaken with the business and public sectors. It will be important to move away from a system in which staff in colleges are judged by the criteria applied to university staff engaged in basic research. It may be appropriate to create an alternative to the post of professor in colleges, drawing on the lessons from the creation of the posts of "Principal Co-ordinating Professor" in polytechnics in Portugal or "lector" in universities of applied science in the Netherlands. Core principles related to the career and workload models for academic staff could be enshrined in future iterations of the collective agreements for the higher education sector.

2. Creating integrated careers systems in universities and colleges

Leading comparator jurisdictions in the OECD have distinct career models within universities and universities of applied science, which do not make an explicit distinction between junior and senior staff. Positioning all staff in a given type of institution in an integrated career structure would be a first step to addressing the two-tier system of academic staffing that currently exists. There will always be a place for part-time and temporary academic staff and it is neither realistic, nor desirable to assume junior staff can systematically be offered permanent academic positions. Nevertheless, there is scope to align some conditions more systematically between junior and senior staff and to ensure junior staff with relevant experience are encouraged and supported to apply for senior staff positions. The current teaching track could be maintained and expanded to offer permanent positions to a higher proportion of staff that are currently in junior positions.

There is also scope to consolidate all relevant provisions on human resources policy for each sector into a single document – potentially a guidebook summarising the agreement and relevant regulations. This is

particularly important for the university sector, where current system-wide rules are dispersed in different agreements and regulations.

It is recognised that pursuing this policy option may require a reconfiguration of staff unions and negotiating arrangements in collective bargaining.

3. Taking steps towards greater autonomy for higher education institutions in staffing matters

Centralised human resources and remuneration policies create common standards and can be fair and transparent. They also allow central authorities to maintain control over wage budgets. However, overly rigid centralised frameworks can negatively affect institutions' ability to respond effectively to their specific contexts and requirements. The low level of autonomy over staffing matters currently afforded to higher education institutions in Israel is anachronistic compared to leading OECD higher education systems with equally strong traditions of public funding and centralised collective bargaining. Israel should consider ways in which centralised regulation of human resources policies can be simplified and streamlined, and institutions given greater autonomy over certain additional aspects of human resources management. The Netherlands and Northern European systems could act as models in this respect.

4. Allowing greater flexibility for institutions, while preserving a common model

Related to the previous point, there is a particular need to provide higher education institutions with greater flexibility in establishing salaries for staff within existing pay scales and, within clear limits, to offer higher salaries to staff in shortage areas, such as computing. In identifying opportunities for greater flexibility, it will be important to keep in mind the benefits of a common wage model in higher education in a small system such as Israel. A highly competitive salary model in higher education – as exists in the United States – would inevitably create winners and losers among Israel's public universities and colleges and undermine the cohesion of the system. Many successful higher education systems operate with common salary scales, but nevertheless allow some flexibility in salary setting and manage to attract and retain staff by emphasising non-financial benefits such as general working conditions and the potential to contribute to the good of society. Measures to create such additional flexibility could be incorporated in future iterations of the collective agreements in the higher education sector.

5. Rationalising the existing patchwork of bonus payments and allowances

In line with the recommendations of the OECD report on the public sector pay system in Israel (OECD, 2021[1]), Israel should seek to rationalise the current system of additional payments and allowances for academic staff. While the system of research increments, is inconsistent with practice in most OECD countries, it appears to be deeply embedded in Israeli academic culture and other allowances should be reviewed as a matter of some urgency to improve the transparency of the system and reduce wasteful administrative burden. In particular, the existing academic grants paid to academic staff could be integrated into the mainstream salary system. Moreover, the current system of International Science Relations Fund annual allowances (see Table 4), which allows academic staff to accumulate allowances for attending international conferences over their academic career and retain the balance on retirement, requires reform. Moving to a system where unused funds were returned to a central fund would be a first step in introducing a more rational system.

6. Working towards common standards for performance-related pay

As noted in this brief, few OECD higher education systems have implemented far-reaching system-wide mechanisms for performance-related pay. However, this is something that could be explored in Israel in the medium term. The existing system of academic grant based on criteria could, in future, be replaced by

a true system of performance-related pay. In this area, Israel could usefully learn from the experiences of Denmark and Finland, which have among the most developed systems of performance-linked remuneration among comparator jurisdictions.

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Research questions

The terms of reference for this thematic policy brief established the following nine questions.

1. What are the main patterns in the employment status (permanent, temporary, full-time, part-time) of academic staff in public higher education institutions in selected other OECD jurisdictions? Does the concept of "tenure" exist in public higher education institutions in other OECD jurisdictions and, if so, with what implications for the employment status and conditions of the staff concerned?
2. To what extent are the responsibilities and time allocation of different categories of permanent academic staff in public higher education institutions regulated by external bodies in other OECD jurisdictions? For selected countries, where such external regulation does exist, what are the main features of the provisions in place and do they differ between a) categories of academic staff and b) universities and institutions equivalent to Israel's academic colleges? Do "teaching-only" academic staff positions exist in other OECD jurisdictions?
3. Do centralised pay scales for academic staff in public higher education institutions exist in other OECD jurisdictions and how are these established? In which OECD systems are pay scales established through collective bargaining? To what extent are trends in remuneration in different sectors in the wider labour market taken into account in setting pay scales? Are pay scales differentiated for different academic disciplines, different categories of academic staff and for staff in universities and institutions equivalent to Israel's academic colleges?
4. How are starting salaries for academic staff in public higher education institutions in other OECD jurisdictions established when they join public higher education institutions (on entering the academic profession or when moving between more senior posts)? How much freedom do institutions have to diverge from such pay scales? Are there distinctions between categories of academic staff, academic disciplines and between universities and institutions equivalent to Israel's academic colleges? Are academic staff (or categories thereof) in public higher education institutions in other OECD jurisdictions routinely offered significant financial or non-financial benefits in addition to their salaries (such as personalised funds for research, travel etc.)?
5. To what extent and how do external bodies regulate or steer institutional polices and practice on evaluation and appraisal of academic staff in public higher education institutions? Where such external regulation or steering does exist what are the specified implications of different appraisal outcomes (e.g. promotion, performance-related pay increases, dismissal, etc.)? To what extent is there a link between evaluation and appraisal policies and system-wide objectives set by government or agreed within the academic sector (e.g. enhancing quality, labour market relevance, efficiency, etc.)? Are there distinctions between categories of academic staff and between universities and institutions equivalent to Israel's academic colleges?
6. To what extent have higher education systems in other OECD jurisdictions developed policies to regulate the possibility for academic staff to engage in professional activities in higher education institutions other than the institution where they hold their primary appointment, or in organisations other than higher education institutions?
7. To what extent and how have higher education systems in other OECD jurisdictions developed policies to regulate - or create incentives related to - the retirement age of academic staff in public higher education institutions, including in relation to early retirement? Where they do exist, how much flexibility do higher education institutions have in implementing such policies?
8. What policies beyond staff compensation do governments use to encourage émigré academics to return to work in their home country?

Resourcing Higher Education Project

This thematic policy brief has been prepared as part of the OECD Resourcing Higher Education Project (RHEP). The RHEP aims to develop the shared knowledge base available to OECD member and partner countries on effective policies for higher education resourcing. It does so by exploring how OECD jurisdictions organise the funding of higher education institutions, provide financial support to students and regulate the employment of academic staff, taking into account evidence on the effects of different policy approaches. The findings of the project are shared in publications, including thematic policy briefs and country review reports, and through peer learning events organised to share practice and experiences.

For more information

Contact: Simon Roy, Lead Analyst, simon.roy@oecd.org

This Education Policy Perspective has been authorised by Andreas Schleicher, Director of the Directorate for Education and Skills, OECD.