



The future of Finland's funding model for higher education institutions



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About this thematic policy brief

The 13 public universities and 22 universities of applied sciences (UAS) steered by Finland’s Ministry of Education and Culture offer Finnish and international students a diverse range of high-quality educational opportunities and enjoy a strong reputation internationally. The latest *Universitas 21* report on national higher education systems ranked Finland eighth in the world, on a par with Australia and the Netherlands (Williams and Leahy, 2020^[1]). Nevertheless, as discussed in the recent OECD thematic policy brief on “Expanding and steering capacity in Finnish higher education” (OECD, 2022^[2]), Finland’s higher education system faces key challenges, some of which are particular to Finland and others of which are common to all advanced OECD higher education systems.

- In contrast to virtually all other OECD member countries, Finland has seen its tertiary education attainment rates stagnate for the last two decades. Tertiary attainment among 25-34-year-olds increased from 39% in 2000 (when Finland had the fifth-highest attainment levels in the OECD) to 40% in 2021, while the OECD average increased by 21 points from 28% to 48% in the same period (OECD, 2022^[3]). Among European OECD member countries, only the Czech Republic, Germany, Hungary and Italy had lower rates of tertiary attainment in this age group in 2021.
- In the period since the 2008 financial crisis, funding for Finland’s overwhelmingly publicly financed system of higher education has fallen in real terms, in total and per student. Between 2012 and 2019 – the period for which international data are available – inflation-adjusted spending per full-time-equivalent student declined by almost 14%, compared to an average real-terms increase of 13% in OECD countries (OECD, 2022, p. 252^[3]).
- In parallel, the demands on higher education to deliver skills, expertise and innovative ideas to support Finland’s knowledge-intensive economy have only increased. As in other OECD countries, higher education providers are increasingly called upon to support the upskilling and reskilling of a larger share of the adult population, as well as contribute to regional innovation and growth (Government of Finland, 2019^[4]).

Acknowledging that “parts of the Finnish knowledge and skills base are crumbling”, the Finnish government’s strategy for higher education, *Vision 2030*, established ambitious goals for tertiary education attainment (for 50% of young people to hold a tertiary qualification by 2030), increases in uptake of continuous learning and investment in research and innovation (Government of Finland, 2019^[4]). Notwithstanding a change of government at the end of 2019, the multi-annual budget projections, system goals, funding allocation model and institutional performance agreements adopted for the period 2021-2024 seek to support progress towards the goals of *Vision 2030*, which continued to guide policy-making at the time of writing (before the new government took office on 20 June 2023).

To support reflection on possible adjustments to the funding model for Finnish higher education for the next funding period (2025-28), the Finnish authorities asked the OECD to compare Finland’s model of funding higher education institutions (HEIs) with models in OECD systems sharing similar characteristics to Finland’s; identify whether and how models in comparator systems aim to contribute to policy objectives similar to those established in Finland and; whether the approaches adopted in comparator systems hold lessons for future policy development in Finland.

With financial support from the European Union and Finland, the brief was prepared in the OECD Secretariat by Simon Roy. Particular thanks go to Maarit Palonen, Tomi Halonen and Jorma Karhu from Finland’s Ministry of Education and Culture for their input to the brief and feedback on draft versions of the text.

1 The context for Finland’s higher education resourcing model

A strong political commitment to widening access to advanced skills

The Finnish Government programme from December 2019 maintained many of the key priorities of the Vision 2030 strategy, stressing the contribution of higher education institutions to skills and innovation (Government of Finland, 2019^[5]). In this context, the government’s programme identified several priorities relating to the overall capacity and shape of the higher education landscape in Finland, including:

- Ensuring the number of available study places at universities and universities of applied sciences meets the needs of society, taking into account regional employment needs. This contributes to achieving the Vision 2030 goal of half of all young people holding a tertiary education qualification by 2030.
- Promoting the accessibility of higher education across Finland’s regions, ensuring a higher education institution exists in every county.
- The creation, across Finland, of “successful clusters of excellence with higher education institutions, research institutes and businesses”, linked to international networks.
- Support for higher education institutions “in their voluntary efforts to develop their activities, to find their strengths, to divide the responsibilities among themselves and to develop their mutual co-operation” (Government of Finland, 2019, p. 184^[5]).

The April 2021 Education Policy Report of the Finnish Government (Government of Finland, 2021^[6]) further emphasised these goals, identifying policy targets that include a tripling of foreign degree-seeking students (reaching 15 000 by 2030), and the aim of having 75% of international graduates enter the Finnish labour market. The 2021 Education Policy Report recognises persisting inequities in the nation’s higher education system and signals the intention of government to improve accessibility and equality in higher education, especially for groups with a migrant or a lower socio-economic background. To achieve this objective, in June 2021, the government adopted a new strategy for access to higher education, including 38 goals to promote accessibility, inclusiveness and diversity, a requirement for higher education institutions to produce their own accessibility plans and enhanced data collection and monitoring of diversity among students (Government of Finland, 2021^[7]).

The 2021 Education Policy Report additionally signalled a need for “an overview of the regulation on educational responsibilities” – i.e., regulations governing “the degrees and degree levels that can be completed in each higher education institution and the fields of study the institution is obligated to organise.” This, it notes, is necessary owing to the excessive rigidity of the offering and the inability of institutions to “react to rapid changes in the labour market or the requirements of multi-disciplinarity”, as well as insufficient profiling of higher education institutions in their areas of strength. Moreover, the report’s authors were concerned that existing degree offerings result in “lengthy educational paths and overlapping education” and an inadequate offering of flexible continuous learning opportunities (see also OECD (2022^[2]) “Expanding and steering capacity in Finnish higher education”). This policy brief was finalised

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before the Orpo cabinet took office on 20 June 2023 and, as such, does not consider possible changes to policy priorities made by the new government.

Recent funding increases against a background of real-terms funding cuts

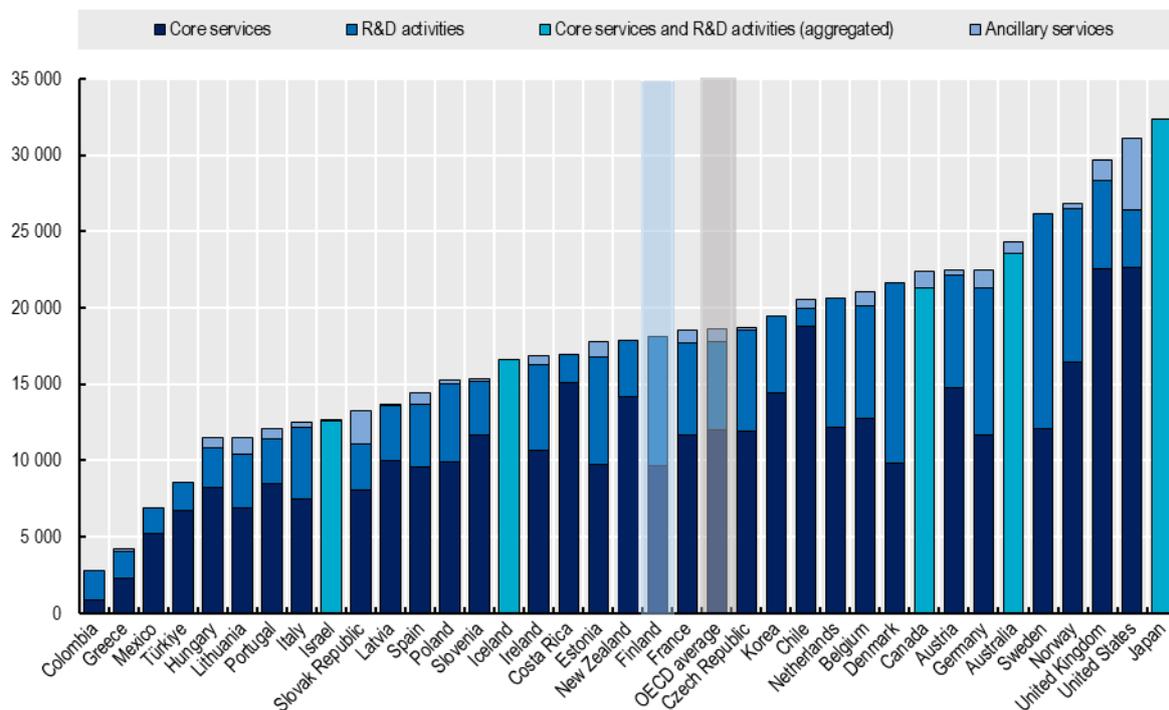
Finland’s universities and universities of applied sciences are heavily reliant on public funding for their operations, with public funding sources accounting for an average of over 90% of total income in both sectors. Core operating grants, which are allocated largely on the basis of a formula model encompassing variables linked to education, research and strategic development and discussed below, accounted for 62% of university income, on average, in 2021 (Vipunen, 2022^[8]) and 78% of university of applied sciences income (Vipunen, 2022^[9]). Remaining public funding comes from other ministries and external funding agencies, including the Academy of Finland and Business Finland, with universities receiving a higher average share of funding from such external public grant funding for research and innovation (See Annex 1).

On average, HEIs in Finland rely on public funding sources for a higher share of their total revenue than their counterparts in any other OECD member country. The most recent comparable OECD data on HEI funding suggest that 96% of spending on HEIs in Finland comes from public sources, compared to an average in the 22 European Union (EU) OECD systems – dominated by public provision – of 80% and an average across the OECD of 70% (OECD, 2022^[3]).

For the financial year 2023, the Finnish government increased the budgets for higher education institutions and research funding agencies, such as the Academy of Finland, following several years without significant funding increases. The budget for the core operating grants for universities and universities of applied sciences increased by 5% in the 2023 budget compared to the 2022 budget, for example (Government of Finland, 2022^[10]). Total core funding for universities and universities of applied sciences amounted to almost EUR 2.8 billion in 2023, of which EUR 2.6 billion is allocated using funding models and the remainder accorded through other channels, such as Value-added Tax (VAT) relief.

Figure 1. Finland spends around the OECD average amount per student in higher education

Total expenditure (for all services) on public and government dependent private HEIs per FTE student in USD in purchasing power parity (PPP) in 2019



Source: OECD (2022_[11]) Education and Training statistics, <https://stats.oecd.org/> (accessed on 13 December 2022).

In 2019 – the most recent year for which comparable international data are available at the time of writing – total spending per full-time-equivalent (FTE) student on public HEIs in Finland was just below the average level of spending on public and government-dependent private HEIs¹ in OECD countries, when adjusted for purchasing power parity (PPP): USD 18 128 compared to an average of USD 18 628 (OECD, 2022_[3]). This included payments from the public and private sector to HEIs for instruction and core operating expenses, research and other activities, such as service. As shown in Figure 1, this places Finland’s total per-student spending on a par with countries such as France and New Zealand, but significantly below spending levels in other Nordic countries with public funding models (notably Sweden and Norway) and systems with a mix of public and private spending, such as Japan, the United States, the United Kingdom and Australia. Total expenditure on higher education in Finland, in 2019, amounted to 1.5% of Gross Domestic Product (GDP). This corresponds to the average spending rate in OECD economies in that year, but represented a lower share of national income dedicated to higher education than in other Nordic countries (1.6% of GDP in Sweden, 1.8% in Denmark and 1.9% in Norway) or in the OECD systems with the highest spending rates, notably the United Kingdom, Canada and the United States, where the rate of total investment in higher education exceeded 2% of GDP in 2019 (OECD, 2022_[3]).

¹ Using this combination of institution types makes it possible to compare publicly funded HEIs across countries. In some systems, such as Belgium or the United Kingdom, some or all HEIs are nominally private institutions, but are funded in the same way as public institutions in the same or other systems, meaning it is appropriate to include these HEIs in direct international comparisons. In contrast, independent private institutions – such as private HEIs in the United States – are excluded from this comparison as they typically receive no or very limited public funding.

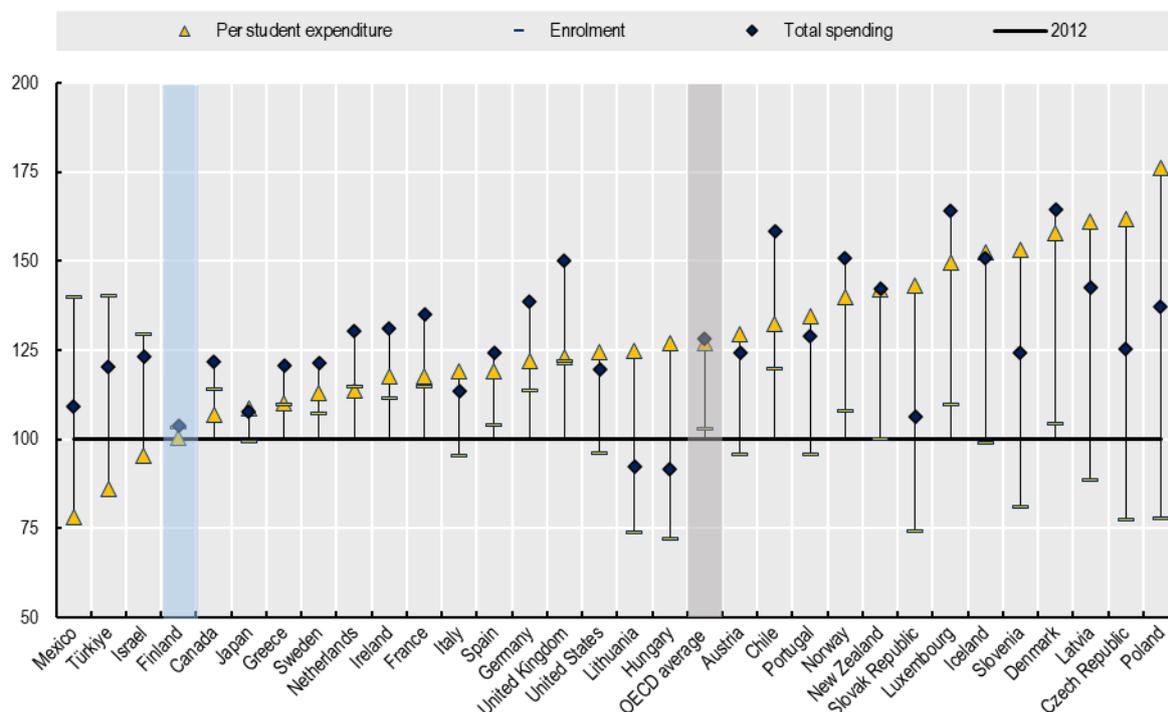
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Figure 1 also provides a breakdown of the “destination” of spending on higher education institutions, indicating the proportion of funds allocated to research and “ancillary services” (principally student services such as housing, catering or sports facilities) and the remaining funding allocated to instruction and core operating costs (“core services”). The data suggest that, as in Denmark and Sweden, an above-average proportion of spending on HEIs in Finland is allocated to research activities (47%, compared to an OECD average of 31%) and, as a result, spending per-student on instruction and core services is around 20% below the average of OECD systems. Such data must, however, be interpreted with caution. Analysis by the OECD, including recent attempts to improve data collection on academic staff and their primary activities, has shown the difficulty of capturing accurately the funds genuinely attributed to research or teaching activities. OECD member countries use different – and often inconsistent – methods for estimating research activity in higher education, which significantly reduces the reliability and comparability of international data in this area (OECD, 2019^[12]).

As shown in Figure 2, Finland stands out as the only OECD country where student numbers in tertiary education, total spending on tertiary education institutions and spending per FTE student in tertiary education remained at an almost identical level between 2012 and 2019 (changes in international data collection in 2012 mean comparable data are not available before this date). On average in OECD member countries, tertiary education enrolment increased by 3% over this eight-year period. This reflects wide variation in enrolment trends between countries, with a substantial decline in enrolment in many central and eastern European OECD members contrasting with increases of over 20% in countries as diverse as Chile, the United Kingdom, Israel, Mexico and Türkiye. In the same period, total public and private investment in public and government dependent HEIs increased by over 50% in nominal terms in the United Kingdom, Norway, Iceland, Chile and Luxembourg and declined in nominal terms only in Hungary and Lithuania. While nominal spending per student in Finland remained flat between 2012 and 2019 and declined in Mexico, Türkiye and Israel, it increased by over 50% in Luxembourg, Iceland, Slovenia, Latvia, the Czech Republic and Poland – in the latter cases through a combination of increasing budgets and declining enrolment.

Figure 2. Nominal-terms expenditure and enrolment stagnated between 2012 and 2019

Change in total expenditure and spending per FTE student on public and government-dependent HEIs in USD converted to purchasing power parity (PPP) and in FTE students per year 2012-2019 (Index: 2012 = 100)



Note: No data for Australia, Belgium, Colombia, Costa Rica and Korea.

Source: OECD (2022_[11]) Education and Training statistics, <https://stats.oecd.org/> (accessed on 13 December 2022).

The trends in total funding for HEIs and spending per FTE student illustrated in Figure 2 are presented in nominal terms. When inflation is accounted for, the apparent stability in funding levels in Finland between 2012 and 2019 translates into real-terms funding reductions. Calculations from the most recent OECD Education at a Glance publication suggest spending per FTE student on tertiary education in Finland fell by 14% in real terms between 2012 and 2019, compared to an average real-terms increase in OECD countries of 13%. Only Colombia, Mexico and Türkiye witnessed a real-terms decline in per-student funding greater than that seen in Finland (OECD, 2022_[3]).

Well-established challenges persist, despite generally good performance in many areas

When the Finland’s Vision 2030 strategy for higher education was first drawn up in cooperation with HEIs and other stakeholders in 2017, it sought to address two main challenges: stagnating levels of tertiary education attainment and declining investment in research and innovation in the wake of industrial restructuring. Although, against many metrics, Finland’s higher education system performs well compared to systems in other OECD member countries, some of the core challenges identified in 2017 persist today.

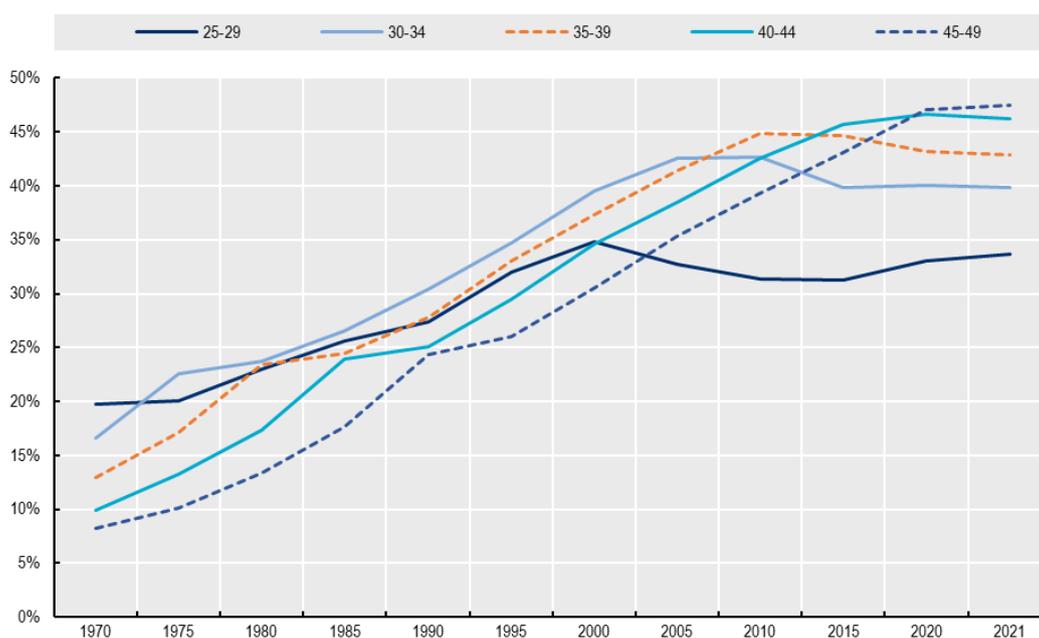
Higher education attainment rates are continuing to plateau

Tertiary education attainment rates among young adults in Finland have not increased substantially since the early 2000s, remaining at around 40% of the populated aged 25-34 (OECD, 2022_[3]). As shown in

Figure 3, whereas the cohort aged between 25 and 34 historically had the highest rates of tertiary education attainment in Finland, this is no longer the case. In particular, after reaching a peak of over 45% in 2010, the tertiary attainment rate of those aged 30-34 declined between 2010 and 2015 and has stagnated since, meaning that the supply of advanced skills into the Finnish economy is lower now than it was in the past. Older age groups have do have higher attainment rates, reflecting historically higher rates of higher education attainment, as well as a tendency for some adults to obtain tertiary education qualifications later in life.

Figure 3. Older Finns are slightly better qualified than their younger peers

Proportion of Finnish population holding a tertiary education qualification (ISCED 5-8) by age group 1970 to 2021



Note: ISCED = International Standard Classification of Education

Source: Statistics Finland (2022^[13]) <https://stat.fi/en/topic/education-and-research> (accessed on 13 December 2022).

Progression and completion rates are higher than the OECD average, but with significant gender disparities

Policy makers in Finland have expressed concern about the time students in Finland take to graduate and the proportion who fail to complete their studies, as this also impacts negatively on attainment rates (Government of Finland, 2019^[4]). Finnish data indicate that the median time for a university student to complete a higher education qualification is six years, while for a university of applied sciences (UAS) degree, it is five years (Vipunen, 2021^[14]). Ten years after starting, 80% of university entrants and 73% of UAS entrants have successfully obtained a higher education qualification (Vipunen, 2021^[14])².

The latest consolidated international data – for the whole higher education sector in each country – highlight significant differences in bachelor’s-degree completion patterns between men and women in many OECD systems (see Figure 4). On average in countries with robust true cohort data, 44% of women

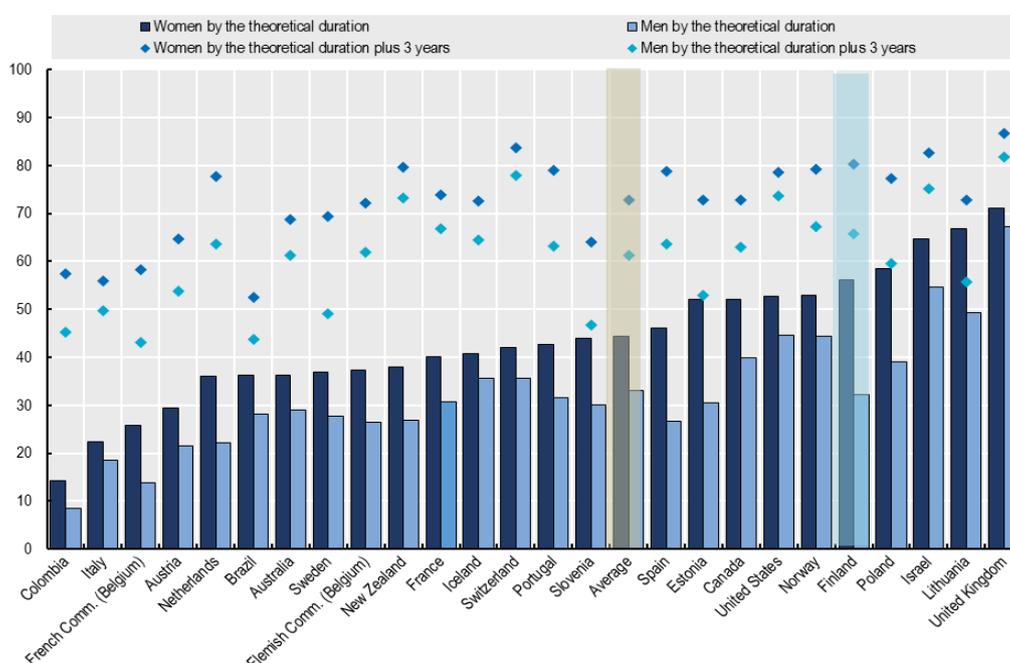
² These figures are the averages of the entrants in all cohorts from the 2001/02 academic year. The ten-year completion rate is the average of eight cohorts while the five-year completion rate is the average of 13 cohorts.

complete bachelor’s degrees within the theoretical duration of the programme (usually three or four years) and this proportion rises to 73% three years after the theoretical programme completion date. In contrast, an average of only one-third of men complete bachelor’s programmes within the theoretical duration, with the proportion rising to only 61% three years after the theoretical programme completion date.

This gender disparity is even more pronounced in Finland, where completion rates among women are substantially higher than the international average (56% complete bachelor’s degrees within the theoretical duration, with the proportion rising to 80% three years after the theoretical completion date), but similar to the international average for men. Only 32% of men enrolled in bachelor’s degrees in Finland complete their programmes within the theoretical duration, although the proportion rises to 66% (i.e., higher than the international average) three years after the theoretical programme completion date.

Figure 4. Gender disparities in completion rates in Finland are a concern

Completion rates of full-time students who entered a bachelor’s (or equivalent level) programme, by gender and timeframe in 2020 (% for countries with true cohort data only)



Source: OECD (2022^[3]) Education at a Glance 2022, <https://doi.org/10.1787/3197152b-en> (Indicator B5.1)

On-time bachelor’s completion rates in some other leading higher education systems, including Sweden, Australia, Belgium, the Netherlands and Austria are substantially lower than in Finland. However, in the case of Belgium, the Netherlands and Austria, these patterns partly reflect the largely open-access admission systems for higher education in the countries concerned, meaning students have considerable freedom to enrol in programmes and are not always well prepared for the studies that they pursue. These systems contrast with the comparatively selective admission procedures in place in universities and universities of applied sciences in Finland.

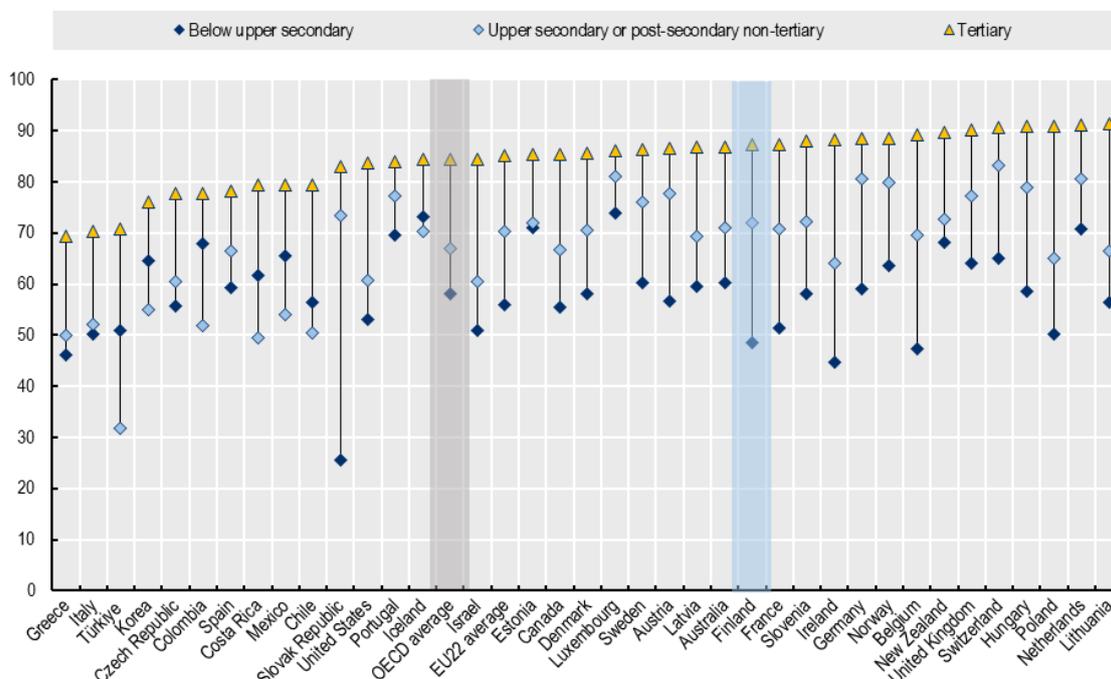
Graduate employment rates are comparatively high

Finland’s public authorities have long placed a strong emphasis on ensuring the alignment between provision of higher education and projected skills demand in the labour market. In particular, the student

degree-award targets for broad disciplinary areas established for individual higher education institutions are partly informed by labour market skills projections (OECD, 2022^[2]). From an international perspective, higher education graduates in Finland have generally good employment outcomes. The most recent comparative data show that 87% of recent tertiary graduates (those aged between 25 and 34 with qualifications from ISCED levels 5 to 8) in Finland are employed, compared to an average for tertiary graduates of the same age in OECD countries of 84%. As in other OECD countries, tertiary graduates are substantially more likely to be employed than their peers without upper secondary or post-secondary or advanced vocational qualifications (ISCED levels 3 and 4), for whom average employment rates in Finland are 72% and 67% on average in OECD countries. As the employment rate for young graduates in the best-performing OECD economies is 91%, the scope for further improvement on this metric in Finland (against which Finland already performs well) is relatively limited.

Figure 5. Higher education graduates in Finland have relatively good employment prospects

Employment rates of 25-34 year-olds, by educational attainment in 2021



Source: OECD (2022^[3]) Education at a Glance 2022, <https://doi.org/10.1787/3197152b-en>

As in other Nordic economies, the earnings advantage for tertiary graduates in comparison to those with lower levels of qualification is less substantial in Finland than on average in OECD countries. Nevertheless, compared to upper secondary graduates, individuals aged 25-64 who hold a bachelor’s qualification in Finland earn around 20% more on average than their counterparts who have only an upper secondary qualification. The average earnings advantage for bachelor’s graduates, compared to upper secondary graduates, in OECD countries is 44% (but only 7% in Norway, 14% in Denmark and 16% in Sweden). For master’s graduates, the equivalent earnings advantage in Finland is 56%, compared to an OECD average of 88% and earnings advantages of 35% in Norway, 44% in Denmark and 45% in Sweden (OECD, 2022, p. 92^[3]). The comparatively modest earnings advantages for tertiary graduates in Nordic economies reflect both the structure of the income-tax systems in place and the comparatively high quality of educational pathways outside the tertiary education system, notably the upper secondary and post-secondary VET systems. Nevertheless, the consistent earnings advantages experienced by tertiary graduates in Finland

do signal sustained employer demand for graduates and confirm information from national graduate tracking exercises that show, at an aggregated level, that most tertiary graduates in Finland find employment aligned with their skills levels. In the latest Finnish career monitoring surveys, almost 70% of recent master’s graduates “agreed” or “strongly agreed” with the statement that “the requirements of my current job correspond well to my academic qualifications”, for example (Vipunen, 2022^[15]).

Participation in continuous education has increased, adults frequently take second degrees

Like all advanced economies, Finland is facing up to the skills implications of changes driven by new technologies and required to respond to the climate crisis. As in many OECD countries, Finland must already address the impact of an aging population, which will require people to remain active in work for longer than in past. These combined trends increase the importance of continuous learning throughout life and the availability of adults to upskill and reskill at different points during their professional careers.

Table 1. Participation in continuous education has increased

Number of participants and credits taken in open university and open university of applied sciences programmes

Year	Universities of applied sciences		Universities	
	Participants	Credits	Participants	Credits
2011	9 155	45 902	72 945	340 197
2012	8 368	49 684	73 614	335 718
2013	10 105	68 842	74 778	345 194
2014	12 899	107 208	77 806	360 109
2015	18 516	167 462	79 357	362 861
2016	25 160	204 107	86 165	369 975
2017	23 348	202 679	89 507	365 113
2018	27 928	231 212	96 582	378 530
2019	39 659	297 618	105 454	420 983
2020	74 387	467 275	141 806	561 224
2021	90 624	574 515	135 361	550 077

Source: Vipunen (2022^[16]) Open university of applied sciences education, <https://vipunen.fi/fi-fi/amk/Sivut/Tutkintoon-johtamaton-ammattikorkeakouluopetus.aspx> (accessed on 13 December 2022). Vipunen (2022^[17]) Open University education and continuing education, <https://vipunen.fi/fi-fi/yliopisto/Sivut/Avoin-yliopisto-opetus-ja-t%C3%A4ydennyskoulutus.aspx> (accessed on 13 December 2022).

In Vision 2030, Finland establishes a goal of increasing participation in continuous learning at advanced levels, including through provision of flexible, “open” higher education programmes (Government of Finland, 2019^[4]). Open studies pathways allow students to access higher education without navigating the entrance requirements for full-time mainstream programmes and are offered in daytime, evenings, weekends and online by most higher education institutions in Finland. The goals, content and requirements are the same as for university or university of applied sciences degree studies. Students who have completed at least 60 ECTS may apply to a degree programme in a Finnish institution, although higher education institutions may choose to set either a lower or a higher threshold (OECD, 2022^[2]). In contrast to initial higher education programmes, HEIs in Finland may charge modest fees students for participation in open education programmes (limited to EUR 15 per study credit – the equivalent of EUR 900 for a full-time year of study).

Successive iterations of the formula-based models used to allocate public funding to HEIs in Finland have included credits gained in continuous learning as a parameter, creating an additional financial incentive for institutions to provide continuous learning opportunities. As shown in Table 1, recent efforts have focused

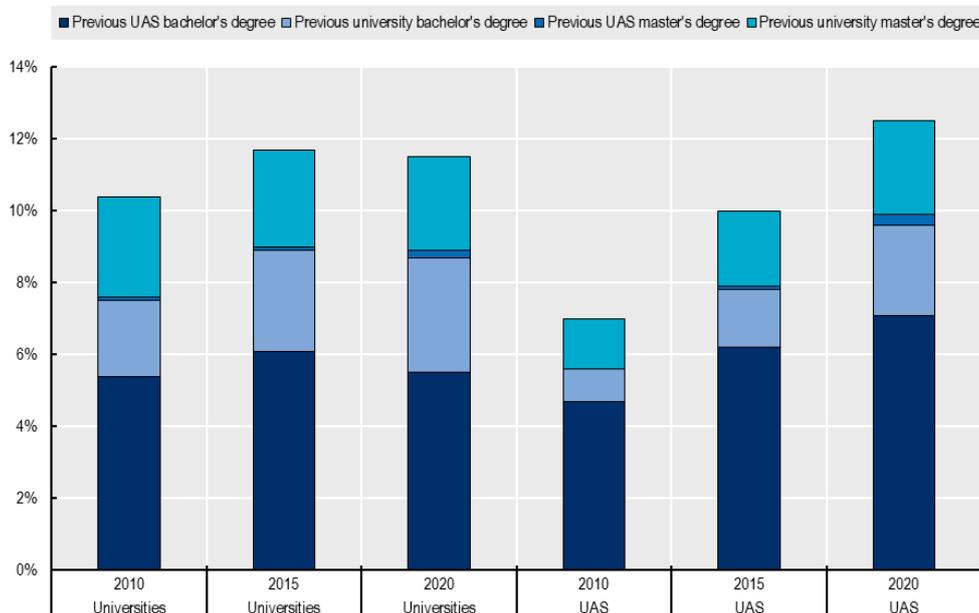
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on increasing participation in open education programmes in universities of applied sciences, which historically played a smaller role than universities in providing such education. In the decade between 2011 and 2021, the number of credits gained by individuals participating in open education programmes in universities of applied sciences was multiplied ninefold. Over the same period, the number of credits gained in open education offered by universities increased at a more modest pace, from a higher starting base, by 86%.

While participation in dedicated continuous education programmes has been encouraged by public policy in Finland, policy makers have faced a dilemma when it comes to another form of adult learning in higher education. The number of individuals in Finland who decide to enrol for higher education programmes at a level where they have an existing qualification has increased in recent years, primarily in the UAS sector. As shown in Figure 6, in 2020, 11.5% of new students at universities and 12.5% of new students at UAS already held a higher education qualification, with the most common previous qualification being a UAS bachelor’s degree. While this proportion increased marginally in universities in the decade to 2020, the increase in UAS was more substantial (5.5 percentage points). Moreover, these data include only those new students who successfully completed a previous degree. A further set of new students have previously been enrolled in higher education without obtaining a final qualification. As discussed below, although some of these students will be reskilling for alternative careers, in a higher education system where acceptance rates to higher education programmes are particularly low (OECD, 2022^[2]), there is concern that students taking multiple qualifications at the same level are often occupying study places that could potentially be taken by first-time students.

Figure 6. Existing higher education qualifications among new students at universities and UAS

Proportion of new students with higher education qualifications (bachelor’s and master’s degrees)



Source: Vipunen (2022^[18]) Previous and subsequent training, <https://vipunen.fi/fi-fi/amk/Sivut/Aiempi-ja-my%C3%B6hemp%C3%B6-koulutus.aspx> (accessed on 13 December 2022).

Public investment in higher education research has started to increase again in recent years

Driven primarily by changes in business expenditure, Finland's total gross domestic expenditure on research and development (GERD) fell from 3.7% of gross domestic product (GDP) in 2010 to 2.7% in 2017, before recovering slightly to reach 2.9% in 2020 (OECD, 2022^[19]). In the same period, average total research spending in OECD economies increased from 2.2% of GDP in 2010 to 2.7% in 2020. The level of higher education research and development expenditure (HERD) in Finland remained more stable, declining from 0.76% of GDP in 2010 to a low of 0.68% of GDP in 2016 before recovering to 0.72% in 2020 (OECD, 2022^[19]). Against the backdrop, the 2019 Vision roadmap outlined measures to support HEIs to play a key role in internationally attractive knowledge clusters and regional innovation systems, including through increased investment channelled, in particular, through core HEI funding, the Academy of Finland and Business Finland (Government of Finland, 2019^[4]).

2 Key features of Finland’s existing model for funding higher education institutions

As noted above, the core grants allocated by the Ministry of Education and Culture from the annual state budget accounted in 2021 for an average of 62% of the income of universities (Vipunen, 2022^[8]) and 78% of the income of universities of applied sciences (Vipunen, 2022^[9]), although the proportion of total institutional income provided by the core grant varied considerably between institutions within the two sectors (See Annex 1). Finland has long used formula-based allocation models to distribute the available budget envelope among HEIs, with the model used at the time of writing having been introduced in 2021, alongside a new set of four-year institutional performance agreements negotiated between the Ministry of Education and Culture and individual HEIs (Government of Finland, 2018^[20]).

A formula-based funding allocation model with a strong focus on outputs and outcomes

For both universities and universities of applied sciences, the allocation model comprises three main pillars: education, research and other policy priorities (primarily strategic investments). Within each pillar, a fixed proportion of the budget envelope is allocated between HEIs using defined variables. HEIs are then free to allocate the lump sum they receive according to their own internal allocation processes.

As summarised in Table 2, the weight of the different pillars and parameters in the allocation models for universities and universities of applied sciences broadly reflects differences in the missions of the two sectors, with a greater proportion of funding allocated to universities based on research parameters. Universities also receive a higher share of their total funding for strategic investments related to institutional strategies or national policy priorities (15% of total funding in universities compared to 5% in universities of applied sciences). Most of this strategic funding is allocated as a block grant to each institution to support and recognise institutional efforts to deliver strategic goals in the performance agreement negotiated with government.

As the total funding envelope for universities is more than twice as large as that for universities of applied sciences, the shares of funding for different outputs and functions listed in Table 2 represent a higher monetary value for universities than for universities of applied sciences. A one per cent share of the envelope for universities was worth around EUR 17 million in 2023, while a one per cent share of the envelope for universities of applied sciences was worth around EUR 8 million. The significance of different funding parameters also varies depending on the profile of individual HEIs, with research parameters determining a higher share of institutional funding in research-intensive institutions, for example.

The parameters in the education and research pillars of the allocation models are strongly output and outcome oriented. The largest share of funding for education for both institutional sectors is allocated based on the numbers of completed degrees (bachelor’s degrees in universities of applied sciences and

bachelor’s and master’s degrees in universities), with further, separate shares of funds for both types of institution allocated for credits completed in continuous learning programmes. Alongside these output-based allocations, 4% of core funding for universities and 6% of core funding for UAS is allocated taking into account measures of the employment outcomes of graduates (observed employment rates and more qualitative information collected through graduate tracking surveys), while 3% of core funding for both sectors is allocated based on the results of student surveys, which provide feedback about the education provided and learning environments. The use of output variables to capture employment outcomes and student experience is designed to recognise the importance of relevance and educational quality in the core funding model (Government of Finland, 2018_[20]).

Table 2. Parameters used in Finland’s funding allocation models for HEIs from 2021 onwards

	Parameter	Universities (proportion of total allocation)	Universities of applied sciences (proportion of total allocation)
Education		42%	76%
	Master’s degrees awarded	19%	
	Bachelor’s degrees awarded	11%	56%
	Continuous learning (without cooperation between institutions)	4%	8%
	Continuous learning based on cooperation between institutions	1%	1%
	Graduate employment rates	2%	3%
	Results of graduate tracking	2%	3%
	Student feedback	3%	3%
	Degrees in vocational teacher training		2%
Research		34%	19%
	PhDs awarded	9%	
	Scientific publications	14%	2%*
	Competitive research funding (national and international)	12%	
	Master’s degrees		6%
	External R&D funding		11%
Policy priorities		24%	5%
	Strategic development funding (for institutional strategy (part A) and national policy aims (part B))	15%	5%
	National duties (including National Library etc.)	9%	

Note: * includes artistic and design materials, audio-visual material and software

Source: Ministry of Education and Culture

The funding model introduced in 2021 uses coefficients (also called multipliers) to adjust the level of payments for degrees awarded to take account of differences in the cost of delivery between different fields of education (with higher coefficients for more expensive subjects, such as natural sciences and medicine), graduation times (with higher coefficients for shorter completion times for degrees) and for post-initial degrees (with lower coefficients for degrees awarded to individuals who already held a degree at the same level). For each institution, the government agrees annual degree-award targets in different disciplinary areas for four-year periods at a time, as part of the negotiation of performance agreements. The government will only pay individual institutions for degrees awarded in each disciplinary area up to the agreed annual targets for degrees, based on the average numbers of degrees awarded in the three years T-4 to T-2. The funding calculation for 2023, for example, was based on the average number of degrees awarded by field in 2019-2021. The use of multi-year average values for the formulate calculations reduces the scale of fluctuations in institutional funding allocations from year to year.

Outputs also drive the core funding allocations for research for both universities and universities of applied sciences, with PhD awards being used to recognise the outputs of researcher training in universities and UAS master’s used to recognise innovation-oriented advanced study in UAS. Research outputs are recognised in the allocations for institutions in both sectors, with the model for universities taking into account scientific publications of different quality levels and the model for UAS designed to reward a wide range of outputs from the more practice-oriented and applied research activities undertaken in these institutions. The research allocations for both sectors reward external funding obtained from other sources, including grant-awarding public funders, such as the Academy of Finland and Business Finland, as well as international funding initiatives, such as the European Union’s Horizon Europe programme. This variable provides a contribution to institutions for a proportion of overhead costs incurred for external research (which are not always fully covered by external grant funding), while also rewarding universities and UAS that successfully attract external funding.

The funding allocation models used in Finland are unique, but share characteristics with models in other OECD systems

Research undertaken for the OECD Resourcing Higher Education Project has illustrated the diversity of models used in OECD countries to allocate core public funding to higher education institutions. A first dimension of variation concerns the proportion of total institutional funding provided by core public funding and the explicit purposes (or missions) for which core public funding is provided. In broad terms, core public funding contributes a smaller proportion of HEI income in systems where public and government-dependent institutions charge students substantial tuition fees than in systems where many students study without fees or while paying only nominal or low fees. While authorities in some OECD countries, like Finland, provide HEIs (particularly universities) with core institutional grants for research and an allocation for strategic development, this is not universally the case in publicly funded higher education institutions in OECD systems. In some systems, public HEIs receive direct appropriations from the state budget solely for instructional activity, core operating costs and capital investments.

A second dimension of variation relates to whether public authorities base all or part of their funding allocations to individual HEIs on previous (historical) allocations or whether they use algorithmic formula-based allocation models to determine some or all of the allocation. For authorities that do use formula models, come the questions of whether to use input, output or outcome variables in the formula and which specific variables and multipliers or weightings to use. A final core difference between funding allocation models is whether funding models that use a formula link the variables in this formula to fixed unit payments, where units are added to create the allocation to individual HEIs (additive formulas) or whether they use the variables to calculate the share of a fixed funding envelope that is received by each HEIs (distributive formulas). While public authorities can reduce the value of fixed unit payments, additive formulas generally guarantee institutions a fixed level of resource for each unit of variable (for example students enrolled or set of credits completed), while distributive formulas can allow unit funding rates to fluctuate over time, depending on the number of units to be funded and the total resource envelope available.

The weight and role of core funding to HEIs

As summarised in the last row of Table 3 below, analysis of six comparable European OECD higher education systems, undertaken for the OECD review of resourcing higher education in the Flemish Community of Belgium (OECD, 2021^[21]), confirms that publicly funded HEIs in higher education systems, where substantial student fees are charged, such as Ireland and Scotland (where students not permanently resident in Scotland pay fees) are less reliant on core public operating grants than their counterparts in systems like Finland and Denmark, where national students do not pay fees. In binary systems with

universities and professionally oriented HEIs (five of the six comparators), the professionally oriented HEIs (Finnish UAS and their counterparts) systematically receive a higher share of their total income from core public funding than universities in the same systems. This reflects the higher share of total income in universities that comes from competitive research funding, which is typically channelled through national research funding councils, equivalent to the Academy of Finland, as well as an often-greater capacity of universities to generate revenue from diverse private sources. It is fair to assume that the influence of core funding design – and its capacity to influence institutional behaviour – is greater in systems and sectors where core funding represents a high share of total institutional revenue (OECD, 2020^[22]).

As illustrated in Table 3, most of the comparator OECD core funding models shown do, like Finland, provide substantial, specific institutional grants for research to universities (this is the case in the Flemish Community of Belgium, Denmark and the Netherlands), although core funding in Ireland is nominally for instruction only. Among OECD systems not shown in the table, core funding to public universities in the United States (in each state), Portugal and Norway is nominally provided exclusively for instruction, without a dedicated allocation for research. As core funding is in all cases allocated as a block grant, which institutions are free to allocate internally as they wish, funding for instruction is regularly used to pay the salaries of academics conducting research, including in systems that lack a dedicated core research allocation.

Finland stands out as the only comparator system – and the only system in the OECD more generally identified in the Higher Education Resourcing Project – that allocates such a substantial share (19%) of core funding to professionally oriented institutions for research. In the Flemish Community of Belgium, Denmark and the Netherlands, core grants to university colleges and universities of applied sciences for practice-oriented and applied research represent a comparatively small share (between 2% and 6%) of total core grants from government. The Finnish funding models are also distinctive for including dedicated allocations for strategic investments. Although additional core funding streams for strategic development have been implemented in the Netherlands and Scotland, these are ad hoc funding programmes that provide non-competitive grant funding directly to HEIs and are not systematically integrated into the core funding model, as is the case in Finland. The Finnish model for strategic funding has attracted considerable interest from other countries participating in the Higher Education Resourcing Project.

Table 3. Structure of core public funding for higher education institutions

Proportion of core public funding allocated through different funding streams (most recent year for which data were available: 2017-2020)

	Flemish Community ⁽¹⁾ (2019)		Denmark (2019)		Finland ⁽²⁾ (2021)		Ireland ⁽³⁾ (2017)		Netherlands ⁽⁴⁾ (2019)		Scotland (2017)
	Uni.	UC	Uni.	UAS	Uni.	UAS	Uni.	UAS	Uni.	UAS	Uni.
Teaching grant	43%	94%	46%	94.5%	42%	76%	39%	64%	55%	97.4%	50%
Fees paid by public authorities	-	-	-	-	-	-	51%	32%	-	-	22%
Research grant	54%	4%	54%	5.5%	34%	19%	-	-	42%	2.6%	19%
Capital grant (maintenance and new investments)	2%	3%	-	-	-	-	10%	4%	-	-	4%
Grant for strategic development	-	-	-	-	24%	5%	-	-	3%	-	4%
Average proportion of institutional revenue from core public funding	52%	72%	57%	77%	62%	78%	34%	62%	58%	72%	39%

Notes: Uni. = universities; UAS = universities of applied sciences; UC = university colleges. (1) In the Flemish Community, the research grant for universities includes operating grant for research, the Special Research Funds (BOF) and the Industrial Research Funds (IOF); (2) Figures updated for 2021. In Finland, a proportion of the budget envelope for the grant for strategic development is reserved targeted funding awarded through national programmes (3) In Ireland, 10% of the envelope for the teaching grant is awarded between universities based on research metrics. Funds for strategic development are awarded through competitive processes, not as part of the core grant. (4) Data for the Netherlands show proportions of government block grant (*Rijksbijdragen*) for teaching, research (universities), “design and development” (UAS) and “quality funds” linked to institutional quality agreements (strategic development).

Source: OECD (2021_[21]) Resourcing Higher Education in the Flemish Community of Belgium, <https://doi.org/10.1787/3f0248ad-en>

As shown in Table 3, in addition to grants for instruction, research and, in some cases, strategic development, the Flemish Community of Belgium, Ireland and Scotland use dedicated funding streams to provide capital grants to higher education institutions, notionally to cover costs related to the maintenance of existing physical infrastructure and new construction. This practice is also widespread in state higher education systems in the United States. Evidence from the Flemish Community of Belgium and elsewhere has illustrated the difficulty of working with such a targeted funding approach for capital investment. In particular, capital budgets (which are a frequent target for government cost savings in times of fiscal constraint) are typically insufficient to cover real needs for capital investment, meaning that institutions are forced to cover such expenses from other funding sources as well. Moreover, even if resources are available, it is usually difficult for government to establish the level of capital investment needed at system level, when individual investment plans and decisions are made locally in individual HEIs. Although there can be a case of targeted public funding for major new strategic investments in buildings and campuses, the rationale for maintaining separate funding streams for more routine capital investments is questionable.

Historical (fixed) funding, formula funding and funding allocation variables

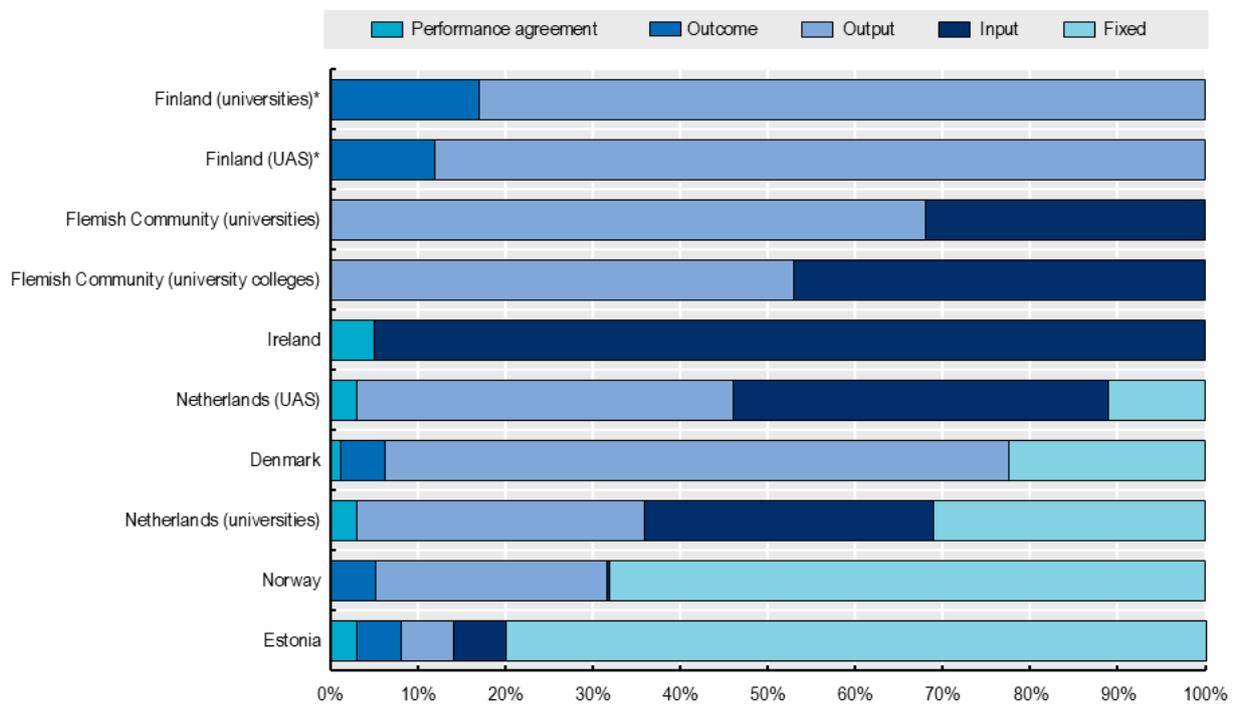
As noted, while Finland allocates most of its core funding to HEIs using a variable-driven formula, this is not the case in all (or even a majority) of OECD higher education systems. Most US states, for example, owing in part to the constrained fiscal environment in which they operate and the significant role of tuition fees in institutional funding (at least for four-year colleges), fund their public higher education systems using historically determined annual state budget appropriations. Nevertheless, in recent decades an increasing number of OECD jurisdictions have, like Finland, adopted allocation models which award all or

a proportion of core funding to higher education institutions based on some form of variable-driven formula. Figure 7 illustrates the proportion of core funding for education and operations in public and government-dependent higher education institutions (i.e. excluding specific allocations for research, where these exist) that is allocated based on different types of variable in selected European comparator jurisdictions. It highlights a distinction between jurisdictions that allocate a proportion of core funding as a fixed payment, unrelated to specific input, output or outcome variables, and those that use purely formula-driven allocation models to provide variable payments.

The choice of whether or not to include a fixed component in allocation models – and the relative weight of this fixed component – is a fundamental question for those designing higher education funding systems. Estonia and Norway both distribute over 60% of the core funding envelope for education and operations between public higher education institutions as fixed payments, which are usually adjusted annually to take into account inflation, but otherwise remain constant over time. In both systems, the remaining core funding is allocated to institutions based on a combination of input, output and outcome variables (see below) and, in the case of Estonia, funds linked to institutional performance agreements. Italy uses a similar approach. The Dutch and Danish allocation models use a mixed approach, combining fixed and variable components, while Ireland and the Flemish Community of Belgium use purely formula-driven approaches to allocate core funding for education and operations to HEIs, albeit with very different variables driving their formulas. This, by definition, excludes strategic and competitive targeted funding that may be provided in addition to core funding.

Figure 7. Allocation of core funding for education and operations

Share of core public funding for education and operations allocated using different allocation criteria



Note: * In Finland, projected core funding is set out in four-year institutional performance agreements with every public or government-dependent HEI. However, a majority of this funding allocation is calculated using a formula and funding is not generally made dependent on achievement of objectives in the performance agreements, as in other jurisdictions with performance agreements included here. The Flemish Community of Belgium also uses a base component (*sokkel*) and a variable component in its allocation model, but the base component is also driven by student numbers, so is not strictly a “fixed” component.

The appropriate balance between fixed and variable funding has been a subject of discussion in funding policy design in several OECD jurisdictions. In broad terms, variable – typically student-related – funding makes it possible to link funding to real levels of activity and outputs in a transparent and equitable manner, which is widely acknowledged as a crucial characteristic for sound allocation models. Nevertheless, when not accompanied by enrolment or graduation limits or targets (like the targets for degree awards in Finland’s institutional performance agreements), variable funding linked to enrolment or graduation can also create incentives for institutions to maximise enrolment or graduation rates, potentially to the detriment of quality standards if other safeguards are not effective. Although efforts by institutions to increase enrolment and graduation contribute positively to the societal objectives of widening access and increasing higher education attainment, care is required to avoid situations where the funding system drives a culture of “quantity” is over “quality”. Risks in this respect may include increased class sizes and reduced student-staff interaction, if academic staff numbers do not keep pace with enrolment growth, or pressure on staff to ensure students pass exams to maximise graduation rates, rather than maintain rigorous academic standards and a focus on students’ real learning outcomes. The extent to which such risks translate into reality naturally depends on a range of factors outside the design of the funding model, including the external and internal quality assurance systems and institutional strategy.

Among OECD jurisdictions that use formula-based approaches for allocating core funding to HEIs, a majority link all or most of this funding to student-related variables. The most common variables are enrolment (an input variable), the number of degrees awarded, or the number of study credits successfully passed (output variables). As summarised in Table 4 overleaf, systems such as the Flemish Community of Belgium and the Netherlands allocate a significant share of the education component of their core funding for HEIs to enrolment (credits for which students enrol in Belgium and the number of enrolled students in the Netherlands), but also link an equivalent or greater share of funding to outputs (successfully completed credits in Belgium and degrees awarded in both countries). Denmark, like Finland, links a majority of core funding to student outputs (credits gained), although, as discussed, Denmark also has a fixed component in its funding model, which is not the case in Finland. Norway has chosen to link around 20% of core funding to HEIs to student credit and degree completion, maintaining a comparatively large fixed (or historical) component in its funding allocation model, like Estonia. In 2022, a government-appointed expert committee in Norway recommended that the number of indicators in the country’s higher education funding allocation model be reduced from eight (as shown in Table 4) to two: credits completed and doctoral degrees awarded (Norwegian Ministry of Education and Research, 2022^[23]). This yet-to-be-implemented reform would simplify the funding model, but the two remaining core indicators to be retained will continue to measure student-related outputs.

Like Norway, some other OECD jurisdictions have linked a smaller share of total core funding to other input, output or outcome indicators, as illustrated in Table 4. Estonia, for example, includes financial rewards for enrolment of students in fields linked to institutions’ core missions (established in their profiles) and international students. Both Estonia and Denmark attach a relatively small share of funding to parameters linked to study duration (to incentivise timely progression and completion of studies) and the share of graduates in employment. Finland also attaches between 8% and 10% of the core education grant to graduate employment outcomes, including employment rates and the results of graduate surveys on graduates’ job satisfaction and the relevance of their studies to their current jobs. As noted earlier, Finland also uses multipliers to provide higher funding rates for degrees completed within or near the theoretical programme duration. Finland and Denmark are the only OECD systems identified in the Resourcing Higher Education Project to allocate a proportion of total funding for education on the basis of the results of student feedback surveys, using these data as another proxy for educational quality. As discussed below, evidence on the effects of including output and outcome parameters in funding allocation models is mixed and inconclusive.

Table 4. Parameters for allocating core funding for education and operations

Parameters used in formula-based allocation for core public funding models for education, showing the proportion of the education grant linked to these parameters

	Flemish Community of Belgium		Finland		Denmark	Netherlands		Norway**	Estonia
	Univ.	UC.	Univ.	UAS	Univ.	Univ.	UAS		
Input									
Number of credits for which students are enrolled	32%	47%							
Number of students (headcount)						33%	43%		
Share of international students									1.7%
Share of students enrolled in programmes related to HEI’s core profile/mission									2.6%
Share of students spending mobility period abroad								0.3%	1.7%
Output									
Number of credits successfully completed	68%	53%			67.5%			20%	
Bachelor’s and master’s degrees awarded			71%	76%*		33%	43%	4.8%	
Doctoral degrees awarded								1.6%	
Credits gained in continuous learning			12%	12%					
Degrees completed in nominal study duration									6%
Other indicator of average study duration					3.75%				
Outcome									
Share of graduates in employment					3.75%				3.4%
Share of graduates in “graduate” employment			10%	8%					
Scores from student feedback (survey)			7%	4%	1.25%				
Private funding attracted for educational activities									1.7%
Funding from national Research Council								1%	
Funding from EU research programmes								1.6%	
Income for research from private sources								1%	
Research output (publications)								1.6%	
Proportion of education funding allocated through formula	100%	100%	100%	100%	76.25%	66%	86%	32%	17%

Note: Percentages indicate the proportion of core public funding for education and operations allocated using the relevant parameter. Denmark, the Netherlands, Norway and Estonia allocate a proportion of funding based on historical allocations (without use of a formula) meaning that the proportions indicated here do not necessarily sum to 100%. * Includes a small allocation for vocational teacher-training degrees. ** Unlike other jurisdictions include here, Norway does not have separate components for education and research in its funding model, which partly explains the inclusion of research parameters in the core funding model for education and operations.

The use of coefficients to adjust funding allocations

Alongside the selection of variables to be used in funding allocation formulas comes the question of whether to weight (multiply) the variables to provide higher or lower levels of funding for particular types of inputs or outputs. The most common weighting systems used in formula-driven higher education funding allocation models adjust funding allocations for students (or credits or degrees) in different subject fields, in an attempt to recognise differences in the cost of delivering programmes in these fields.

As shown in Table 5, the multipliers used for different fields of study are broadly similar in the comparable OECD higher education systems selected for review for this policy brief. The systems in Finland and Denmark systems use a smaller span of values than is the case in the other systems. In the case of Denmark, the low value of the weighting for medical studies is partly explained by the way funding of medical studies and university hospitals is organised in the country. Portugal has a comparatively large number of cost categories in its model, particularly for universities, while Denmark, like Finland, uses three categories, for example. However, it is not uncommon – albeit for reasons that are not entirely clear – for countries to use a greater number of cost categories for non-university institutions, as in Denmark and the Flemish Community of Belgium.

Table 5. Subject-area weightings (coefficients) in selected OECD jurisdictions

Weighting factors for *undergraduate* students used in funding allocation formula in selected OECD jurisdictions

	Flemish Community		Netherlands		Ireland	Denmark (Universities)	Finland	Portugal	
	Univ.	UC	Univ.	UAS				Univ.	Poly.
Non-laboratory subjects (e.g. humanities and social sciences)	1	1	1	1	1	1	1	1.15 or 1.2	1
Subjects with fieldwork (e.g. computer science, education)	2	1.1 to 1.6	1.5	1.28	1.3	1.4	1	1.6 to 1.9	1.3 to 2
Laboratory subjects (e.g. engineering, physical sciences)	2	1.6	1.5	1.5	1.7	2.1	1.75	2.5	2.4
Clinical medicine	3.9*	-	3	-	2.3	2.1	3**	4	-
Dentistry	3.9	-	-	-	4	2.1	3**	4	-
Veterinary studies	3	-	3	-	4	2.1	3**	2.7	-

Notes: * Since 2017, university programmes in medicine in the Flemish Community have been funded through a ring-fenced budget with variable component of the teaching grant. Univ. = university, UC = University College, UAS = university of applied sciences, Poly. = polytechnic. ** In Finland, some artistic fields are also funded at the maximum rate.

Source: OECD (2021^[21]) Resourcing Higher Education in the Flemish Community of Belgium, OECD Publishing Paris, <https://doi.org/10.1787/26169177>.

Additive and distributive allocation models

Another difference observed between variable, formula-driven funding allocation models for higher education institutions in OECD jurisdictions is whether they are “additive” or “distributive”. Additive models work bottom-up, fixing unit payments for specific inputs or outputs and calculating the sums to be paid to individual institutions by adding together the number of inputs or outputs observed in the reference period (with each input or output multiplied by the relevant monetary values). The total envelope to be allocated is equal to the sum of all unit payments to be made. Distributive models take the available budget envelope as their starting point and divide the total budget available by the total number variable units observed in

the reference period (e.g. weighted enrolled student, study credits passed, etc.). The value of these variable units will depend on the size of the budget available and the number of units observed during the reference period. If the number of units (e.g. students enrolled) increases faster than the total budget envelope in a given year, the payment for each unit will decline year on year.

Table 6. Additive and distributive formula allocation models

	Type of budget envelope	Government-imposed system of student caps (<i>numerus clausus</i>)	Formula allocation method		
			Fixed unit payments per input/output (additive formula)	Mixed (additive + distributive)	Distributive
Denmark	Open	Yes – enrolment limits set with regard to employment outcomes and for medical programmes	Payments per 60 completed credits, differentiated by field		
Flemish Community or Belgium	Semi-open*	Only in medicine, dentistry and performing and visual arts			100% of budget envelope allocated using formula
Finland	Closed	Yes – limits on number of degrees that can be awarded are agreed as part of performance agreements + institutions set admission limits per field			100% of budget envelope for education and research allocated using formula
Ireland	Closed	No – Institutions decide on student admission within Quality Assurance rules		Weighted fixed payments to cover fees + enrolment driven formula	
Netherlands	Closed	Institutions set admission limits (<i>numerus fixus</i>) in a limited number of (mostly medical) programmes			Variable component of core education funding allocated using formula
Norway	Open for some performance parameters	Institutions set admission limits in a limited number of (mostly medical) programmes		Weighted payments for graduate indicators + distributive for other performance criteria	
Scotland (United Kingdom)	Closed	Effectively – Government sets limits on number of state-funded places for Scottish residents (who pay no tuition fees)	Fixed payments per enrolled student differentiated by field		

Note: * The Flemish Community of Belgium uses a unique mechanism in its funding model (the “click” system) that automatically triggers a increase or decrease of up to 2% in the total budget envelope for the core public funding allocation to HEIs in a given financial year when enrolment in a given sub-sector (universities, university colleges, schools of arts) increases or decreases by more than 2% between two reference periods. In practice, in times of fiscal constraint, this rule is not always applied.

The risk – for government – of using fixed unit payments in the allocation model is that the authorities cannot control the size of budget envelope required to meet funding obligations. This was effectively what happened during Australia’s experiment with demand-driven university funding between 2012 and 2017 (Universities Australia, 2020^[24]). From 2017 onwards, Australia re-introduced caps on student enrolment to bring the costs of the funding system under control. As summarised in Table 6, some other systems that use fixed unit payments (such as Scotland in the United Kingdom) also impose enrolment caps to maintain spending within available budget envelopes (in Scotland, for Scottish-domiciled undergraduate students who are exempted from fees). This is also the approach used in many central and eastern European countries, where a specified number of “state-funded” study places are available each year. Denmark manages to implement a system of unit payments (per 60 study credits gained, with three cost categories depending on subject area) with a nominally “open” budget envelope and without a universal system of study-place regulation by using detailed projections of student numbers to calculate the annual budget

envelope (OECD, 2021^[25]). However, the Danish government does implement limits on study places (*numerus clausus*) in medical programmes and restricts study places in fields from which graduates have persistently higher-than-average levels of unemployment.

In Finland, which does have a universal system of degree regulation (with the limits placed on the number of degrees awarded, rather than the number of study places), public authorities use distributive allocation models, which allow the value of funding per student, graduate or credit to fluctuate – and, in recent years, decline – over time, depending on the budget envelope and levels of study activity.

Performance agreements as a steering instrument

Alongside core funding allocation models, in recent years, an increasing number of OECD jurisdictions have implemented systems of institutional agreements, in which public authorities and individual institutions agree on strategic goals and targets that the institution should deliver, typically over a three to six-year period. These agreements generally outline institutions’ specific profiles and missions, as well as establishing objectives and targets. In many cases, public funding is provided to support delivery of the objectives set out in the agreements, which may or may not be partially conditional on achievement of the objectives in question, although the level of funding directly linked to institutional agreements is nearly always modest in comparison to total core funding for HEIs. Institutional performance agreements, performance compacts or quality agreements are thus often better viewed as steering, governance and accountability mechanisms, rather than funding instruments as such.

In Europe, Denmark was one of the first higher education institutions to introduce performance agreements as a profiling and steering tool and retains “strategic framework contracts”, with achievement of goals linked to a small proportion of total funding, in its current governance and funding model (OECD, 2021^[25]). Finland introduced performance agreements in the university sector in 1995. Its Nordic neighbour, Norway, has experimented with institutional agreements, but, at the time of writing, looks likely to make “development agreements” (*utviklingsavtalene*) the primary steering and performance-related component in its funding model for the period after 2023 (Norwegian Ministry of Education and Research, 2022^[23]).

As illustrated in Table 7, in both Ireland and the Netherlands, a proportion of public funding allocated to institutions is theoretically at risk if institutions do not meet goals in their institutional agreements. In Ireland, this is up to 5% of core funding (allocated through a combination of a voucher-like fee subsidy and a formula), while in the Netherlands the minister may withhold a proportion of the additional quality funding linked to the 2019-2024 quality agreements at the end of the six-year implementation period, if the national accreditation body considers progress towards goals has been insufficient. In Ireland, funding has never been withheld under the agreement system, although remediation plans have been agreed in a limited number of cases. Moreover, the Irish Higher Education Authority has more recently introduced additional “bonus” payments (i.e. additional funds, rather than core funding), which are awarded on a competitive basis to institutions that demonstrate, through case studies, that they have made particularly good progress in an area covered by their mission-based performance compact (HEA, 2019^[26]).

The evidence on the effects of institutional agreements is broadly positive. A study in Germany by Dohmen (2016^[27]) found that “target agreements” (*Zielvereinbarungen*), in which institutions specify goals and actions and agree these with government in exchange for funding, were associated with more positive effects. Notwithstanding the challenges of proving causality, these reported effects included observable changes in measurable indicators, such as increases in third-party funding and improved graduation rates in universities of applied sciences. Perhaps more significantly, the introduction of performance agreements in German federal states was found to have led to an increased focus on results and more strategic, evidence-based decision-making in higher education institutions.

Another study, in North-Rhine Westphalia (Germany), reported in de Boer et al. (2015^[28]), also found that performance agreements provided a basis for better internal decision-making in higher education institutions. A similar pattern was found in Ireland in relation to the system of institutional compacts, which appears to have had limited direct effect on the behaviour of institutional staff and observed outputs, but to have improved institutional strategy and dialogue between the institutions and public authorities (O Shea and O Hara, 2020^[29]).

Table 7. Key design features of institutional agreement systems

	Finland	Ireland	The Netherlands
Name	“Performance Agreements”	Mission-based performance compacts	“Quality agreements”
Duration of agreements	4 years 2021-24	3 years September 2018 to September 2021*	6 years 2019-24
Coverage of institutional activities	All missions	All missions	Specific to the education mission (6 education quality themes)
Self-assessment, profile and specialisation	Yes	Yes	Yes
Targets and indicators	Institution-specific - Agreed in negotiation with government	Institution-specific – Validated when compact initially approved	Institution-specific – Validated when agreement initially approved
Initial evaluation and approval of agreements	By Ministry of Education and Culture	By Higher Education Authority with input from international experts	By the Accreditation Organisation of the Netherlands and Flanders (NVAO)
Annual monitoring?	Yes – report and dialogue with Ministry of Education and Culture	Yes – report and dialogue with Higher Education Authority	Annual reports submitted by institutions to Ministry
Evaluation of final results	Through institutional reports and dialogue with Ministry of Education and Culture	Through institutional reports, performance case studies and evaluation by HEA and international experts	By the Accreditation Organisation of the Netherlands and Flanders (NVAO)
Link to funding	If HEIs do not meet degree-award targets, part of the degree funding component (see Table 2) will not be allocated. Failure to meet the targets may also affect the allocation of the final instalment of strategic funding.	Between 3% and 5% of institutional core funding can theoretically be withheld in cases of (very) poor performance Modest additional payments for good performance case studies	An additional EUR 2.37 billion for the six financial years 2019-24 for the university and university of applied science sectors (= around 3% of HE education budget). Possibility for Minister to withhold payment if progress considered (very) unsatisfactory

Note: * The implementation period was extended owing to the COVID-19 pandemic.

The systematic evaluation of the first generation of Dutch performance agreements (which ran from 2012 to 2016) also concluded that the agreements had generated positive effects on the organisation and strategic focus of higher education institutions (Reviewcommissie Hoger Onderwijs en Onderzoek, 2017^[30]). In particular, the review commission responsible for the evaluation argued that the process of developing, negotiating and monitoring the agreements had helped higher education institutions to refine their institutional strategies, tailor their educational offerings and, in universities, sharpen their research profiles. The evaluation also noted that pass rates and on-time completion rates in universities increased during the implementation period for the performance agreements, but that on-time completion rates in bachelor’s programmes in universities of applied sciences actually decreased (from 70% to 67% overall), particularly in large institutions. The review team acknowledged that the inherently challenging (or impossible) task of establishing causal relationships (either positive or negative) between the performance agreement system and outputs (such as pass rates) was made even harder by an accumulation of other policy changes that were implemented in parallel.

The Dutch review commission examining the first generation of Dutch performance agreements concluded that a new generation of agreements should avoid the strong focus on centrally determined quantitative indicators and adopt a more qualitative approach, albeit with measurable indicators of progress at institutional level:

The committee recognises the limitations of working with indicators: not everything that is valuable can be measured. It is therefore important that in the assessment of and accountability for the agreements there is room for the context and the underlying story of the institution. Performance agreements offer the possibility of a strategic dialogue with the institution. The risk of strategic behaviour and perverse effects is greater if performance indicators are part of a mechanically applied formula in the funding model. The committee recognises the importance of qualitative goals, but is of the opinion that there must also be demonstrable efforts and results.[OECD translation] (Reviewcommissie Hoger Onderwijs en Onderzoek, 2017, p. 73^[30])

The balance of evidence internationally therefore suggests that performance agreements (or “quality agreements” in their latest iteration in the Netherlands) can have positive effects on system governance and institutional strategy, but that their impact of core output variables is likely to be limited. This raises the questions of how to formulate the objectives of such agreements in a realistic way, how to incorporate specific, measurable, achievable, relevant and time-bound (SMART) measures into agreements and whether and how to link agreements and institutional funding. It seems likely that institutional agreements function most effectively as accountability, transparency and strategic planning tools and that these should be their primary objective. To function as accountability tools, to take up the phrase of the Dutch review commission, there must be “demonstrable efforts and results”, but the use of one-size-fits-all indicators is ineffective as it masks complex realities. Using tailored institutional agreements with a limited number of SMART targets that can be assessed through qualitative and quantitative methods could be a promising approach.

The performance agreements used in Finland already align with this model. The introduction of performance agreements in Finland is widely reported to have increased focus on strategic planning and understanding and management of costs in higher education institutions. In Finland, the performance agreements act as a framework for ongoing dialogue between the Ministry of Education and Culture and individual institutions and the results achieved in each institutions inform negotiation of the following round of four-year agreements.

3 Policy options for addressing higher education-related priorities in Finland

This section of the policy brief examines how funding and related steering, regulatory and incentive policies can be used to further important policy objectives expressed in recent Finnish higher education strategy and tackle challenges identified earlier in this policy brief. The section examines seven specific objectives that appear particularly relevant for Finland and seeks to assess critically how realistic it is for funding or related government policies to influence the goals in question and, in broad terms, how policies might be designed to promote achievement of the goals in question. In each case, the brief has sought to identify relevant policy examples of comparator OECD jurisdictions, which may help inform discussions on the future design of the funding model and related policies in Finland.

The seven specific objectives are:

1. Widening access to first degrees for Finnish residents and increasing attainment rates in line with the 50% target.
2. Promoting the quality and relevance of higher education provision.
3. Increasing number of degree-mobile graduates in Finland.
4. Increasing uptake of upskilling and reskilling opportunities among adults.
5. Increasing capacity of UAS to undertake applied research and support regional innovation and supporting the 4% target.
6. Promoting cooperation and sharing of capacities between HEIs.
7. Exploiting the potential of digitalisation in learning and teaching, including hybrid and online learning.

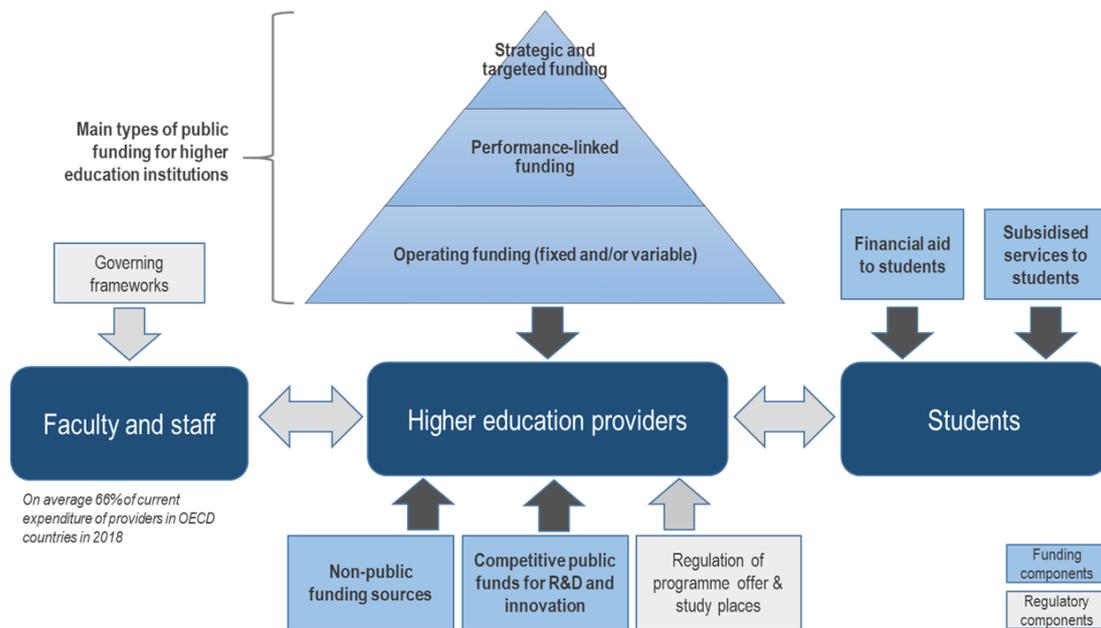
The discussion that follows recognises that funding allocation models sit within a broader policy landscape that influences the behaviour of institutions and students in higher education systems and that funding models cannot be viewed or analysed in isolation from this broader policy framework. It also recognises from the outset that there are clear limits on the capacity of funding model design – and policy more generally – to influence policy goals and that it is important to be realistic about what can and cannot be achieved through specific aspects of policy design.

Figure 8 provides a broad illustration of how core public funding to higher education institutions sits within the wider higher education and research funding and policy landscape, recognising the distinctive role of fixed or variable core funding, specifically performance linked funding (which may overlap with core funding) and strategic or targeted funding. Public authorities also influence institutional activities through other policy instruments, including programme approval, external quality assurance and regulation of study places. Some jurisdictions also exert a strong influence over the way HEIs deploy their resources, notably by establishing rules governing the employment of academic and non-academic staff. As wage costs account, on average, for around two-thirds of expenditure in higher education institutions in the OECD,

specific public policies related to human resources can have significant implications for financial management in HEIs. In other higher education systems, frameworks governing employment of staff may be established through collective bargaining or in other sector-level agreements.

In addition to funding institutions, public authorities in most OECD member countries provide financial aid to support students to pay for living costs and – where they exist – tuition fees, through systems of student grants or publicly regulated and subsidised loan programmes. In OECD systems with comparatively high tuition fees, such as the United States, the United Kingdom, Australia or Japan, public student aid systems are, in part, an indirect manner of financing institutions, as the public resources “received” by students – or at least a proportion of these resources – are used to pay fees to institutions. Finally, public authorities may directly finance other forms of support to students, such as subsidised housing, catering and sports facilities, medical support or transport, either through targeted grants to higher education institutions to provide these services or through subsidies to external service providers.

Figure 8. Elements in higher education funding systems



Without seeking to be exhaustive, Table 8 provides a summary of the how the seven main policy objectives listed above are typically supported by higher education policy in OECD countries and how the current Finnish system of institutional funding and accompanying policies seeks to promote achievement of the objectives. The remainder of the policy brief examines each of the seven objectives in turn and highlights questions or options to explore for Finland as it moves forward with review of its current policy models.

Table 8. Overview of key policy priorities for Finnish higher education and related policy levers

Policy priority	Related objectives / actions	Main policy levers used in OECD systems	Current Finnish funding and policy model
1. Widening access to first degrees for Finnish residents and increasing attainment rates in line with the 50% target	Increase absolute number of study places	Increasing regulated / state-funded places (numerus clausus) Funding linked to student/graduate numbers + increases to budget envelope + weighted to field of study	Numerus clausus (maximum study places agreed per broad field of study in performance agreements), combined with agreed funding levels (ensuring some stability in per-student funding). Transparent weighting for expensive programmes
	Increase progression and completion rates	Output variables in variable funding (credits + degrees) Time limits on funding Multipliers adjusting funding to progression Accompanying policies (study guidance, investment for student support mechanisms in institutions)	Strong output focus (key variable = degrees completed) Multipliers depending on time to degree (1.5, 1.3, 1)
	Reduce proportion of students undertaking multiple degrees at same level (efficient use of spaces)	Limits on eligibility/funding: for example, funding available for only one qualification at each level or placing limits on the duration of student aid	Traditionally high flexibility in allowing students to take multiple degrees Multiplier (0.7) for second degrees at same level and above Limit on maximum number of months of student aid
2. Promoting the quality and relevance of higher education provision	Ensuring that higher education provision is aligned with labour market skills demands	Analysis of labour market relevant in new programme approval Targeted funding for study places in priority fields	Use of skills projections to inform degree-award targets for HEIs Inclusion of graduate labour market outcome variables in funding formula
	Promoting high-quality learning experiences and environments for students	General quality assurance frameworks National / centralised student surveys and use of results	General quality assurance frameworks Student feedback survey and use in funding formula
3. Increasing number of degree-mobile graduates in Finland	Attracting more (fee-paying) non-EU/EEA students to Finland	Permission / incentives for programmes in English Many systems charge fees/higher fees for international students, creating incentives for HEIs to recruit these students	Fees can be charged for non-EU/EEA students within limits set by government English programmes permitted Campaigns etc. supported by government and measures to facilitate entry to Finland for study (visa rules etc.)
4. Increasing uptake of upskilling and reskilling opportunities among adults	Incentivise HEIs to develop, test and provide new types of flexible provision	Strategic and targeted funding (pilot programmes etc) Formula funding for part-time, certificate programmes, short courses (appears rare)	Strategic funding + performance agreements Additional incentive for cooperation between HEIs
	Finance uptake of upskilling and reskilling (i.e. study costs)	Lifelong learning guarantees (state pays for x number of credits through lifetime) Individual learning accounts Direct subsidy to HEIs for provision	9% of funding for UAS, 5% funding for universities is for continuous learning (open higher education, professional specialisation programmes, separate studies and preparatory education for immigrants). 1 percentage point of total funding for both sectors under this category is explicitly for cooperation in programme delivery between HEIs
5. Increasing capacity of UAS to undertake applied research and support regional innovation and supporting the 4% target	Make research and innovation a core element of UAS mission	Legislative and regulatory reform regarding missions of non-university institutions Performance agreements	Strong emphasis on research and innovation in mission of UAS and performance agreements
	Provide resources specifically for research and innovation activities in UAS	Dedicated funding for applied and practice-oriented research	19% of total funding to UAS is for research = an exceptionally high proportion by OECD standards

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Policy priority	Related objectives / actions	Main policy levers used in OECD systems	Current Finnish funding and policy model
6. Promoting cooperation and sharing of capacities between HEIs	Incentivise cooperation between institutions	Targeted or strategic funding for cooperation projects No examples yet uncovered of national explicit incentives for cooperation in education (several examples for research + EU programmes)	Incentive for cooperation in the “continuous learning” component of the model Targeted funding programmes (e.g. for digitalisation) that require HEIs to cooperate. Cooperation goals in performance agreements in some HEIs
7. Exploiting the potential of digitalisation in learning and teaching (including hybrid and online learning)	Increasing deployment of digital technologies to enhance learning in established HEIs/programmes	Targeted funding in some systems: mostly left to HEIs	Largely left to HEIs (regulatory and QA frameworks allow online and hybrid provision) Targeted funding for digitalisation
	Providing new online and hybrid programmes	Permissive regulatory and QA frameworks to allow online and hybrid provision Some pilot projects linked to upskilling/reskilling. Otherwise, generally left to HEIs	Largely left to HEIs (regulatory and QA frameworks allow online and hybrid provision)

1. Widening access to first degrees for Finnish residents and reaching the 50% target

As discussed, achieving higher rates of tertiary education attainment to deliver a more highly skilled workforce, as well as widen access to higher learning, is a key priority for Finnish higher education policy. In broad terms, there are three main options for policy makers seeking to boost attainment rates:

1. Increase absolute number of study places available to students, either by funding additional places or requiring HEIs to offer more places within existing budgets.
2. Increase progression and completion rates among students to shorten average times to degree and increase the proportion of students who actually obtain a qualification.
3. Reduce the proportion of students taking multiple degrees at same level to “free up” study places for students taking their first higher education qualification.

The following sections consider the options open to policy makers in Finland, taking into account experiences from other OECD systems.

1.1 Increasing study places

In Finland, the Ministry of Education and Culture agrees budgeted allocations of degree awards for each higher education institution by study field³, informed by employment forecasts, with the allocations established every four years in institutional performance agreements. These agreements reflect the willingness and capacity of institutions to supply additional study places, while the Ministry effectively plays the role that student demand would play in demand-driven systems (OECD, 2022_[2]). In 2020, the Finnish government agreed to fund an additional 4 248 study places and committed to funding 5 954 additional study places, in total, in 2021 and 2022 (OECD, 2022_[2]). This commitment was budgeted at EUR 46 million per year in additional spending (OKM, 2020_[31]) and was intended as a step towards achieving its educational attainment target (Government of Finland, 2021_[6]).

There is strong evidence that demand for higher education study places in Finland exceeds supply, which is sharply illustrated by the particularly low acceptance rates for those applying to enter higher education. In the six years between 2015 and 2020, universities accepted 30% of applicants, with 28% making an enrolment. The corresponding figures for UASs are 33% and 28%. The Finnish system is one that is principally “supply-led”, in that institutions have a large measure of control over who enters the institution and what new entrants study and a conscious attempt is made to align the profile of graduates with forecasts of labour market needs. Institutions have a high degree of autonomy on who they admit to higher education and are not required to meet to fill the target numbers of degree awards specified in performance agreements, which are rather caps on the number of degrees that can be awarded.

In its previous policy brief for Finland, the OECD found that, to reach the 50% attainment target among 25–34-year-olds, the Finnish higher education system needed an additional 34 500 higher education graduates in that age group between 2019 and 2030 and that 10 000 additional study places each year above the system’s 2020 enrolment capacity needed to be maintained for five admission years from 2021 (OECD, 2022_[2]). The brief concluded that “further and swifter progress would require a realistic long-term plan backed by higher levels of resourcing, with commitment at the centre of government to a substantially larger budget envelope than has been envisioned in the 2021-24 period” (OECD, 2022, p. 20_[2]).

³ For example, in universities study places are allocated to 12 study fields: 1) education; 2) arts and culture; 3) humanities; 4) social sciences; 5) business, administration and law; 6) natural sciences; 7) computer science and data communications; 8) technology; 9) agriculture and forestry; 10) medicine; 11) welfare and health; and 12) services.

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As discussed below, while there is some scope to increase attainment by making accelerating times to degree, increasing completion rates and reducing the number of students taking multiple degrees at the same level, reaching the attainment target, and thus increasing the supply of skills to Finland’s labour market, certainly requires additional funding for study places and stronger incentives for HEIs to enrol and graduate more students. As noted earlier, Finland’s higher education system has experienced substantial real-terms cuts in funding in the last decade and its level of per-student spending is lower than in many other advanced higher education systems. As such, the scope to reduce further the effective per-student funding rates (which result from the distributive formula, rather than pre-determined unit prices), without compromising the ability of HEIs to offer quality education, appears limited.

Nevertheless, there does appear to be scope to increase the – currently limited – incentives for institutions to maximise enrolment within available funding and take greater risks in terms of which students they enrol. Currently, institutions are paid depending on the number of degrees completed and have strong autonomy over admission criteria. However, as the funding allocation model uses data averaged over a previous three-year period and HEIs are able to select the most able students with the best chances of completing their studies, funding levels vary little over time and the output-driven nature of the formula has little real impact on institutional behaviour. HEIs face no (or very limited) consequences if they do not meet the degree-award targets in their performance agreements and appear to focus primarily on ensuring they can maintain income levels without substantially increasing student enrolment (and thus the workload for staff).

Implications for Finland’s future policy

- Seek to increase the budget envelope for higher education to reflect better the investment levels needed to meet the 50% target. Unlike many other OECD countries – although in line with other Nordic countries – Finland has chosen to maintain a purely publicly funded higher education system for its own residents, which means that, unlike many other systems, fees cannot be used to generate additional revenue. Politicians need to assume this choice and the funding requires the choice brings with it.
- Consider making the graduation targets established in performance agreements binding on institutions, with financial penalties for failure to meet the targets without reasonable justification.

1.2 Increasing progression and completion rates

A second option to explore to increase overall attainment rates is to reduce the time students take to complete qualifications (beyond the theoretical programme duration) and to reduce drop-out rates, thus increasing programme completion. The challenges of high non-completion rates and – in some systems – long times to degree are widespread across many OECD systems, as highlighted earlier. From a funding and steering policy perspective, the most frequently used policy option, although one that has been deployed in only a minority of OECD systems, is performance or output-related funding. As noted, Finland already has a strongly output-oriented funding model.

Although an increasing number of OECD member countries have introduced output and outcome-related funding models, robust research into the effects of such systems has been limited. State governments in the United States were among the first in the OECD to embrace output-based funding, initially in the 1980s and 1990s and subsequently in another wave of reforms in the 2000s. As a result of this early experimentation, as well as the advanced evaluation capacity that exists in the US scientific community, most available studies into the effects of performance funding are from the United States. A significant number of these deployed robust quasi-experimental research designs. A recent analysis of the results of these studies (see Box 1) found only limited evidence of positive effects from performance-based funding systems on target variables, such as student progression and completion rates. The analysis also found widespread examples of unintended and undesirable consequences (Ortagus et al., 2020^[32]).

Fewer studies have investigated the impact of output and outcome funding in European higher education systems, although the evidence that does exist suggests a similarly limited impact. A study in Denmark found the completion-oriented “taximeter” system to have had a mixed influence on completion rates in Danish higher education institutions. At the Copenhagen Business School, for example, the implementation of the taximeter was followed by an increase in completion rates at the bachelor’s level, but a reduction in rates at the master’s level (Claeys-Kulik and Estermann, 2015^[33]). Likewise, an evaluation of different performance-based funding formulas used in German federal states between 2000 and 2008 found that their introduction was rarely followed by significant changes in the outputs they sought to influence, casting doubt on their efficacy, particularly given the cost of their implementation (Dohmen, 2016^[27]).

Box 1. The effects of performance-based funding: evidence from the United States

In the United States, 41 of the 50 states have linked state appropriations for higher education institutions to outputs or outcomes in the last 20 years. These systems have typically used credit hours earned, degrees awarded and attainment among historically under-represented groups as variables. The proportion of state appropriations now tied to output and outcome indicators varies from 3% in Arkansas to 100% in Ohio. State appropriations typically account for less than 50% of total income in public universities in US states, although can account for a higher proportion of revenue in public community colleges, which generally charge substantially lower fees (OECD, 2020^[34]).

In meta-analysis, Ortagus et al. examine evidence from research studies with strong causal inference designs examining the effects of these performance-based funding (PBF) systems in the United States. The evidence review focuses on 23 studies with quasi-experimental designs and a further 15 studies using robust difference-in-difference techniques.

They find that the introduction of PBF systems is associated with no or only minor positive effects on retention and graduation (completion). Modest positive effects have been established for a limited number of longstanding PBF programmes and for elements of PBF models that provide bonuses for degrees achieved in specific fields (notably targeting additional institutional funds to boost uptake of STEM subjects). Moreover, there is some evidence that institutions took steps to improve academic and student support services in response to PBF systems focused on progression and completion. However, the evidence review also found that the introduction of PBF systems frequently has unintended consequences:

- Selective institutions tend to become more selective, disadvantaging under-represented groups, who face the greatest challenges in accessing and completing higher education.
- PBF systems tend to exacerbate funding disparities between institutions, with lower-resourced institutions losing out on funding that could potentially be used to improve performance. This is a particular concern for Historically Black Colleges and Universities (HBCU).

The authors conclude that it is challenging, in higher education, to apply and implement performance-based funding systems that focus on a narrow set of outputs (or a single output) given the wide range of desirable outputs generated by universities and colleges. Furthermore, they question whether the principal-agent approach inherent in most PBF systems is an appropriate means to regulate relations between government and autonomous higher education institutions, particularly given a more general shift away from top-down accountability mechanisms in education in recent years.

Source: Ortagus et al. (2020^[32]) *Performance-Based Funding in American Higher Education: A Systematic Synthesis of the Intended and Unintended Consequences*, <http://dx.doi.org/10.3102/0162373720953128>.

An alternative (or complement) to performance-related funding or similar incentive structures is to take additional steps to encourage HEIs to focus on supporting students to progress and complete their studies, particularly in the initial stages of the academic pathways. Some international evidence shows that students’ initial momentum in their studies has a determining impact on their chances of success. Students in Flemish higher education who enrol for higher numbers of credits in the early stages of their higher education career are found to have higher chances of passing credits and obtaining qualifications than students who take lower numbers of credits (Werkgroep "Studievoortgangbewaking", 2014^[35]). This finding is supported by a body of work in the United States focusing on study “momentum”, which also finds that students with higher study intensity at the start of their higher education career are significantly more likely to complete a degree (Attewell, Heil and Reisel, 2012^[36]; Clovis and Chang, 2019^[37]).

Implications for Finland’s future policy

- The international evidence on output-linked funding models, sharing some characteristics with the model used in Finland, is mixed and the impact of such systems on objectives such as time to degree, degree completion and degree completion in priority subject fields is often inconclusive. Considering Finland’s long experience, Finnish authorities should conduct an independent assessment of the effects the successive Finnish output-based funding models have achieved to provide a more solid base for policy decisions. One key question to explore is whether the Finnish model of funding, which funds completed degrees, encourages HEIs to be conservative in setting the threshold grades in matriculation exams required of new entrants, thus limiting access to higher education for populations who gain lower grades, but still have the potential to succeed in higher education.
- In light of the findings of such analysis, it would be appropriate to reflect on the ongoing relevance of a funding model based on outputs rather than inputs (enrolment), as used in other funding systems. Finland’s system of performance agreements and regulation of the educational offering already creates important steering tools for public authorities. Does the country really need to focus to such as large extent on outputs in its funding model?
- To what extent do current Finnish higher education policies promote institutional practices that support successful progression and completion, outside of the incentives created by the funding model? The highly selective nature of the current admissions system means that student advising and supports may be less developed than in systems with more open admission systems (such as those in Dutch-speaking Europe, Austria, and less selective parts of North American higher education systems). Is there scope for peer learning in this area?

1.3 Reducing the number of students taking multiple degrees at the same level

The design of the current Finnish funding models for universities and universities of applied sciences explicitly seeks to discourage institutions from enrolling students at a given level of education who have already completed qualifications at the same level by only compensating completed second (or additional) degrees at 70%⁴ of the rate paid for first degrees (Government of Finland, 2018_[20]). More generally, public authorities can effectively limit the number of qualifications for which individuals can receive public subsidy – or full rates of public subsidy – through two main policy tools: a) the design of student aid systems and b) the design of state funding for study places and related regulation.

The 2020 Higher Education Policy Survey found that 16 of the 28 responding OECD jurisdictions that provide grant support to students (non-repayable student aid) provided grant support for a maximum of one programme at each level of study (Golden, Troy and Weko, 2021_[38]). In some cases, this means students can obtain grants for an associate (short-cycle) degree, a bachelor’s degree and a master’s degree. Some other jurisdictions limit grant support to undergraduate study. Like Finland, many Canadian provinces, Hungary, New Zealand, Norway and Sweden indicated they determine maximum eligibility for student grants through a fixed total duration (e.g., in months). This is also the case in Denmark (see Box 2). The time limits used in such cases – as in Finland or Denmark – are typically designed to allow students to complete at least one undergraduate and one master’s qualification with some margin for delays compared to the theoretical programme durations.

Among jurisdictions responding to the survey, only Estonia, Luxembourg and the Flemish Community of Belgium explicitly indicated that they provided grant aid to students for multiple, consecutive degrees at

⁴ The 2018 proposals in the document cited recommended a funding rate of 0.5. However, in implementation, a rate of 0.7 was adopted.

the same level. Although regulations in the Flemish Community of Belgium explicitly permit students to obtain up to two short-cycle and two bachelor’s degrees with public funding, eligibility for state-funded places (with lower tuition fees) and means-tested student grants is limited by systems of “learning credit” and “grant credit”. These systems have been designed to allow flexible access to higher education, while rewarding successful progression and completion of studies and limiting the total time that individuals can spend in publicly subsidised higher education (see Box 2).

The real effects of limits to eligibility for public student aid on student choice and behaviour will likely vary between OECD higher education systems, depending on the reach and generosity of student aid systems (see *Education at a Glance 2022*, Indicator C.5. (OECD, 2022^[3])). In systems with universal or near-universal systems of student support, involving substantial levels of payments – including, in very different forms, the Nordic countries, England and the United States – the influence of limits to student support eligibility on students’ decisions on whether and what to study is likely substantial. In systems where student aid is strictly means-tested, only a minority of students receive public student aid and levels of payment are comparatively low – as in countries like France, Italy or Portugal – the effect of eligibility restrictions is likely lower – particularly for the majority of students who are not eligible for student aid in any case.

Box 2. Limits on eligibility to student financial aid

Finland

Since 2017, as a rule, eligible Finnish residents can receive a cumulative maximum of 54 months of public financial aid for study at universities and universities of applied sciences. Maximum eligibility periods vary depending on the type of higher education programmes for which students are enrolled. For example, students enrolled in standard bachelor’s and master’s programmes can receive nine months of student aid per 60 credits (i.e., one-year full time) plus an additional three months’ aid. For a standard university bachelor’s degree (180 credits) and a standard university master’s degree (120 credits), this equates to 48 months in total.

Denmark

In Denmark, eligible Danish residents are entitled to up to 70 months of non-repayable financial aid (*Statens Uddannelsesstøtte* – SU) when they enrol in higher education. When students enrol in a specific programme, they are entitled to a number of monthly grants (referred to as SU “clips”) corresponding to the standard length of that programme (for example, 36 months or “clips” for a three-year bachelor’s programme). Students who enrol in their first higher education programme no later than two years after completing their first qualification permitting admission to higher education (such as a high-school diploma) are granted an additional 12 clips, which can be used if students are unable to complete their programme in the standard time. Students who run out of SU grant clips before they complete their education can obtain repayable loans from the agency administering SU of up to 24 months to complete their programme.

Flemish Community of Belgium

In the Flemish Community of Belgium, citizens have an individual “learning credit” account for higher education and must have sufficient credit in their account to be eligible for a state-funded place in higher education. All individuals start with a learning credit of 140 points, with one learning credit point corresponding to one study credit for undergraduate programmes. Enrolling in a full-time programme consumes 60 points for one year. In initial undergraduate programmes (associate and bachelor’s degrees), individuals “earn back” learning credit for each credit that they successfully pass and an additional bonus 60 credits after the passing their first 60 credits. Students can only continue their education in state-funded study places, including at master’s level, if they have retained or earned back sufficient study credit. The learning credit system is mirrored by a system of “grant credit”, which opens eligibility to means-tested grants. Students start with a grant credit of 120 points, which they use when they enrol for a corresponding number of study credits and can “earn back” when they successfully pass credits. This means students have a margin of 60 credits that they can fail before losing eligibility to grant support.

Sources: Kela (2022^[39]) Maximum period of eligibility in a university, <https://www.kela.fi/maximum-period-of-eligibility-universities> (accessed on 13 December 2022); Danish Agency for Science and Higher Education (2022^[40]) SU-klippekort til videregående uddannelser (SU clip card for higher education), <https://www.su.dk/su/om-su-til-videregaende-uddannelser-universitet-journalist-laerer-mv/su-klippekort-til-videregaende-uddannelser/> (accessed on 9 January 2023); OECD (2021^[21]) Resourcing Higher Education in the Flemish Community of Belgium, <https://doi.org/10.1787/3f0248ad-en>.

The Flemish student credit systems effectively regulate both access to student financial aid and subsidised study places. Students who have insufficient learning credit to enrol in a programme can still study if individual institutions decide to admit them and, in most cases, they pay an additional regulated fee (up to EUR 11 in 2022/23) per study credit for which they enrol (Flemish Government, 2022^[41]). However, as institutions do not receive public operating funds from the allocation formula for students without study

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credit and the additional fees they can charge are capped at a low level, they have limited incentives to accept students without study credit.

Box 3. Limiting publicly funded study places in OECD higher education systems

Denmark

In 2016, the Danish Parliament adopted legislation restricting the ability of individuals who held an existing Danish higher education qualification from enrolling in another degree at the same or a lower level within six years of completing their highest existing higher education qualification. The “education ceiling” (*uddannelsesloft*) was designed to avoid students taking multiple degrees at the same level in quick succession and generate savings for the state budget that could be reinvested in the unemployment benefit system (UFM, 2020^[42]). Exceptions to the general rule were made for students unable to use their existing qualifications for health reasons, those holding qualifications that were demonstrably outdated or students enrolling in programmes on the government’s “positive list” of fields with high labour market demand (mainly in STEM fields and nursing). Opponents argued the rule unnecessarily restricted access to education, including for upskilling and reskilling, and the legislation was repealed in 2020 (UFM, 2020^[42]).

The Netherlands

In the Netherlands, students at public higher education institutions pay tuition fees, which constitute an important source of institutional funding. Students studying an associate, bachelor’s or master’s degree for the first time are entitled to subsidised tuition fees and pay “statutory” fees (*wettelijk collegegeld*), equivalent to EUR 2 209 per year for 2022/23 (DUO, 2022^[43]). First-time students in associate and bachelor’s degrees pay half the legally determined fee in their first year. The additional costs of their programmes are – in theory at least – covered by government grants (*Rijksbijdragen*). Students that already hold a degree at a given level (associate, bachelor’s or master’s) and enrol in a subsequent degree at this level are only eligible to pay the reduced fees if the second degree is in the fields of education or healthcare (e.g., to study towards becoming a teacher, nurse or doctor) or if the student begins the second degree during their first degree. In other cases, such students must pay higher fees set by the institution (*instellingscollegegeld*), which vary by subject and average over EUR 10 000 per year for a university bachelor’s degree (Universiteit Leiden, 2022^[44]) and around EUR 8 700 per year for a bachelor’s in a university of applied sciences (HBO Start, 2022^[45]).

Scotland (United Kingdom)

The interaction between public funding for higher education institutions and tuition fee levels in Scotland is similar to the situation in the Netherlands. The Scottish government provides differing levels of subsidy to Scotland’s universities for students in different situations. Students who are resident in Scotland taking their first undergraduate degree are exempt from paying fees, with universities receiving varying rates of subsidy per student depending on the field of study. As a rule, Scottish students wishing to enrol for a second undergraduate degree must pay regulated fees (GBP 1 820 per year in 2022/23). However, there are exceptions for certain programmes qualifying individuals for health professions and teaching, for which students can enrol with fully subsidised fees (Student Information Scotland, 2022^[46]). Students from outside Scotland pay higher fees, either regulated by the Scottish government or set independently by the universities, with the highest rates paid by non-UK international students.

Sources: UFM (2020^[42]) Historiske dokumenter om uddannelsesloftet (Historical documents about the “Education Ceiling”), <https://ufm.dk/aktuelt/pressemeddelelser/2020/nu-er-uddannelsesloftet-revet-ned/dobbeltuddannelse/uddannelsesloftet> (accessed on 8 January 2023); DUO (2022^[43]) Collegegeld (Tuition fees), <https://duo.nl/particulier/collegegeld.jsp> (accessed on 8 January 2023); HBO Start (2022^[45]) Wat kost een hbo opleiding? (What does a professional higher education programme cost?), <https://www.hbostart.nl/wat-kost-een-hbo-opleiding/> (accessed on 13 December 2022); Student Information Scotland (2022^[46]) Funding Your Studies, <https://www.studentinformation.gov.scot/students/higher-education/funding-your-studies> (accessed on 8 January 2023).

The second main policy tool used to limit the number of qualifications for which students can receive public support focuses on institutional funding, placing limits on whether and how much public funding institutions receive for second or multiple degrees. As noted, this is the approach that Finland has adopted, with the 0.7 funding rate in the allocation formula for second degrees at the same level. As shown in Box 3, other OECD systems have introduced policies to limit public subsidy for multiple degrees. In Scotland and the Netherlands, public subsidy is only paid for the first degree at each level. In the Netherlands, aside from a few exceptions in priority subject areas, students who enrol for a consecutive degree at the same level have to pay higher tuition fees set by institutions. In Denmark, the government sought to restrict eligibility for publicly subsidised multiple degrees from 2016 onwards, but this policy was revoked following a change of government on the grounds that it ran counter to national priorities in relation to skills and upskilling (UFM, 2020^[42]).

Implications for Finland’s future policy

- Finland limits the total duration for which individuals may receive public student aid, in common with policies in many other OECD higher education systems, including others with high-coverage, high-benefit systems of financial support, such as Denmark. The Finnish system of student aid allows individuals to complete a bachelor’s degree and a master’s degree with some margin for delays, which appears to be consistent with Finland’s objectives of supporting participation in higher education – including among those from socio-economically disadvantaged backgrounds – while encouraging timely completion.
- Finland does not currently restrict the number of degrees that individuals can pursue at the same level of qualification in state-funded study places. This contrasts with the situation in many other advanced OECD higher education systems, which do impose limits in this respect. The Finnish approach appears to be consistent with that in some other Nordic countries. It is notable, for example, that a policy to limit the number of degrees that individuals can take at the same level introduced in Denmark was reversed after a change of government in light of protests. Nevertheless, in a comparatively high cost, but resource-constrained higher education system such as Finland, which also needs to create additional capacity to boost overall higher education attainment, it is questionable whether Finland can afford to continue to subsidise students to take multiple degrees at the same level.

2. Promoting the quality and relevance of higher education provision

Public authorities typically aim to promote the quality of higher education and, to some extent, its relevance to societal requirements for knowledge and skills, through external quality assurance and a funding and regulatory environment that creates the conditions for HEIs to deliver high-quality, relevant education. However, in addition to the variables related to degree completion and time to degree discussed above, higher education authorities in some OECD jurisdictions have sought to include parameters more directly linked to quality and relevance in their funding allocation systems for HEIs.

As illustrated in Table 4, Estonia and Denmark, for example, attach a relatively small share of core funding to public HEIs to parameters linked to the share of graduates in employment. Finland also links 4% of university core funding and 6% the core education grant to universities of applied sciences to graduate employment outcomes, focusing on the share of graduates in employment and their feedback on how the jobs they hold align with their studies. Denmark, Estonia and Finland are the only OECD systems analysed in the OECD Resourcing Higher Education Project that use graduate employment indicators in their core funding formulas. Both Denmark and Finland allocate a small proportion of total funding for education to

the results of student feedback surveys, using these data as another proxy for educational quality. Again, Denmark and Finland are the only systems identified to use student feedback data in this way.

In an alternative approach, England’s Office for Students collects similar data on graduate employment outcomes and student feedback on their higher education experience to indicate institutions’ performance in the Teaching Excellence Framework (Office for Students, 2020^[47]). Participation in the Teaching Excellence Framework (TEF) is voluntary, but a TEF award allows institutions to increase the maximum annual undergraduate tuition fees they can charge by 2.5% from GBP 9 000 to GBP 9 250. The Office for Students has more recently proposed using graduate employment outcome indicators as a measure in its regulation of the sector, by establishing minimum graduate employment rates that programmes should reach. If graduate outcomes fall below these minimum standards, the Office for Students will be able to launch investigations to understand why this is the case, taking into account the context and student intake profile of the programmes affected (Office for Students, 2022^[48]). Denmark also complements its funding model with a system that restricts the number of study places in fields from which graduates have persistently poor employment outcomes. However, this regulation operates nationwide by study field, in contrast to the programme-level approach proposed in England (OECD, 2021^[25]).

Implications for Finland’s future policy

- Clear evidence on the effects of the inclusion of measures of graduate employment outcomes and student experience in the funding formula in Finland is lacking. The planned evaluation of the funding model may shed some more light on the effects of this policy.
- Discussions with policy makers in Denmark reveal a similar lack of evidence on the precise effects of using measures of graduate employment outcomes and student experience in their system. Experts consulted for this brief concurred that the Danish system sent clear signals to higher education institutions about the importance attached to relevance and the quality of learning environments, but that it was intrinsically difficult to measure the effect of these signals on institutional behaviour.

3. Increasing number of degree-mobile graduates in Finland

In 2020, the Finnish government adopted a new strategy to support internationalisation in Finnish higher education and research in the period to 2025 (Government of Finland, 2020^[49]). Actions include a flagship programme to increase international interest in Finnish research, a continued focus domestically on the quality of learning environments as part of creating internationally attractive knowledge ecosystems, joint marketing initiatives, new approaches to attracting private investment for education export projects and for product development in the sector and measures to facilitate arrival in Finland for international students and researchers. In light of its ambitious to strengthen its knowledge-based economy and respond to demographic aging, recent Finnish governments have sought to attract an increasing number of international students and researchers to the country and create conditions to facilitate their integration into Finnish knowledge systems and labour market.

Universities of applied sciences and universities in Finland charge tuition fees to students from outside the European Union (EU) and European Economic Area (EEA) at bachelor’s and master’s level who study for a degree in languages other than Finnish or Swedish (i.e. essentially programmes in English). Fees are set by higher education institutions and mostly fall in the range EUR 4 000 to EUR 18 000 annually. Institutions may offer scholarships to non-EU/EEA students who are expected to pay fees, while a national scholarship programme for “gifted” master’s students also exists (Study in Finland, 2023^[50]). At doctoral level, no fees are charged, regardless of the nationality of the student (Studyinfo, 2023^[51]). Degrees

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obtained by fee-paying students count towards the degree-award targets agreed for each HEI in Finland meaning that HEIs also receive public subsidy for international students that they graduate.

Of the minority of OECD higher education systems where public funding to institutions is allocated using parameter-driven formulas, Estonia is the only system identified that explicitly uses its funding formula to reward higher education institutions for enrolling international students. As highlighted in Table 4, Estonia allocates 1.7% of the teaching grant it pays to HEIs based on the share of international students in overall enrolment.

More generally, OECD countries, other than those the Nordic region and some other European systems such as France, tend not to subsidise study by international students in their higher education systems. At one level, there may be the belief among policy and law makers that resources from national (or, as in the United States, state-level) taxpayers should be used to subsidise the education of national (or state) students who are more likely to remain in the country or state and subsequently contribute to local economic development and future tax revenues. At another level, in internationally attractive higher education systems, through the fees they pay, international students can provide a valuable – and sometimes substantial – contribution to the overall income of the higher education sector. This is notably the case in the United Kingdom and Australia. In Australia, higher education, as part of the wider sector of educational services, is routinely cited as the country’s fourth-largest export industry, with international students representing 27% of enrolment in higher education in 2019 and international-student fees contributing over 27% of total institutional revenue in the Australian higher education sector (Ferguson and Spinks, 2021^[52]).

While direct institutional funding for internationalisation appears to be rare in OECD systems, several countries do operate national scholarships programmes for international students who come to study in their higher education system, often targeting the highest-performing students. These are the equivalent of the Finland Scholarship programme, although in some systems applicants may apply centrally for funding, rather than to individual institutions, as in Finland. The Fulbright Foreign Student Program in the United States is one of the longest-established and best known of such scholarship programmes internationally (Fullbright, 2023^[53]). Other examples include France’s Eiffel programme (Campus France, 2023^[54]) and the national scholarships programme for international master’s students in Estonia (Study in Estonia, 2023^[55]).

Irrespective of whether they explicitly view higher education at a revenue-generating industry, most OECD countries with advanced higher education systems have adopted, like Finland, national internationalisation strategies for higher education. Among non-English-speaking countries with higher education systems similar to Finland’s, national internationalisation strategies tend to focus on increasing the international profile of their higher education institutions and the international attractiveness of the educational offering. Sweden’s internationalisation strategy, for example, focuses on developing the country as a “study destination and knowledge nation” (Government of Sweden, 2018^[56]). In the Netherlands, the Dutch national strategy stresses the need to develop a balanced offering in English – with adequate mixing of students from different backgrounds – and, like Finland’s own strategy, includes objectives related to housing and opportunities for international students to stay on to work in the domestic labour market after completing their studies (Vereniging Hogescholen and VSNU, 2018^[57]). Neither Sweden nor the Netherlands include internationalisation parameters or goals prominently in their higher education funding and steering systems.

Implications for Finland’s future policy

- Finland seeks to attract more international students to the country, while also allowing international students to contribute to the funding of higher education institutions through the tuition fees they pay. The cost constraints facing the higher education sector mean that there is

little financial room to fully subsidise study places for international students, as was previously the practice in Finland before international fees were introduced. There is thus no clear case for including specific international student enrolment or graduation parameters in the public funding allocation model.

- Rather, Finland’s future financial investments in internationalisation will likely be focused on promoting Finland as a study destination, through actions related to its current (and potentially updated) internationalisation strategy, and through the public funding it provides for scholarships for international students. As noted in a previous OECD policy brief, a key constraint for bringing more international students to Finland is the low acceptance rate of international students in Finland’s highly selective HEIs (OECD, 2022^[2]). Addressing this will inevitably require action to expand the overall number of student places, in line with the discussion above.

4. Increasing uptake of upskilling and reskilling opportunities among adults

The terms upskilling and reskilling refer to opportunities for adults to upgrade their existing knowledge and skills in fields where they already have at least foundational skills or to learn skills in a new field. In a higher education context, upskilling and reskilling can occur through individuals taking mainstream higher education programmes (a first or different bachelor’s or master’s degree, for example) or through more targeted, shorter learning offerings provided by higher education institutions. In Finland higher education institutions offer “open” education programmes in which anyone can enrol irrespective of their educational background and non-degree continuing professional education, where students who already hold a higher education or equivalent qualification can enrol for individual courses and study alongside degree-seeking students.

As noted, Finland’s core funding allocation model for HEIs allocates respectively 4% and 8% of total core funding to universities and universities of applied sciences based on the numbers of credits gained in open and continuous learning. Additional core funding to both sectors is related to continuing education provided through cooperation between HEIs. Finland’s is the only formula-driven core funding model revealed by the OECD Resourcing Higher Education Project that explicitly links funding to activity in continuing education in this way. Although the allocation model in the Flemish Community of Belgium uses credits as a principal unit for measuring enrolment and study success, this is primarily to allow the model to fund students studying part-time (e.g., 30 credits a year) in mainstream associate degree, bachelor’s or master’s programmes. The model does not fund shorter continuing learning programmes or modules, and take-up of continuing learning in the Flemish Community of Belgium is comparatively low by international standards (OECD, 2021^[21]).

An increasing number of OECD countries have provided temporary targeted funding to higher education institutions to support them to develop new, flexible continuing learning offerings for upskilling and reskilling. These include a trial of new types of short courses in England launched in 2022 (Office for Students, 2022^[58]) and a “micro-credentials pilot in higher education” coordinated by Australia’s Department of Education in 2023 (Department of Education, 2023^[59]). In both these systems – which share many design characteristics – support to institutions to develop new learning offerings has gone together with proposals to expand loan-based student-support systems to make them available to students in short upskilling and reskilling programmes, rather than just mainstream undergraduate programmes. Ireland’s ongoing “Springboard+” programme, funded through the National Training Fund (itself resourced through an employer levy), is a well-established policy for provided targeted funding to HEIs to offer upskilling and reskilling programmes aligned with national skills needs (Higher Education Authority, 2023^[60]).

One of the challenges for governments seeking to promote the development and uptake of advanced upskilling and reskilling opportunities in higher education in the European Union relates to the application of state aid rules. Whereas mainstream higher education is clearly classified as a non-economic activity falling outside the scope of state aid rules, the status of continuing learning activities provided by HEIs and for which fees are charged is less clear cut. When continuing education and training programmes offered by HEIs compete with programmes offered by private providers in a market environment, public funding for the delivery of such programmes and other forms of effective cross-subsidy, such as use of staff and buildings from public HEIs, can be considered as state aid, which is formally prohibited under EU law, except in specific and limited circumstances. For this reason, some HEIs provide continuing learning in separate operational units, established under private law and with separate accounting. Recent analysis by the OECD, while clarifying certain principles, has shown that the precise application of EU state aid rules to continuing education and training provided by HEIs remain unclear and complicate the development of upskilling and reskilling programmes in higher education (OECD, 2022^[61]). The OECD has called upon the European Commission and national authorities to clarify guidelines in this area.

As an alternative to funding learning providers (such as HEIs) to offer continuing learning, governments in many OECD countries channel public support for advanced upskilling and reskilling through learners or, in some cases, employers. As summarised in Table 9, policy mechanisms targeting learners and employers seek to create incentives for participation in upskilling and reskilling by reducing the costs of training, setting aside funds for future training, tackling temporary liquidity constraints or decreasing the non-direct opportunity costs of participating in training (such as lost earnings). In Finland, as in other Nordic countries, the traditional model has been to subsidise learning providers to reduce or remove the cost of participating in continuous education (although fees exist for continuous learning in most Nordic countries). Channelling subsidies and incentive policies through employers has been a prominent feature of policy in Germany, where employers play a privileged role in professional learning. France is one of the few OECD countries so far to have introduced individual learning accounts, through which individuals accumulate funds they can spend on education and training, and also has training leave entitlements – a policy that has also been pursued in Austria.

Table 9. Supporting upskilling and reskilling: objectives and policy mechanisms

Objective	Policy mechanisms for learners	Policy mechanisms for employers
Reduce the cost of training	Subsidies Tax incentives	Subsidies Tax incentives
Set resources aside for future training	Individual learning accounts	Training levies/funds
Tackle temporary liquidity constraints	Loans	Loans
Decrease opportunity costs of training	Paid training leave	Job rotation / replacement Pay-back clauses

Finland, like many OECD countries, is seeking the right policy mix to increase advanced upskilling and reskilling in higher education. The rapid expansion of participation in open and continuous learning in Finnish HEIs in recent years has been closely linked with the inclusion of credits gained in these programme types as a parameter in the core funding model and the increase in the share of funding allocated for continuous learning in the 2021 revision of the model. However, concerns persist among Finnish policy makers about the focus of the continuous learning that is being supported in this way and the extent to which it responds to the country’s most pressing skills requirements. At the same time, the engagement of Finnish HEIs in continuing education provides the country with a stronger starting point than many of its OECD counterparts for developing a robust advanced upskilling and reskilling system.

Implications for Finland’s future policy

- Continuous and open education are well developed in Finnish higher education and participation has increased in recent years. It is likely that more needs to be done to ensure learning provision and take up is well aligned with national and regional needs for upskilling and reskilling.
- The inclusion of credits gained in continuous and open education in the core funding allocation model for universities and universities of applied sciences is consistent with national ambitions to develop provision and take up of upskilling and reskilling opportunities.
- It is unlikely that further alignment of the provision and take up of continuous and open education with national and regional skills needs can be achieved through the design of the core funding model. Such alignment is more likely to be achieved through targeted funding and incentives created in the system of institutional performance agreements for HEIs and, in future, through the design and targeting of funding channelled through learners (potentially through individual learning accounts).

5. Increasing capacity of UAS in applied research and support for regional innovation

This policy brief focuses primarily on the resourcing of the teaching and learning functions of higher education institutions and the related steering, incentive and reward mechanisms within Finland’s higher education funding policy. It is, nevertheless, useful to reflect on the parameters used in Finland’s funding model to allocate resources to HEIs for research – and particularly those designed to support research and innovation in universities of applied sciences. To recall, as summarised in Table 10, 34% of total core public funding for universities and 19% of core funding for universities of applied sciences is allocated based on research-related parameters, with the objective of supporting research and innovation activities in HEIs (see also Table 2 for a full overview of the allocation model). The main allocation parameters used for research funding for universities are scientific publications, the level of competitive research funding (e.g., from the Academy of Finland or Horizon Europe) and PhD graduates. The main parameter for UAS is also external funding, although with a broader scope aligned to the mission and activities of UAS. The number of UAS master’s degrees awarded is also included as a measure of research and innovation-related human capital development (similar to the measure of PhD graduates in universities), while a smaller proportion of funds is allocated based on scientific outputs in UAS, again with a wider scope than in the measure used for universities.

Table 10. Parameters for funding research in Finland’s universities and UAS

	Parameters in core funding model	Universities	Universities of applied sciences
Research		34%	19%
	PhD awards	9%	
	Scientific publications	14%	2%*
	Competitive research funding (national and international)	12%	
	Master’s degrees		6%
	External R&D funding		11%

Note: * includes artistic and design materials, audio-visual material and software. Information from the Ministry of Education and Culture, Finland.

Overall, while, as discussed above, substantial core funding for research in universities is a feature of allocation models in several comparable higher education systems, Finland allocates a higher percentage of core funding to its professionally oriented HEIs for research than any other OECD system examined in the OECD Resourcing Higher Education Project. As illustrated in Table 3, in several comparable binary systems, including Denmark, the Flemish Community of Belgium or the Netherlands, universities of applied sciences or university colleges receive less than 6% of their core funding for research-related activities. In unitary systems, such as Scotland (but also other parts of the United Kingdom), professionally oriented institutions are classified as universities and subject to the same funding regime as research-intensive universities. While, on average, around one-fifth of core public funding in Scotland goes to HEIs for research purposes, this proportion is considerably higher in research-intensive universities and lower in less research-intensive institutions, which developed from the former polytechnic sector (Audit Scotland, 2019^[62]).

In the three binary systems cited (Denmark, the Flemish Community of Belgium and the Netherlands), the level of research allocations to individual non-university HEIs is determined in relation to the size of the education budgets allocated, without the use of distinct research parameters in the allocation system. In all these systems, the models for allocating core research funding to universities are formula-driven and include as key parameters either PhD graduates or bibliometric (publications-related) indicators, or both. As summarised in Table 11, in higher education systems where core research funding to universities is not allocated by education authorities, but by research councils, as in the United Kingdom or Portugal, core research allocations to individual institutions are made with reference to the results of periodic peer-review exercises, rather than more frequently collected graduation or bibliometric indicators. As also shown in Table 11, in a comparatively large number of European systems, public authorities do not use research indicators to inform allocation of core funding for research to universities.

Table 11. Allocation models for core institutional research grants

No performance-based research metrics	Limited performance-based research metrics	Formulas using bibliometric indicators	Peer review with reference to bibliometric indicators	Peer review without systematic use of bibliometric indicators
Bulgaria Greece Hungary Ireland Luxembourg Latvia Malta Romania Spain Switzerland	Austria (PhD graduates + performance agreements) Germany (although variation between <i>Länder</i>) Netherlands (PhD graduates + performance agreements)	Belgium (nl) Belgium (fr) Croatia Denmark Estonia Finland Norway Poland Sweden Slovakia	Czech Republic Italy Lithuania Portugal	United Kingdom

Source: Adapted from Zacharewicz et al. (2019^[63]) *Performance-based research funding in the EU Member States – a comparative assessment*, <http://dx.doi.org/10.1093/scipol/scy041>.

In broad terms, two main discussions have arisen in recent years in advanced OECD higher education systems in relation to the appropriate mechanisms for allocating funding for research. The first relates to the appropriateness of a strong reliance on bibliometric indicators to measure research quality and allocate funding for research. While bibliometric indicators are transparent and easily collected, there have been concerns that simple output indicators (number of publications) encourage a “publish or perish” culture to the detriment of research quality and that attempts to capture quality, through citation indicators or measures of journal impact, are fundamentally flawed (DORA, 2012^[64]). Recent reforms of the allocation model for the Special Research Fund (BOF) for university research in the Flemish Community of Belgium have reduced the weight of output indicators in the model in an attempt to promote a focus on quality

(OECD, 2021^[21]). The proposed reshaping of HEI funding in Norway has proposed removing all research indicators from the core funding model (Norwegian Ministry of Education and Research, 2022^[23]).

The second prominent policy concern has been how to measure and reward the outputs of research, innovation and creative activities that cannot easily be captured through bibliometric indicators. This question is particularly relevant for HEIs in professional and creative fields, including Finland’s universities of applied sciences. As in Finland, some other higher education systems have sought to reward innovation-related activities and cooperation in HEIs by linking core funding to revenue generated by institutions through cooperation and commercial activities (contract research, cooperative projects etc). This is the case in Austria’s funding model for universities, for example (Austrian Federal Ministry of Education, Science and Research, n.d.^[65]). However, this indicator is only a rough proxy for measuring aspects of innovation and regional cooperation activities. More generally, it has proved challenging to develop meaningful indicators to capture the results of practice-based and applied research and innovation support activities.

For this reason, several countries have, like Finland, included regional cooperation and innovation as objectives within national systems of performance agreements. This allows more qualitative targets to be established, which can be judged in a more flexible range of ways than quantitative indicators. Ireland, for example, uses case studies as part of its reporting system for institutional compacts in higher education (OECD, 2022^[66]). In the area of research performance measurement, the more qualitative peer-review-based approaches used in the United Kingdom, Portugal and Italy, allow more scope for review panels to take account of the specificities of professionally oriented institutions and the research and innovation activities they undertake. However, the peer review techniques used in such systems are resource intensive and can only be undertaken infrequently – factors which have likely limited the more widespread adoption of this approach.

Implications for Finland’s future policy

- Finland allocates a higher share of total public funding to its universities of applied sciences for research activities than the other most comparable systems among OECD member countries. No other system identified by the OECD Resourcing Higher Education Project uses research-related indicators to drive the allocation of research funding to professionally oriented institutions. As such, it is not possible to draw lessons from other systems or provide obvious peer countries with which Finland can compare its system.
- The indicators used to allocate core funding for research to universities of applied sciences in Finland appear to be consistent with the goals of the funding allocated. Unless significant problems have been identified in their application, it may be most appropriate to retain these indicators in the future funding model to maintain a transparent basis for resource allocation.
- More generally, the indicators used provide a limited picture of the extent and quality of practice-oriented research and innovation activity in UAS. Steering in this area can be better targeted through more qualitative mechanisms and perhaps through adjustment of the performance agreement system, already in place.

6. Promoting cooperation and sharing of capacities between HEIs

Finnish authorities have shown interest in promoting greater cooperation between HEIs in their system to make most efficient use of public resources (OECD, 2022^[2]). Attempts at encouraging inter-institutional coordination in education are comparatively uncommon in higher education in Europe, where individual HEIs tend to operate independently and autonomously. State authorities in many US states have taken much bolder steps to ensure cooperation and coherence within state-level public higher education

systems, whether across levels and types of higher education, as in California, or in state community college systems, as in many states (OECD, 2020^[22]; OECD, 2020^[34]). Such approaches typically focus on ensuring efficient divisions of labour and smooth credit accumulation and transfer pathways for students who move between institutions but do not reflect the specific tradition of two-year and four-year higher education that exists in the United States.

In Europe, notwithstanding efforts in many countries to encourage individual HEIs to develop distinctive profiles, some of the most notable attempts to use policy to promote greater inter-institutional cooperation and coordination of capacities have been in the field of research. In this respect, two policy approaches can be distinguished. Firstly, government can create requirements or incentives for inter-institutional coordination through steering policies and related targeted funding (outside of the core funding model).

In the Netherlands, for example, in 2018, the government required universities to develop “sector plans” in the field of research, to increase coordination within the Dutch university research system, encourage institutions to define clear and complementary profiles in research at disciplinary level and to promote the emergence of strong centres of excellence with the critical mass to compete internationally (UNL, 2018^[67]). The Dutch Ministry of Education, Culture and Science initially allocated EUR 60 million for the period 2018-2025 for the development and implementation of sector plans in the fields of science and technology and a further EUR 10 million for social sciences and humanities. The process has involved the development of system-wide sector overviews (*sectorbeelden*) and institutional profiling plans that indicate how institutions’ profiles complement those of other universities. Based on the profiling plans, national sector committees advise the minister on the allocation of the targeted funds to each field (Commission for Science and Technology Sector Plan, 2022^[68]).

Secondly, it is possible to incentivise cooperation through core funding models. This has been done in Finland by incorporating a specific parameter for cooperation in continuous learning in the core funding formula (see Table 2). In the Flemish Community of Belgium, the most recent reform to the Special Research Funds (BOF), which are direct grants to universities for research, introduced a new component to support cooperative research projects between universities (the Interuniversity BOF or “iBOF”). A defined proportion of additional funding for the BOF provided by the Flemish government is pooled between the Community’s five research universities to fund projects involving at least three researchers from at least two universities (OECD, 2021^[21]).

Implications for Finland’s future policy

- Internationally, significant attempts to encourage cooperation between higher education institutions outside of public higher education “systems” (as in the United States) have been rare. The attempts that have been made have typically involved a combination of regulation, government and sector-level steering and targeted funding.
- It is doubtful whether inclusion of specific indicators related to inter-institutional cooperation in core funding models will create sufficient and appropriate incentives for HEIs to cooperate in the way intended by policy and law makers. The results of the evaluation of the Finnish experience will provide greater insights into this.

7. Exploiting the potential of digitalisation in learning and teaching

In higher education, various studies in Europe have identified a need for additional investment to support expansion of digital learning in higher education (EUA, 2021^[69]). Digital learning is primarily understood as the integration of digital tools into learning environments in existing higher education institutions and programmes but may also encompass the development or expansion of purely online learning offerings. Despite the recognition that digitalisation costs money, there have been few attempts to quantify the

investment requirements. A 2019 report by Germany’s national Commission of Experts for Research and Innovation (EFI) argued that the “digitalisation of Germany’s structurally under-financed tertiary education system is an ongoing task which requires long-term financing” and proposed the introduction of a specific public funding allocation per student to develop and maintain digital infrastructure and expand digital teaching and learning offerings (EFI, 2019^[70]). In 2021, the German Rectors’ Conference (HRK) adopted this proposal in a funding request to the federal and state governments, calculating, bottom-up, an annual funding requirement of EUR 92 per student (EUR 270 million in total), of which 40% would be for the development of digital learning offerings (including adapted learning spaces and new online courses, such as micro-credentials), 30% would go to services to support digital learning and 30% for related infrastructure (HRK, 2021^[71]). At the time of writing, no agreement on such additional funding has been reached.

In parallel to calls for additional funding, the question of the potential cost savings that can be achieved through adoption of digital learning routinely emerges in policy discussions. In the Netherlands, for example, a 2021 government policy paper argued that increased deployment of digital technologies in learning in higher education would allow efficiency gains, as well as quality improvements (Government of the Netherlands, 2021^[72]). In response, commentators from the academic community argued that the proposals were based on naïve assumptions, as using digital technology learning and teaching typically requires more time – and thus engenders higher costs – than traditional forms of classroom learning. The same commentators argue that digital learning technologies are primarily designed to enrich and support teaching, rather than to replace or automate specific teaching-related tasks (van Baalen et al., 2021^[73]).

Digitalisation as a priority is not reflected in the variables used in core funding allocation systems. In general, such allocation models in OECD higher education systems are used to distribute lump-sum payments to individual institutions, which then use these funds as they see fit to pay salaries and invest in infrastructure and services, including digital infrastructure and services. Such investment decisions are thus fully devolved to HEIs.

One question where the design of core funding models does have an impact on digitalisation is whether public funding frameworks provide financial support to institutions and students for programmes that are provided online. When it comes to student aid, the 2020 edition of the OECD Higher Education Policy Survey found that OECD jurisdictions typically limit eligibility to public student financial aid for students enrolled in online – and even hybrid – degree-conferring programmes. Whereas all of the 28 responding jurisdictions indicated that full-time students in recognised on-campus bachelor’s programmes were eligible to apply for student financial aid (usually subject to income criteria), this was the case for online bachelor’s degrees in only 15 jurisdictions. Only nine of the 28 jurisdictions provide student aid to students taking online short-cycle (two-year) programmes and only five provide support for students taking short courses or certifications (i.e. non-degree short programmes) (Golden, Troy and Weko, 2021^[38]).

The Finnish core funding model, with the inclusion of parameters linked to open and continuous learning, takes account of a wider spectrum of learning than systems in some other OECD systems and is flexible enough to recognise credits gained in online programmes. More generally, whether or not funding-eligible degree programmes can be delivered fully online typically depends on accreditation and other regulatory policies rather than public funding policies as such (see SURF (2016^[74])). Mode of delivery rarely appears as an explicit design factor in core funding models, although broader programme categories do. Some systems (such as those in the United Kingdom) have hitherto focused funding (and eligibility to public student aid) narrowly on undergraduate degrees, which excludes shorter, more flexible programmes which may more often be delivered fully or partially online. As noted in the previous section, the broader upskilling and reskilling agenda means policy makers in many higher education systems are considering how to broaden the scope of funding frameworks to support more flexible, continuous learning.

Although targeted public funding programmes to support investment in digital infrastructure have been implemented in several OECD higher education systems, these are typically short-term programmes, with

ultimate responsibility for change lying with institutions. Examples of targeted government funding for digital learning based on specific, time-limited programmes, are widespread in OECD higher education systems. In Germany, for example, the Foundation for Innovation in Higher Education Teaching receives EUR 150 million annually from the federal and state governments to award to higher education institutions in competitive calls for learning innovation projects (Stiftung Hochschullehre, 2022^[75]). In 2022, the National Growth Fund in the Netherlands awarded EUR 560 million to a multi-annual project jointly run by the associations of universities, universities of applied sciences, higher vocational institutions and the national collaborative ICT organisation SURF to support digital learning in post-secondary education (Digitaliseringsimpuls Onderwijs, 2022^[76]). In 2021, the French government awarded EUR 100 million to 17 “digital demonstrator projects” (*Démonstrateurs numériques dans l’enseignement supérieur – DemoES*) to fund strategy development, infrastructure and pedagogical innovation in public higher education institutions across France (Government of France, 2021^[77]). Norway’s new digitalisation strategy for higher education also includes some targeted funding for institutions (Ministry of Education and Research, 2023^[78]).

Implications for Finland’s future policy

- The integration of digital tools into learning environments in higher education is primarily the responsibility of higher education institutions and their staff. Public funding arguably has a role in facilitating the adoption of digital technologies, but primarily through ensuring an adequate level of resourcing, rather than through creating detailed incentive and reward structures.
- The further development of digitalisation in higher education in Finland must ultimately be led by the sector, with support and coordination from government where this is useful. The Digivision national strategy for digitalisation in higher education (Ministry of Education and Culture (Finland), 2021^[79]) provides a framework for this in Finland. It may be useful to compare the approach taken through this strategy with those in selected comparator countries, to identify potential lessons: the recently adopted digitalisation strategy in Norway (Ministry of Education and Research, 2023^[78]) provides one such comparator.

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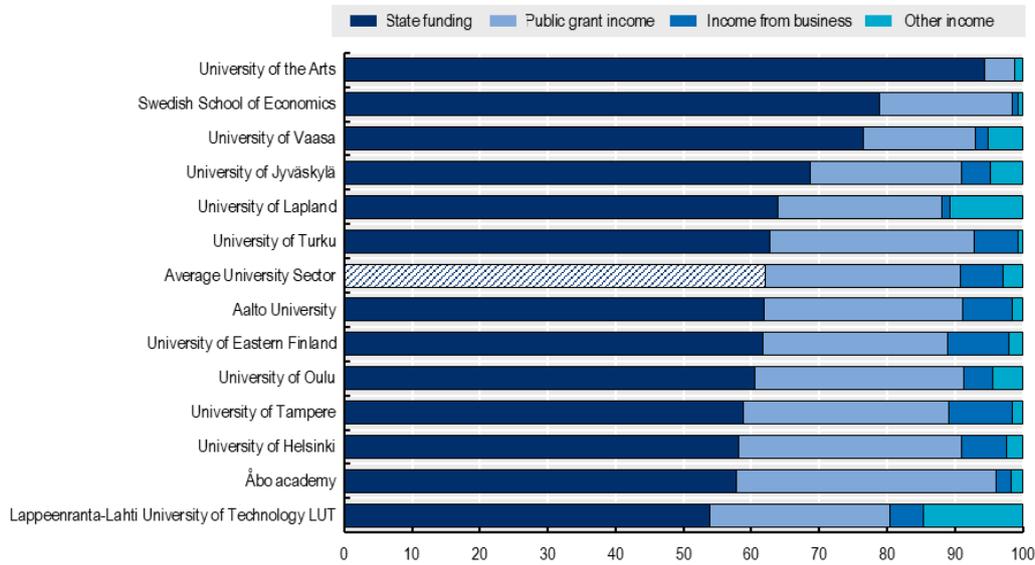
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Annex 1 – Structure of institutional revenue

Figure 9. Income sources in universities

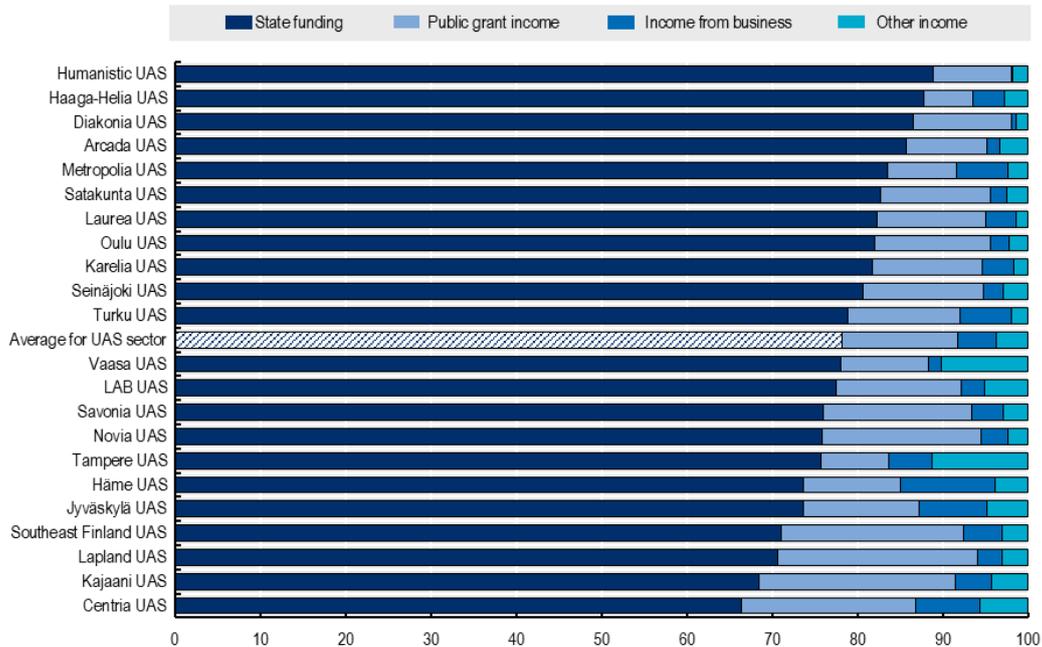
Proportion of institutional income from different sources in 2021 (%)



Source: Vipunen (2022^[8]) Income statement for universities, <https://vipunen.fi/fi-fi/yliopisto/Sivut/Talous.aspx>

Figure 10. Income sources in universities of applied sciences

Proportion of institutional income from different sources in 2021 (%)



Source: Vipunen (2022^[9]) Income statement for universities of applied sciences, <https://vipunen.fi/fi-fi/amk/Sivut/Talous.aspx>

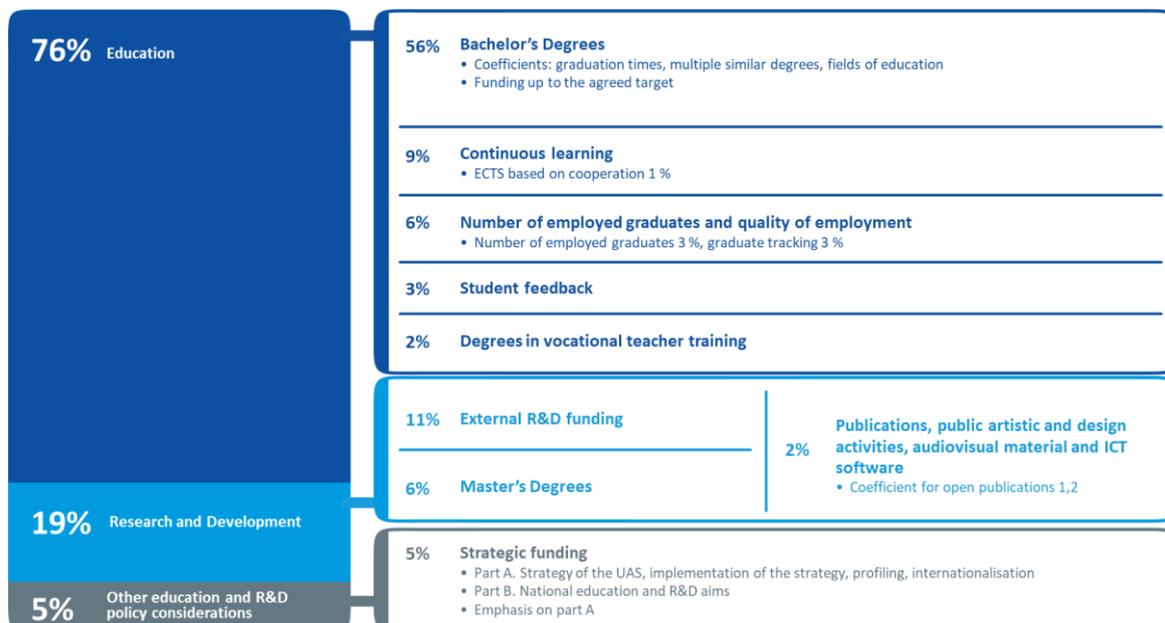
Annex 2 – 2021 funding models for universities and UAS

Figure 11. The 2021 funding model for universities



Note: Information from the Ministry of Education and Culture, Finland.

Figure 12. The 2021 funding model for universities of applied sciences



Note: Information from the Ministry of Education and Culture, Finland.

Annex 3 – Key questions for the policy brief

With a focus on comparator OECD higher education systems with key similarities to Finland’s, the analysis in the thematic policy brief will address the following questions:

1. How do the **basic design features and guiding principles** of the funding allocation models used in other OECD higher education systems compare to the models used for Finland’s universities and universities of applied sciences? (*Issues: proportions of fixed (historical), variable and strategic funding; existence of study place limits; use of fixed unit payments (additive model) vs distributive model for allocation; balance of input and output parameters used in variable funding components*).
2. In OECD higher education systems where student numbers are limited or regulated by public authorities, how are the systems designed and how are (maximum) numbers of **fundable study places** established? How do the procedures used compare to those used in Finland?
3. Which **input, output and outcome parameters** are used in the variable components (e.g. education and research) of allocation models in comparator higher education systems? To what extent is there evidence about the effects of using different parameters?
4. How do funding systems in other OECD jurisdictions allocate funds to higher education institutions for **strategic investment in** future-oriented developments (linked to national or institutional goals)? How does this compare with the system in place in Finland?
5. To what extent do governments in comparator systems use **targeted (earmarked) funding programmes** to support higher education institutions in achieving national goals?
6. Taking into account formula-based funding, strategic funding and targeted funding streams, to what extent and how do comparator higher education funding systems **explicitly seek to support core goals for Finnish higher education**? (1. Increased domestic graduation; 2. Increased international graduation; 3. Increased participation in up/reskilling; 4. research capacity (with special focus on UAS applied research); 5. Cooperation between HEIs; 6. Exploitation of digital technologies).