

June 2023

**Evaluation of the
governance and funding
practices used by the
Ministry of Education and
Culture for steering
Finnish Higher Education
Institutions**



Final report



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Executive Summary

Study aims and methods

The study, carried out by Technopolis Group and 4Front, was launched by the Ministry of Education and Culture with the objective to seek robust evidence to three interconnected “key questions”:

1. The nature of government funding and governance practices
2. Their influence the behaviour adopted by universities and UASs
3. The resulting effects on institutions, their outputs, and societal impact which may be found to be more or less desirable in context of policy aims and societal challenges

In answering these questions, the study team has made two key assumptions about factors which are relevant but ultimately outside of the scope of the evaluation:

- Public core funding for higher education institutions is expected to be relatively stable and consequently options presented here will not rely on significant funding increases to be workable
- The structure of the higher education system, although evolving over time, is not assumed to change significantly within the scope of the study and the options presented will not require this to be workable

The evaluation had stakeholder engagement and consultations at its core and used a mixed methods approach combining all available types of evidence. Within Finland, the evaluation is based existing national data and a consultation with the higher education sector, including a survey and interviews and visits to higher education institutions. These were supplemented by interviews with selected stakeholders, including the Ministry of Education (MEC) as well as funding organisations and industrial partners among others.

An important element of the methodology was to provide an international and comparative perspective on higher education systems to support reflection on the findings about the Finnish higher education (HE) system. To this end, in-depth case studies on higher education systems in Sweden, Ireland, the Netherlands, and the German state of Bavaria were carried out by country experts.

Governance and funding practices

The Finnish higher education system has experienced a series of reforms and mergers over the past decade and looks very different now than it did before 2010. The reforms have been very successful in establishing a high degree of organisational autonomy for higher education institutions, among the highest internationally.

This increased autonomy has to be counter-balanced by steering instruments that encourages the HEIs to operate in ways consistent with policy. The current governance and funding approach used by the Ministry to steer higher education institutions includes several elements:

- **Regulatory steering**, which provides the legal framework for the governance of HEIs for the universities and the other for universities of applied science
- **The allocation of funding** using different modalities, including the allocation of core institutional funding based on a performance-based funding formula, capital funding for institutions and competitively awarded grants awarded by the ministry or through government funding bodies, such as the Academy of Finland

- **Information-based and 'soft' steering**, notably the performance agreements with HEIs and associated reporting requirements, and increasingly structured dialogue and interaction between the ministry and institutions.

Overall, the steering system is highly performance-oriented by international standards. It is complex but the funding formula is the central element through which much of the steering effect of the current system is exercised. Despite the presence of dynamic elements in the mix of steering instruments, the overall effect appears to be overly conservative, suggesting that change is needed in order to support a more future-orientated development of the system.

Influence on higher education institutions

The evaluation traced the influence of the current steering approach in four broad areas of higher education institutions' (HEIs) decision-making and behaviour:

- Strategic decision-making
- Personnel and human resource policy
- Internal allocation of funding
- Partnerships and collaboration

In each of these areas, the funding formula, in particular, is reported to exert a strong direct and indirect influence on institutions. With respect to strategic decision-making, the Ministry's steering has been particularly strong in directing institutions towards shared national goals. Separate programmes such as Academy of Finland's PROFI programme have been successful in supporting the development of institution's distinctive profiling and strategic development, but overall, there appears to be a stronger pull towards the common goals promoted through the funding formula.

The reforms of the higher education sector in Finland over the past decades have fundamentally changed the position of academic staff. University staff no longer belong to the civil service. Higher education institutions have a high degree of autonomy in HR policy and staffing decisions, therefore the influence of the Ministry's steering in this area is less direct. Institutional management reported constraints on their ability to make long-term appointments in areas covered by temporary programme funding. Wider consultation within institutions also revealed a perception of strain on teacher time and increasing concerns among students about welfare and mental health.

The funding formula is firmly embedded in the system and there is broad awareness among staff of the criteria on which funding is based. The funding formula has been a powerful driver of efficiency in the delivery of higher education degrees, and many institutions have incorporated the funding formula or similar indicators in their internal management and allocation systems. Institutions generally support the funding formula, as it is perceived to be fairer and more transparent than alternative options.

The evidence on the effects of Ministry's governance and funding practices on HEI decisions on partnerships and external collaboration is mixed. On the one hand, the competitive nature of the funding formula – often described as a “zero-sum game” – does not incentivise collaboration but fosters competition among the HEIs. However, additional programmes and dedicated funding – also external to the Ministry – often promote collaboration among the institutions.

Overall, the current steering model appears to drive institutions to focus on efficiency, uniformity, and competition to a larger extent than seeking specialisation and collaboration between institutions.

Challenges and trends

The evaluation has identified a series of challenges and trends that the higher education sector has to contend with in the coming years. This includes meeting stated government policy goals as well contributing to societal welfare and economic prosperity in the context of increasing need for a highly educated workforce, demographic changes, and increasing urbanisation. Consultation with the HEIs suggests that there is broad consensus on what the key challenges are, and that there is an overall commitment to addressing them.

Increasing higher education attainment is an important element in the overall effort to meet future demands for skilled labour within the Finnish economy. In international context, the government's 50% target is not overly ambitious, but tertiary educational attainment in Finland has remained at approximately 40% for more than a decade.

Several factors contribute to this state of affairs, including very selective admission processes used by Finnish universities. Reaching the 50% target would imply not only expanding the number of places (more of the same) but also attracting and supporting a more diverse student body, enabling students to enter more easily via vocational training routes among other things. At the same time, care should be taken to maintain student welfare and support.

Financing higher education remains a key challenge in light of the ambitions described. Public funding on a per-student basis has not increased in Finland for a decade, but it is not obvious that new costs can be covered through increases in government core funding in a system that is already heavily reliant on public funding. Potential new or underused sources of resources include fees, external funding, contracts and co-funding from industry, and capital income and donations (e.g., from alumni). Developing additional sources of funding must be a priority for the sector. Increasing external funding will also provide a degree of effective autonomy for higher education institutions and potential scope for making strategic decisions beyond what will maximise the return on the core funding formula.

Research and development: The planned increase of R&D intensity in Finland to 4% of GDP, from a current level of 3%, has been accompanied by an impressive set of measures which gives a real momentum behind the push to increase the R&D investment and support future jobs in Finland. This is a very welcome development.

This implies an important role for the higher education sector and institutions will need to increase capacity to provide researcher training as well as carry out research and development. In addition to the direct expansion of capacity within the HEIs, the higher education sector will also have an important role in enabling R&D in the private sector through collaboration, knowledge sharing and valorisation, provision of trained scientists, as well as production of new research data and knowledge.

Internationalisation is a horizontal issue which is seen as an essential component in addressing nearly all the challenges discussed: attracting fee-paying students as a way to contribute to the financing of higher education, attracting international talent to improve the quality of research and teaching, attracting and retaining young people to help address labour shortages at Finnish companies and in the public sector.

Policy options

In the light of the findings of the evaluation, the following policy options are recommended to address the challenges facing the sector.

Enhancing institutional strategic development and system level impact

There is a need to create system in Finland that consists of higher education institutions that together represent significant research and educational capacity and excellence with individual strengths and distinct profiles while delivering system-wide impacts. To achieve this the Ministry should consider the following options:

- Use the performance agreements and the discussion about institutional strategy developments to support achieving overarching national policy objectives, while ensuring that there is room for individual institutional profile developments
- Reduce the weight of performance indicators
- Emphasise the importance of quality and the impact delivered throughout the HEI's activities, initially through formative use of narrative case studies
- Ensure that the framework conditions are supportive to reach national policy objectives and development goals, for example through further strengthening of cross-ministry coordination

Effective and equitable support for expanding student intake and educational attainment

The current focus on graduations in the funding model gives institutions incentives that are not always aligned with the policy objectives and create opportunities for a degree of gaming on the part of individual institutions that can be detrimental to the system as a whole. The following options should be considered:

- Reward institutions for their contribution to a completed degree in cases where students transfer part way through their studies, e.g., through a 'transfer fee' between institutions
- Provide supplementary funding for inclusive student intake
- Support the expansion of student intake from secondary VET to higher education
- Restrict access to non-fee paying multiple degrees
- Initiate a broad-based dialogue on future skills needs, assessing the value, cost and benefits of degree education and other types of learning and qualifications

Expanding R&D capacity

The planned increase in R&D intensity in Finland to 4% of GDP involves an important role for the higher education sector and requires an expansion of the research capacity both within higher education (Master's and PhD level alike) as well as in the research and business sectors, including the SMEs. The following policy options should be considered:

- Expand the role of UASs in research and development with a focus on applied research and collaboration with organisations from working life
- Enhance the overall system capacity while ensuring that international centres of excellence are also supported
- Introduce additional incentives and support for collaboration with industry through institutional agreements and targeted support scheme, such as an industrial PhD scheme

Funding higher education

- Apply targeted expansion of tuition fees, while keeping education free for students studying for their first degree
- Increase the use of fees for continuous education to increase income and improve quality control

1 Introduction

1.1 About this report

This is the final report for the Evaluation of governance and funding practices of the Ministry of Education and Culture (hereafter referred to as “the Ministry”) for steering Finnish Higher Education Institutions. The study was undertaken by Technopolis in collaboration with 4Front and an international advisory group on behalf the Ministry. In addition, the evaluators benefited from regular meetings with a support group organised by the Ministry (Appendix B).

The report is structured into four main chapters and a set of appendices:

1. The remainder of chapter 1 provides an overview of the methodology of the study
2. Chapter 2 gives an account of the context of the study including a short presentation of the higher education (HE) sector in Finland - with a key emphasis on recent trends and challenges – and introduces the currently used steering instruments
3. Chapter 3 summarises the study findings regarding the effects of the Ministry’s steering practices on the higher education institutions and on the system’s capacity to address challenges
4. The final chapter sets out the study team’s conclusions and recommendations in the form of policy options

The appendices include the individual international reference country reports and provide further details on the data collected and the consultations carried out as part of the study.

1.2 Aims and objectives of the evaluation, main evaluation questions

The Ministry of Education and Culture launched this study with the objective to seek robust evidence to three “key questions”, covering the funding and governance practices, their influence on institutions, and trends and need for change. The main elements covered by the evaluation are interconnected: The nature of government funding and governance practices (evaluation question 1) influences the behaviour adopted by universities and UASs (evaluation question 2). HEI behaviour, in turn produces effects on institutions, their outputs, and societal impact which may be found to be more or less desirable in context of policy aims and societal challenges (evaluation question 3).

Table 1 Summary of evaluation questions

The Ministry of Education and Culture’s evaluation question	Breakdown by the study team
EQ1 - Are funding and governance practices of the Ministry of Education and Culture best suited to the changing operating environment and support the responsiveness of the higher education system? How do the basic principles of governance and funding practices adopted in Finland compare with the principles adopted by 4 – 5 reference countries and planned changes in these principles?	<ul style="list-style-type: none"> • 1a. Description of funding and governance practices in Finland • 1b. Comparison of funding and governance practices in Finland to reference countries
EQ2 - To what extent and how do the Ministry’s funding and governance practices influence higher education institutions’ strategies , educational and research priorities , leadership , internal resource allocation , partnerships and cooperation arrangements , or human resources policy?	<p>Influence on HEI decisions in terms of...</p> <ul style="list-style-type: none"> • 2a. HEI leadership, priorities, strategies, and HR policy • 2b. HEI internal resource allocation • 2c. HEI partnerships and cooperation arrangements
EQ3 - What trends and needs for change in governance and funding practices are emerging from the perspective of performance, autonomy, social responsibility, effectiveness, efficiency, societal	<ul style="list-style-type: none"> • 3a. Trends and needs for change in governance and funding practices

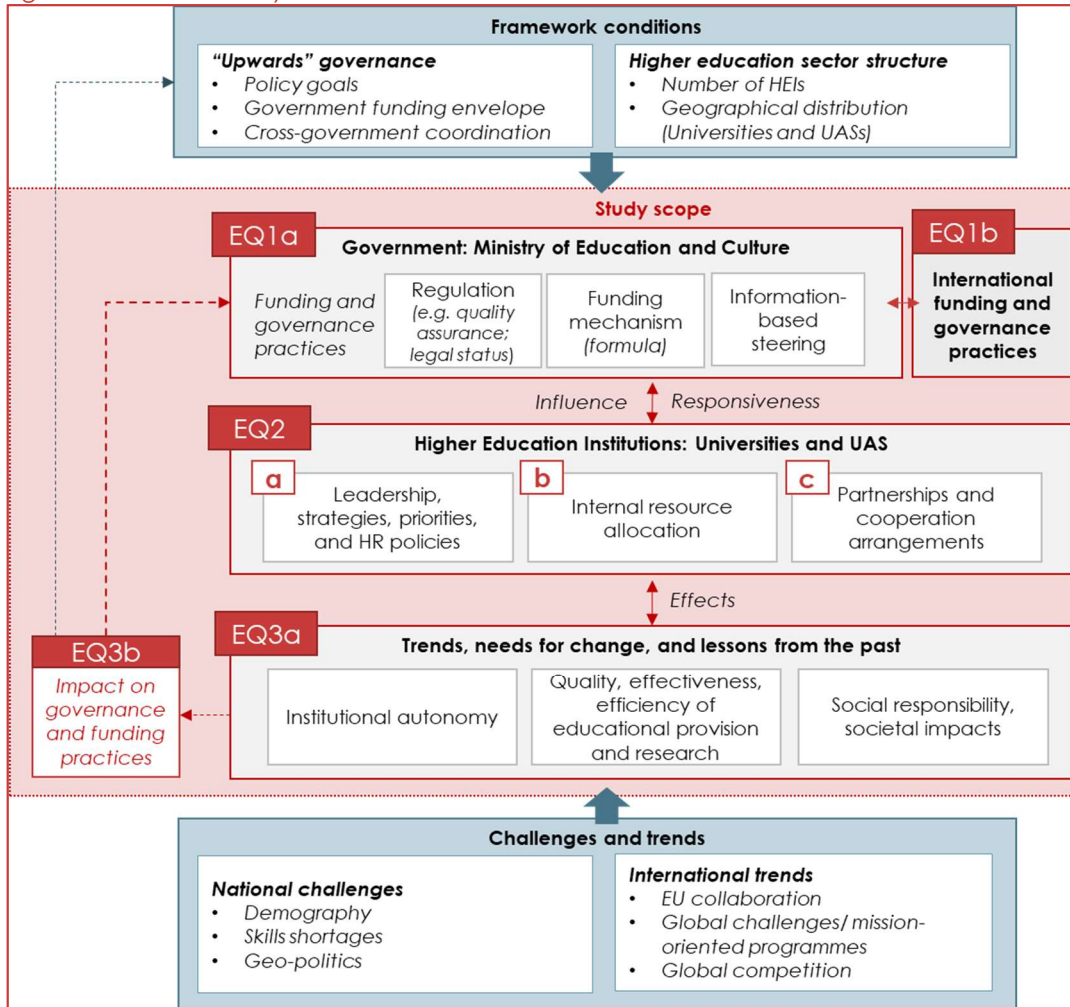
The Ministry of Education and Culture's evaluation question	Breakdown by the study team
impacts and quality of higher education institutions based on evaluation? What would be the impact of these changes on the governance and funding mix and safeguarding the long-term operating environment for higher education institutions?	<ul style="list-style-type: none"> • 3b. Implications for governance and funding of HEIs

These evaluation questions were translated into an initial study framework, that was subsequently revised based on input sought through consultations with relevant stakeholders. The evaluation questions should also be understood within the following presumptions about key aspects of the wider operating environment:

- **Resourcing:** The Finnish HE system is highly reliant on public funding – to a greater extent than most other countries – and there may be limits to public funding that can be made available. A widening of the resource base (e.g., external funding, tuition fees, educational exports) is therefore considered as means to increase investment in the sector. Relatedly, the decision to increase R&D funding to reach a national target of 4% expenditure on R&D as share of GDP is expected to have significant influence on the system
- **Structure of the higher education sector:** the number of institutions is not expected to change dramatically in the short to medium term owing to dynamics within the sector as well as political considerations. Any such changes would have to happen 'bottom-up', through individual institutional decisions.

The finalised study framework depicts the relations among the evaluation questions, set amongst the framework conditions and challenges and trends as presented in the figure overleaf. For the purposes of the analysis, in line with the above-described presumptions, the study team considered the central scenario to be one where the government funding envelope as well as the structure of the higher education sector remain relatively stable.

Figure 1 Finalised study framework



Source: Technopolis

1.3 Methodology

The evaluation had stakeholder engagement and consultations at its core and used a mixed methods approach combining all available types of evidence, including quantitative and qualitative data collected from primary and secondary sources. An important element of the methodology was to provide an international and comparative perspective on higher education systems to support reflection on the findings about the Finnish HE system.

The evaluation was completed in four phases: inception, data collection, analysis and reporting. It commenced with a Kick-off Meeting on the 8th November 2022 and was undertaken during eight months.

The **data review and analysis** focused on both primary and secondary data that were available on the Finnish system. The study team worked with the Ministry who provided existing evidence on the higher education system and the institutes. Additional data were retrieved from publicly available sources. The sources reviewed include performance agreements, reporting on agreement goals, HEI strategies, degree objectives (2021-24), government funding per higher education institution (2017-2022), capital funding for HEIs, HEI accounts (2021), national duties and data from Vipunen (Education Statistics Finland).

The **literature review** covered both national and international trends, focussing on recent evidence from European countries and using selected grey and academic literature. The review provided input to the international reference country case studies and beyond providing contextual information on recent trends and challenges in Europe. In addition, international databases were reviewed – including OECD, ETER, Eurograduate, Eurostudent, EUA Autonomy Scoreboard, U-Multirank - and selected indicators assessed to aid the comparison of specific themes across the international reference countries and Finland.

Iterative engagement and consultations with the HEIs played an important role throughout the study and was carried out in multiple steps.

Figure 2 Overview engagement with higher education institutions



The **survey of higher education institutions** was structured in ten sections, serving both to validate of already collected qualitative information at the institutional level, and to seek additional information to complement information obtained from the Ministry. The ten sections covered information on institutional profile, funding, strategic development, personnel and human resources, education and research focused activities, collaboration with the ecosystem, internationalisation of the institution, future challenges and views about a future funding model. The survey was sent to all universities and universities of applied sciences (UAS) for completion in March 2023, and all but one UAS provided their response. The aggregated results of the survey are presented in Appendix A and detailed analysis is included in chapter 3 of this report.

The **interview programme** of semi-structured interviews with a wider range of stakeholders, including **visits to selected HEIs** was another core element of the methodology. In total, the study team met and interviewed over 150 stakeholders. The list of interviewees is included in Appendix C.1. The interviews were carried out in multiple phases:

- **Ten exploratory interviews** were conducted during the inception phase of the study that provided more in-depth reflections on the key issues and challenges the higher education sector faces in Finland, and ultimately fed into the finalisation of the methodology of the evolution. Interviews were carried out with representatives of the Ministry, the Academy of Finland, Chairs and ex-Chairs of Universities Finland (Unifi), and the Rectors' Conference of Finnish UAS (Arene)
- **Ecosystem interviews** were conducted with 15 additional stakeholders including representatives of different Ministries (Finance, Economic, Foreign, and Social Affairs), Business Finland, national student unions, research institutes and industry representative bodies. The aim of these interviews was to capture evidence of the role and impact of HEIs within the wider ecosystem in Finland

- **Ten institutional visits** were carried out by the study team. Six UASs and four universities were visited across Finland, offering a balanced geographical spread and varied institutional profiles. The visits, carried out between the 6th and 30th March 2023, typically lasted between half a day and a day. During each visit the evaluation team met with between three and five different groups, representing different parts of the institution including representatives of the management, faculty leaders, central support personnel, staff and student representatives as well as key external stakeholders. The following institutions were visited:

Universities	Universities of Applied Sciences
<ul style="list-style-type: none"> • University of Helsinki • University of Lapland • Aalto University • University of Jyväskylä 	<ul style="list-style-type: none"> • Metropolia University of Applied Sciences • South-Eastern Finland University of Applied Sciences • Novia • Tampere University of Applied Sciences • Turku University of Applied Sciences • JAMK University of Applied Sciences

- **Follow-up interviews to the HEI survey** were proposed to the 25 institutions that were not visited. As a result, the team carried out 21 hour-long follow up conversations predominantly with the rectors of the institutions to discuss their survey responses in more depth

The consultations with the HEIs concluded with a two-hour long **online workshop** held on the 26th April 2023 that provided a platform to discuss the findings of the study and seek participants' reflections on them.

In addition to the data collection and consultations focused on Finland, the evaluation team also carried out an **international comparison** exercise with four selected reference countries. In discussion with the Ministry, the German state Bavaria, Ireland, the Netherlands and Sweden were selected as international references. These offer insight into different funding and governance mechanisms and lessons learnt from the implementation of recent reforms that are perceived as particularly relevant for Finland. Information collected through desk research and interviews with relevant national stakeholders was captured in country case studies that provide an overview of:

- Profile of the country's higher education system: Structure of the HE system, headline national policy priorities and initiatives, funding and governance of higher education, and system performance based on standard indicators
- Selected key features of the system of highest relevance to Finland: notable initiatives or policy reforms, evidence of effects of initiatives or policies and lessons learnt

The individual country case studies are appended to this draft final report and were also analysed as supporting evidence for the development of policy options for Finland.

The significant amount of evidence collected throughout the study was analysed and brought together in this draft final report by using:

- Quantitative analysis for the survey and statistical data
- Software aided qualitative analysis - using subsequent steps of developing source attributes, a coding frame, coding, testing and analysis – was carried out on the interview notes and open-ended responses to the HEI survey questions

At the end of the analytical phase, the study team triangulated the evidence and provided a synthesis of the findings in the form of this final report.

2 Governance and funding practices

This chapter provides an overview of the governance and funding practices in the Finnish higher education sector, starting by discussing the vision for the Finnish higher education and research system for 2030, setting out the characteristics of the Finnish higher education systems compared with those of the four international cases, then describing the steering instruments used in the Finnish system.

2.1 Vision for higher education and research in 2030

The most recent significant shift in Finnish HEI governance was the university reform at the turn of 2010s. The main goal of the new Universities Act (2009/558, implemented in 2010) was to raise the university system to an international level in its own fields of excellence by improving its quality, international competitiveness, societal impact, and ability to co-operate with foreign universities and research institutes. As a result of the reform, universities were expected to diversify their funding and focus their research resources on their areas of strength, as well as improve the quality of their research and teaching activities.

In parallel, the aim of the reform of the UAS (2009-2014) was to improve their ability to respond to the new development needs of working life, society and regions. In the reform, among other things, core funding was transferred to the state and a performance-based funding model was developed, the licenses were renewed, and the UAS were turned into limited liability companies (MEC, 2016).

The Vision for Higher Education and Research in 2030 was published in 2017, and the roadmap for achieving the vision in 2019. The goal of the vision is to raise the level of educational attainment, increase opportunities for continuous learning in higher education institutions, and increase Finland's research and development intensity¹. The Vision (Finnish Government, 2019) sets out broad objectives for the future of the Finnish HE system. It includes a commitment to having at least 50% of young adults in HE by 2030, increasing the number of foreign degree students at higher education institutions (HEIs), raising the global attractiveness of Finland's HE system, making innovative use of digital educational technologies, and further strengthening Finland's research and innovation capacity. The reform of the university funding models is part of the Vision 2030 implementation plan.

The national continuous learning strategy for HEIs was published in December 2022. The purpose of the strategy is to give a common direction to the continuous learning activities of autonomous higher education institutions by providing an analysis of the current situation and recommendations and views as a basis for future activities². Continuous learning in higher education institutions, which is the target of the strategy, offers individuals and communities with different backgrounds and life situations learning opportunities that meet their needs and reform society. The vision presented in the strategy is described in the figure below.³

¹ Vision for Finland: Education and Learning, Knowledge, Science and Technology for the Benefit of People and Society. Ministry of Education and Culture, 2017. https://api.hankeikkuna.fi/asiakirjat/4a565d4d-811a-46e9-b0ad-7089c9110053/736044f3-330d-4039-b81b-9b5d4778185f/ESITYS_20180627100306.pdf

² Maailman osaavimman ja sivistyneimmän kansan kotimaaksi, Kansallinen korkeakoulujen jatkuvan oppimisen strategia 2030. Ministry of Education and Culture 9.12.2022.

³ Ibid.

Figure 3 Vision for continuous learning in HEIs

<p>Everyone develops their skills and competence during their careers.</p> <ul style="list-style-type: none"> • Opportunities for everyone to upskill and reskill proactively, so that they can develop in their work, find a new job and advance in their careers • More equitable participation <p>Everyone has the knowledge, competence and skills required for employment and a meaningful life.</p> <ul style="list-style-type: none"> • A higher level of competence • A higher employment rate • A higher number and proportion of 25 to 64-year-olds with a higher education degree and lower number and proportion of 25 to 64-year-olds without a post-primary qualification or degree. <p>Competence renews the world of work and the world of work renews competence.</p> <ul style="list-style-type: none"> • A labour force that is skilled supports sustainable growth, innovation and competitiveness, and consequently wellbeing • Skilled workforce for employers • Workplace communities advocate learning new things

Source: National continuous learning strategy for HEIs⁴

The continuous learning strategy of the higher education institutions is based on the following goals and measures, which is called the 3+1 model.⁵

- A clear path to development and qualifications
- The openness of universities increases the accessibility of continuous learning
- Solutions for the renewal of learning work communities
- Digital service environment – meeting place

2.2 Characteristics of the higher education system in Finland and in the four international reference countries

This chapter provides basic information on characteristics of the Finnish and four international reference higher education systems using selected indicators. A detailed description of the reference countries' higher education systems is included in the country case studies appended to this report. This chapter highlights headline figures as contextual information, while the analysis in the subsequent chapters exploits the more detailed experience of the other countries.

Table 2 Headline figures of the five higher education systems

Headline figures		Finland	Bavaria, Germany [2]	Ireland	The Netherlands	Sweden
Background data (2022) [1]	Population	5,548,241	13,176,989	5,060,004	17,590,672	10,452,326
	Area size (km ²)	338,411	70,550	69,947	37,378	447,424
	Population density (pop/km ²)	16	187	72	471	23

⁴ <https://okm.fi/en/continuous-learning-reform#:~:text=The%20term%20%27continuous%20learning%27%20was,is%20for%20highly%20skilled%20workers.>

⁵ Ibid.

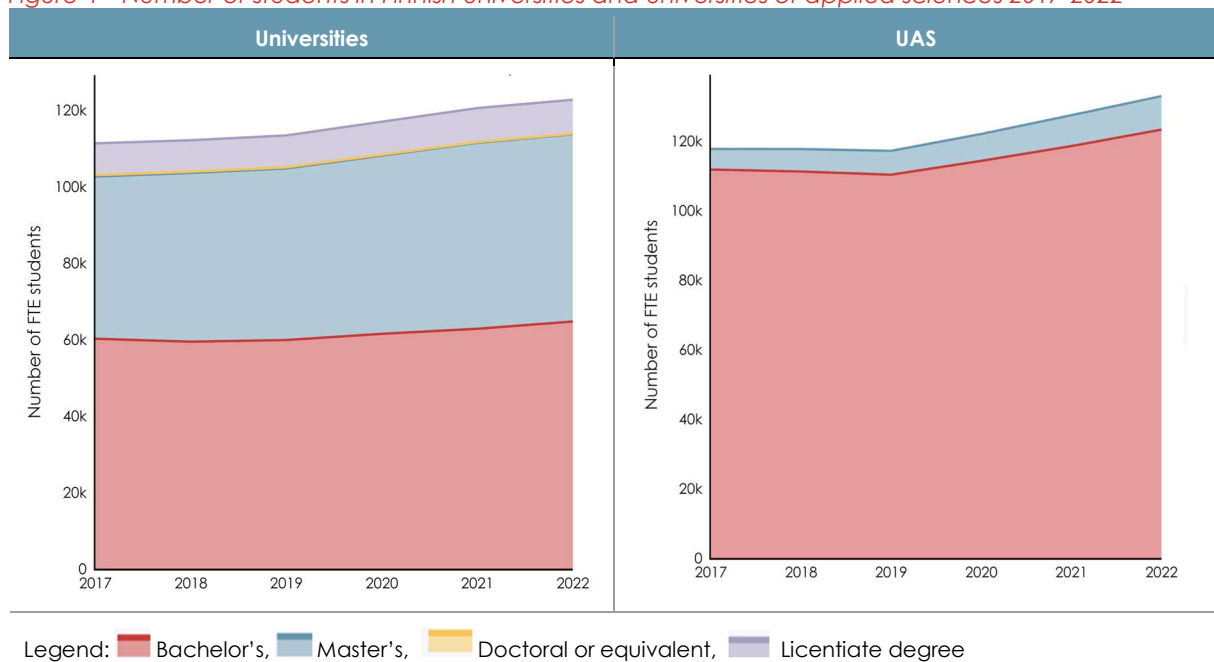
Headline figures		Finland	Bavaria, Germany ^[2]	Ireland	The Netherlands	Sweden
Students enrolled data for 2020 ^[1]	ISCED 5	n/a	n/a ^[4]	23,241	30,201 (est.)	34,801
	ISCED 6	284,676	220,838	167,763	695,419	256,655
	ISCED 7	72,794	167,406	36,800	195,384	143,164
	ISCED 8	18,454	11,592	8,893	16,417 (est.)	18,828
	Other ^[5]	-	4,869	-	-	-
	Total	295,924	404,705	236,697	937,421	453,448
	Male – female ratio of total	47%-53%	50%-50%	47%-53%	47%-53%	40%-60%
Tertiary educational attainment, age 25-34 (2022)		40.7%	41.3%	62.3%	56.4%	52.4%
Graduates, data for 2020*		63,617	72,446	90,097	163,408	84,511
Number of Universities	Public	13	10	7 universities 5 technological universities	13 research universities 1 open university	16
	Non-public / private ^[3]	1	6	1	5 incl. 4 theological universities	2
Number of Universities of Applied Sciences	Public	22	17	2 Institutes of Technology 3 colleges 8 third level institutions	36	11 university colleges 4 art, design and music academies
	Non-public / private ^[3]	2	7	8		17

Notes: [1] source: Eurostat, [2] source: Bavarian Statistical Office, [3] including independent universities/UAS, governed by the church or the Ministry of Defence in the different countries, [4] Courses on ISCEC level 5 are treated outside the Higher Education system in Bavaria and therefore left out here. [5] The 'Other' student category includes courses not easily classified according to the ISCED scale.⁶

Looking more closely at the student numbers in Finland (in full time equivalent, FTE), a slight increase can be observed in both universities and universities of applied sciences over the past five years. The proportions of the students enrolled in the different levels of education across the two types of institutions – universities and UAS - clearly highlight the different profiles of the two institution types.

⁶ This includes "Abschlusszeugnis/Zertifikat", other degrees in Germany, degrees with final exam abroad, and studies with no final examination possible or intended.

Figure 4 Number of students in Finnish universities and universities of applied sciences 2017-2022



Source: Technopolis, based on data from Vipunen

Similar to Finland, in Bavaria, institutional profiles vary widely from teaching-oriented universities of applied sciences to research-intensive universities. In recent years more and more universities of applied sciences put a stronger focus on research and the differences between profiles of universities and (some) universities of applied sciences are increasingly fluid. This is partly also because of recent legal reforms in Bavaria which gave UAS the right to apply for the right to award doctoral degrees under certain conditions, but in broad terms the focus on teaching is still dominant at UAS.

2.3 The steering instruments

As in the practices used by other countries, the steering of higher education encompasses a variety of instruments and tools, that collectively shape the system. The main governance and funding practices applied by the Ministry of Education and Culture to steer the system are:

- Regulatory steering
- Funding related steering
 - Core funding based on the performance-based funding formula (recurring)
 - Capital funding for universities (used intermittently, for specific purposes)
 - Competitively awarded grants (e.g., the PROFI grants awarded by the Academy of Finland)
- Information-based or 'soft' steering
 - Performance agreements, monitoring and reporting
 - Dialogue and interaction

The aim of this chapter is to describe the steering practices used in Finland and reflect on them from an international perspective by exploring the funding and governance practices of the four international reference countries.

2.3.1 Regulatory steering

The legal framework for the governance of HEIs has two parallel tracks, one for the universities and the other for universities of applied science (UAS, lit vocational higher education institutions, ammattikorkeakoulu, AMK).

Universities are either independent and autonomous legal subjects as public corporations or foundations, and both are governed/steered by the Ministry. The mission of the universities is:

“to promote independent academic research as well as academic and artistic education, to provide research-based higher education and to educate students to serve their country and humanity at large” (Universities Act, official translation).

This is often colloquially summarised to mean that universities conduct scientific research, publishing, and tertiary education from Bachelor’s to Doctorate levels. The Universities Act decrees the mission, basic governance, organisation and management principles and a framework for studies and relations toward students. A separate decree further details the funding model.

The Universities Act has altogether 37 amendments, most of which deal with issues concerning regulation of various protected professions, educational structures/degrees, and studies, such as student eligibility and qualifications. As a result of the legislative changes Finnish universities have become independent entities, both financially and legally.⁷ The key change allowed universities act as legal persons, and defined which universities operate as a foundation-run university and which as a university under public law.

Universities of Applied Sciences are limited companies, and their main mission is:

“to offer higher education based on the demands of business and professional life and its needs for development, as well as research, artistic and educational bases, for professional expert positions, and to support professional development of the students.”

The additional mission of [UAS] is to conduct applied research, development, innovation, and artistic activities that serve education provisioned in the [UAS], and furthers businesses/working life and enables regional development and renewal of regional industrial structure. In fulfilling these missions, [UAS] must offer possibilities for life-long learning.” (UAS Act, authors' translation)

Historically, universities of applied sciences are regionally owned institutions that mainly offer Bachelor’s level tertiary education and conduct supporting applied research and outreach, and which are steered by the Ministry and the regions. A reform of the UAS was, however, implemented in 2014–2015. The objective of the reform was to create the legislative framework and functional preconditions for UAS to become stronger providers of education for experts, builders of regional competitiveness, reformers of working life, and developers of innovations. The reform aimed to improve the ability of universities of applied sciences to operate more independently and flexibly as well as to speed up the structural reform of universities of applied sciences and an improvement to the quality and effectiveness of their operations. Funding for universities of applied sciences was reformed to better support their educational objectives, including better quality of education and research, development and innovation (RDI).⁸

⁷ Amaral, Tavares, and Santos 2013; Universities Act 2009

⁸ See e.g. Owl Group: Mikko Wennberg, Marika Koramo and Janika Keinänen (2018): Assessment of the Universities of Applied Sciences reform. Final Report. Publications of the Ministry of Education and Culture, Finland 2018:32. <http://urn.fi/URN:ISBN:978-952-263-588-4>

The UAS reform separated the UAS institutions from their owners (typically municipalities in the area/region), and the funding responsibility was transferred to the state. All UAS became non-profit legal entities in the form of limited liability companies. The UAS funding model became results-based. The reform coincided with the introduction of relatively severe austerity measures by government.

The Universities of Applied Sciences Act (2014) decrees the mission, basic governance, organisation and management principles and a framework for studies and relations toward students. Universities of Applied Sciences Act has 18 amendments, which mostly relate to studies and students, and the 2017 change in co-operation in education provisioning, and possibility for providing externally funded education (1368/2018).

Table 3 Summary of legal bases of universities of applied sciences and universities

	UAS	Universities
Legal basis	<ul style="list-style-type: none"> Universities of Applied Sciences act (UAS) Act (Ammattikorkeakoululaki 932/2014) and its amendments. Government decree on vocational higher education institutions (Valtioneuvoston asetus ammattikorkeakouluista 1129/2014) and its amendments. 	<ul style="list-style-type: none"> Universities Act, (Yliopistolaki 558/2009) and its amendments. Act implementing the Universities Act (Laki yliopistolain voimaannpanosta 559/2009) and its amendments. Government decree on universities (Valtioneuvoston asetus yliopistoista 770/2009) and its amendments.
Additional regulation on degree provisioning	<ul style="list-style-type: none"> Government decree on the system of higher education degrees (Asetus korkeakoulututkintojen järjestelmästä 464/1998). Act on national study and degree registers (Laki valtakunnallisista opinto- ja tutkintorekistereistä 884/2017). Government decree on common application system for higher education (Valtioneuvoston asetus korkeakoulujen yhteishausta 289/2019). 	
		<ul style="list-style-type: none"> Government decree on university degree and specialization training, (Valtioneuvoston asetus yliopistojen tutkinnoista ja erikoistumiskoulutuksista 794/2004) and its amendments. MEC decree on the details of the educational responsibility of universities, (Opetus- ja kulttuuriministeriön asetus yliopistojen koulutusvastuun täsmentämisestä 1451/2014) and its amendments. Government decree on the degree of specialized veterinary doctor and the right to work as a specialized veterinary doctor, (Valtioneuvoston asetus erikoiseläinlääkäriin tutkinnosta ja oikeudesta toimia erikoiseläinlääkäriä 275/2000) and its amendments.

	UAS	Universities
Additional regulation on funding models and charges	<ul style="list-style-type: none"> • MEC decree on calculation of basic (budget) funding for universities of applied sciences (Opetus- ja kulttuuriministeriön asetus ammattikorkeakoulujen perusrahoituksen laskentakriteereistä 117/2019) and its amendments. • Government decree on the charges for the functions and services provisioned by universities of applied sciences (Valtioneuvoston asetus ammattikorkeakoulujen toiminnasta perittävistä maksuista 1440/2014). • Government decree on vocational higher education institutions (Valtioneuvoston asetus ammattikorkeakouluista 1129/2014) 	<ul style="list-style-type: none"> • Government decree on universities (Valtioneuvoston asetus yliopistoista 770/2009). • MEC decree on calculation of basic (budget) funding for universities (Opetus- ja kulttuuriministeriön asetus yliopistojen perusrahoituksen laskentakriteereistä 119/2019). • Government decree on the charges for the functions and services provisioned by universities (Opetusministeriön asetus yliopistojen suoritteista perittävistä maksuista 737/2007).

The legislative changes and reforms of universities and universities of applied sciences since 2010 described above had multiple effects on the system, as documented in the various evaluations and studies carried out on the system during the past decade. Some of the key findings highlight, that:

- Finnish universities became independent entities, both financially and legally.⁹
- The reforms succeeded in improving the preconditions for cooperation among higher education institutions, but the transformation of roles and positions slowed down structural renewal and cooperation¹⁰
- The new internal governance and management model (introduced in the Universities Act of 2010) created internal tensions as it moved the balance of decision making from the elected collegium of internal stakeholders towards the rectorate and the board, which governs the strategy, economy and spending, internal governance and elects the rector¹¹
- The funding provided by the Ministry was seen to have a strong steering influence on both the universities' and UAS activities. In some cases, the steering was considered very detailed. Still, the increased financial and administrative autonomy had improved the universities' preconditions for profiling. UAS's responsibility for their finances and strategy has increased due to the transition to limited companies. The operations have become more profit oriented, but the flexibility and effectiveness of the decision-making processes have not increased considerable after the reform¹²
- The UAS reform strengthened the autonomy of UAS in relation to municipalities. The new operating licence practice has improved the ability of UAS to react to changes in the operating environment and to target their operations according to regional needs¹³

⁹ Amaral, Tavares, and Santos 2013; Universities Act 2009

¹⁰ Wennberg, M., Korhonen, N. & Koramo, M. 2018. Impact evaluation of higher education reforms. Publications of the Ministry of Education and Culture, Finland 2018:33

¹¹ e.g. Heinonen et al. 2016 Uusi yliopistolaki 2020, Into kustannus; Owl Group, 2016.

¹² Owl Group. Impact evaluation of the Universities Act reform. Publications of the Ministry of Education and Culture, Finland 2016:30

¹³ Ibid.

Recent reforms in two of the international reference countries triggered changes in the profiling of the types of institutions. **In Bavaria**, the missions of universities and UAS are directly defined in the BayHIG in two levels: overarching missions for all types of higher education institutions as well as missions tailored to universities and UAS. The **overarching mission** for all types of HEIs includes:

- Excellent research and teaching
- Contributing to/shaping the digital and ecological turn
- Knowledge and technology transfer including support the start-up ecosystem
- Science communication
- International cooperation

In fulfilling their missions, universities are also obliged to contribute to the preservation of nature and biodiversity, climate protection, and education for sustainable development. The law also stipulates that the universities and UAS have **differentiated missions** (Art. 3 BayHIG).

- **Universities** are responsible for the advancement of the sciences through basic and application-oriented research and science-based teaching. The aim of teaching at universities is to enable the independent development and application of scientific methods and findings in science and professional practice
- The **UAS** shall provide qualifications through application-oriented teaching that enables students to independently apply and further develop scientific methods in professional practice. They conduct application-oriented research and development

These differences are somewhat subtle, but still notable and important for the governance and funding system in HE in Bavaria. The differences can be shown by two examples.

- Example 1: Universities shall enable students to “develop scientific methods”, while UAS shall put students in a position to “apply and further develop” scientific methods
- Example 2: the UAS now have a strengthened mandate to conduct research. However, this objective was not clearly stipulated in the earlier Higher Education Act, hence institutional funding for research at UAS was almost non-existent

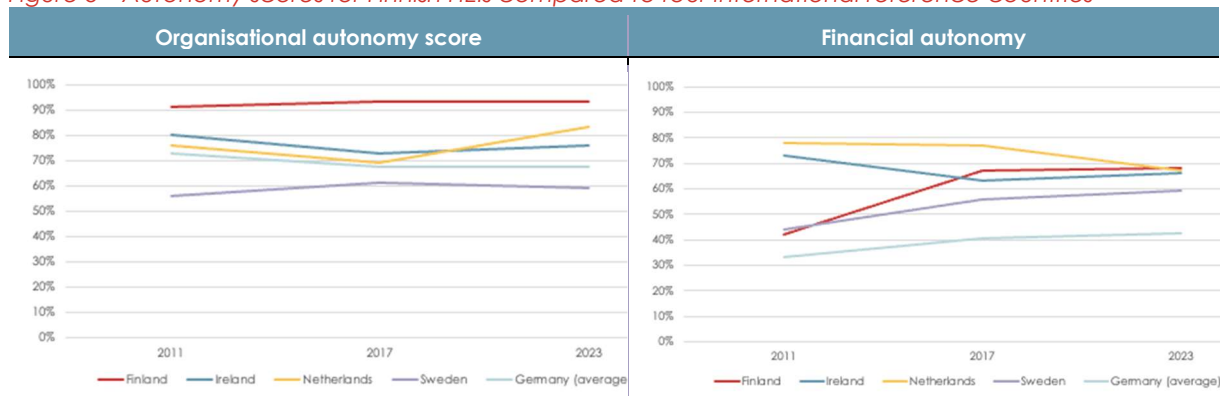
In **Ireland**, the 1997 Universities Act set out the objects and functions of the seven **universities**, including the structure and role of governing bodies, staffing arrangements, composition and role of academic councils and sections relating to property, finance and reporting. However, in 2018 the **Technological Universities** Act was enacted to provide a detailed and comprehensive statutory framework for the establishment of technological universities as well as the eligibility criteria and processes for setting up this new type of HEI,¹⁴ in line with the National Strategy for Higher Education to 2030 which emphasised a need for a more coherent system comprising a smaller number of larger HEIs with complementary and diverse missions to exploit synergies through the pooling of expertise, knowledge and resources. One identified policy priority was therefore the development of a clear and comprehensive framework in which the different HEIs of the Irish higher education system have distinct and well-defined roles, responsibilities and inter-relationships so that they collectively meet the needs of individuals, enterprise and society. The Act tasked the technological universities with providing research-informed teaching and learning across all levels of higher education, reflecting the needs of stakeholders in the region in which the campuses of the technological university are located.

¹⁴ Government of Ireland, Policy information – Higher education: <https://www.gov.ie/en/policy-information/175f3-further-education/> [accessed 14-02-2023]

Ensuring the creation and strengthening of regional clusters of collaborating institutions to serve regional level needs was an important element in delivering on the overarching objective of a more coherent, higher quality and efficient higher education system in Ireland.

In an international comparison, the Finnish system can be characterised by institutions with high levels of autonomy, as showcased by figures retrieved from the European University Associations' autonomy scoreboard.

Figure 5 Autonomy scores for Finnish HEIs compared to four international reference countries



Source: Technopolis based on data from EUA, autonomy scorecard, data for Bavaria not available, Germany figures are based on the averages of three other Länder

As presented in the charts, universities in **Bavaria** have in the past had “medium to high autonomy”. Their autonomy is rated as high on academic autonomy, lower on financial autonomy. This can be seen – for example - in arrangements like the allocation of staff positions from the state to the universities or the fact that the ownership of facilities and buildings and the responsibility for construction works remains with the State of Bavaria (as default with variations). This latter element of university autonomy has, however, changed with the recent higher education law. In addition, there are now more opportunities for universities to manage funds allocated to them via so-called global budgets (block funding, lump-sum budgeting, one-line budgeting). HEIs in **Sweden** have comparatively low financial autonomy. In Sweden, the annual funding to HEIs allocated from the government is split between funding to first- and second-cycle education and third-cycle education. The HEIs are not allowed independently to determine the budget allocations. Instead, the funding allocated to one of the areas must be used for that specific area. As in Germany, HEIs cannot own real estate.¹⁵

In **Ireland** the legislative framework is strongly grounded in institutional autonomy and academic freedom while also asserting the freedom of academic staff in their teaching, research and other activities. The National Strategy for Higher Education to 2030 identified a need to balance institutional funding and operational autonomy with a corresponding level of accountability for performance. Similar to Ireland, HEIs in the **Netherlands** also have high levels of institutional and financial autonomy, which they are keen on preserving. This is in the context that the principles of the funding mechanisms applied for the HEI sector have not changed significantly over the past decades.

¹⁵ EUA: University Autonomy in Europe IV, the Scorecard 2023

2.3.2 Funding-related steering

In Finland, funding-related steering encompasses three elements:

- Core funding based on the performance-based funding formula (recurring)
- Capital funding for universities (used intermittently, for specific purposes)
- Competitively awarded grants

The government **core budget funding** is distributed to the institutions through performance-based funding formula and strategy-based funding. Universities and universities of applied sciences have their own **performance-based funding formulas** (see Table 4) which include several indicators for education and for research and development. In their own internal fund allocation HEIs are not tied to follow the funding formula. Coefficients that take in to account the field specific differences were introduced in the recent funding formulas for 2021-2024.

Over the years, especially in case of universities, the share of the **strategy-based funding** has somewhat increased, and the share of the indicator-based funding diminished respectively. This is not the case for the UAS, which remain on a 5% share of strategic funding. The output indicators used are three-years averages to soften the performance orientation, which are coupled with change limits set at the beginning of each contracting period.

From 2021, strategy-based funding is divided into a programme-based part (see chapter and a part that supports the universities' own strategy and renewal, of which the main focus is on the latter part. In addition, national tasks are taken into account in government funding of universities. As shown in the Table below, the funding models emphasise outputs both in terms of education and research. The table below summarises the funding models over the past two periods for universities and UASs.

Table 4 Universities and UAS core funding from 2021

	Universities			Universities of applied sciences		
	2017	2021	Note	2017	2021	Note
Education	39%	42%		79%	76%	
Master's degrees	13%	19%	<ul style="list-style-type: none"> • Coefficients: graduation times, multiple similar degrees, fields of education • Funding up to the educational field agreed target (Master's degrees) 	-	-	<ul style="list-style-type: none"> • Coefficients: graduation times, multiple similar degrees, fields of education • Funding up to the educational field agreed target
Bachelor's degrees	6%	11%		40%	56%	
Number of students who have achieved at least 55 study credits	10%	-		23%	-	
Open education, non-degree programmes etc.	2%	-	<ul style="list-style-type: none"> • Study credits in open university, specialisation studies, studies based on cooperation and in non-degree programmes 	5%	-	<ul style="list-style-type: none"> • Study credits in open UAS education and in non-degree programmes
Continuous learning	-	5%	<ul style="list-style-type: none"> • ECTS based on cooperation 1% 	-	9%	<ul style="list-style-type: none"> • ECTS based on cooperation 1%
Number of employed graduates	2%	2%		4%	3%	
Quality of employment	-	2%	<ul style="list-style-type: none"> • graduate tracking 	-	3%	graduate tracking
Student feedback	3%	3%		3%	3%	
Degrees in vocational teacher training	-	-		2%	2%	
Master's degrees awarded to foreign nationals	1%	-		-	-	
Student mobility to and from Finland	2%	-		2%	-	
Research and Development	33%	34%		15%	19%	

	Universities			Universities of applied sciences		
	2017	2021	Note	2017	2021	Note
PhD Degrees	9%	8%	• Funding up to the university level agreed target		-	
Master's degrees		-		4%	6%	
Publications	13%	14%	• Refereed scientific publications: Level 0 (coefficient 0.1), Level 1 (1), Level 2 (3) and Level 3 (4). • Other publications: 0.1 • Open publications: 1.2	2%	2%	• Publications, public artistic and design activities, audio-visual material and ICT software • Coefficient for open publications 1.2
External / competitive R&D funding	9%	12%	• International competitive research funding • National competitive research funding and corporate funding	8%	11%	• External R&D-funding
International teaching and research personnel	2%	-				
Teacher and expert mobility	-	-		1%	-	
Other	28%	24%		6%	5%	
Strategic development	12%	15%	• Part A: Strategy of the University, implementation of the strategy, profiling, internationalisation • Part B: National education and science policy aims	5%	5%	• Part A: Strategy of the UAS, Implementation of the strategy, profiling, internationalisation • Part B: National education and R&D aims
Field-specific funding	9%	-	• All fields of art, engineering, natural sciences, medicine, dentistry, veterinary medicine	1%	-	
National duties	7%	9%	• Special national duties • teacher training schools • National Library of Finland, University of Arts	-	-	

Source: Technopolis & 4Front, adapted from the Ministry of Education and Culture (<https://okm.fi/en/steering-financing-and-agreements>)

The mid-term review of the universities showed that performance against the different criteria of the funding model varies (Table 5). For example, the LUT University, the University of Oulu and the University of Arts have been most successful in Master's degrees, whereas the University of Helsinki, the Aalto University and the Tampere University have been most successful in international research funding and other research funding.

Table 5 Universities' part of the different components of the funding model (colours in relation to the university's share of total funding).

Domain	Education							Research				Total
	Master's degrees	Bachelor's degrees	Cont. learning	Coop. ECTS	Employed Grads	Grad. Tracking	Student feedback	PhDs	Intl. funding	Other funding	Scientific publ.	
Weight	19%	11%	4%	1%	2%	2%	3%	8%	8%	6%	14%	100%
Aalto University	13.8%	13.0%	4.0%	13.6%	11.7%	11.5%	9.8%	12.2%	19.3%	16.2%	11.2%	12.9%
University of Helsinki	17.3%	21.1%	20.9%	9.1%	17.4%	18.2%	18.2%	29.3%	32.3%	29.8%	29.7%	23.8%
Uni. of Eastern Finland	9.9%	8.9%	18.8%	9.3%	10.0%	10.4%	10.4%	9.0%	6.9%	6.6%	7.9%	9.3%
University of Jyväskylä	8.2%	9.0%	22.3%	5.4%	10.0%	11.6%	8.8%	8.5%	5.4%	6.3%	7.6%	8.7%
University of Lapland	2.6%	3.3%	3.7%	3.1%	3.1%	2.6%	3.9%	1.5%	1.1%	0.6%	1.4%	2.2%
LUT University	4.7%	3.4%	1.6%	5.1%	4.4%	4.4%	3.6%	3.3%	2.7%	3.4%	3.4%	3.6%
University of Oulu	10.2%	8.4%	5.2%	4.1%	8.8%	8.4%	10.8%	8.9%	9.7%	8.7%	9.3%	9.1%
Hanken	1.4%	1.5%	0.8%	7.9%	2.0%	2.0%	2.1%	0.6%	0.3%	0.4%	0.8%	1.2%
Uni. Arts Helsinki	3.3%	3.2%	1.4%	0.9%	1.5%	1.5%	1.3%	0.6%	0.4%	0.3%	0.4%	1.7%
Tampere University	12.3%	12.5%	5.5%	10.6%	13.2%	13.3%	12.9%	10.8%	12.8%	15.0%	11.2%	11.9%

Domain	Education							Research				Total
	Master's degrees	Bachelor's degrees	Cont. learning	Coop. ECTS	Employed Grads	Grad. Tracking	Student feedback	PhDs	Intl. funding	Other funding	Scientific publ.	Share of funding
Weight	19%	11%	4%	1%	2%	2%	3%	8%	8%	6%	14%	100%
University of Turku	10.8%	9.8%	10.6%	15.7%	11.3%	10.2%	10.3%	10.7%	6.9%	9.3%	12.2%	10.5%
University of Vaasa	2.7%	2.8%	2.3%	5.7%	3.6%	2.6%	4.0%	1.3%	0.5%	0.5%	1.5%	2.0%
Åbo Akademi	2.7%	3.3%	2.9%	9.5%	3.1%	3.3%	4.0%	3.3%	2.0%	2.7%	3.5%	3.1%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: Adapted from data from the Ministry of Higher Education and Culture, Finland.¹⁶

Similarly, the mid-term review of the UAS showed considerable variation among the UAS (Table 6). For example, Metropolia UAS, Turku UAS, Vaasa UAS, Tampere UAS, Oulu UAS, Diakonia UAS and Arcada UAS have been most successful in UAS degrees, whereas South-Eastern Finland UAS, Laurea UAS, Jyväskylä UAS, Satakunta UAS, Haaga-Helia UAS, Novia UAS, Karelia UAS, Kajaani UAS and Arcada UAS have been successful in education of immigrants.

Table 6 UAS's part of the different components of the funding model (colours in relation to the Universities of Applied Science share of total funding).

Domain	Education						Research			Total
	Bachelor's degrees	Immigration Education	Coop. ECTS	Employed Grads	Grad. Tracking	Student feedback	RDI funding	Master's degrees	Publications	Share of funding
Häme UAS	4.8%	3.0%	2.2%	4.5%	4.0%	4.3%	5.6%	5.1%	2.3%	5.1%
Karelia UAS	2.7%	3.2%	8.0%	2.6%	2.0%	2.5%	2.9%	2.5%	2.9%	2.8%
Oulu UAS	6.0%	3.8%	4.3%	5.4%	6.5%	5.3%	6.2%	4.0%	6.6%	5.8%
Seinäjoki UAS	3.1%	2.2%	4.2%	3.6%	4.2%	3.3%	3.3%	2.7%	5.8%	3.1%
Kajaani UAS	1.4%	2.1%	2.2%	1.3%	1.2%	1.5%	3.5%	1.3%	1.6%	1.7%
Jyväskylä UAS	5.0%	6.9%	5.0%	4.5%	4.2%	4.8%	6.6%	6.1%	5.1%	5.8%
Satakunta UAS	3.8%	5.2%	1.4%	3.9%	3.6%	3.9%	3.0%	3.9%	2.2%	3.7%
Turku UAS	7.5%	5.6%	2.0%	7.3%	6.9%	7.1%	7.9%	7.7%	6.9%	7.1%
Arcadia UAS	1.7%	1.7%	0.4%	1.7%	2.0%	1.7%	1.2%	1.8%	1.4%	1.6%
Centria UAS	1.9%	1.3%	4.6%	1.9%	1.8%	1.9%	4.2%	1.4%	1.5%	2.1%
Savonia UAS	5.3%	5.7%	16.4%	5.2%	6.4%	4.7%	6.6%	3.7%	5.0%	5.4%
Diakonia UAS	2.3%	2.1%	0.8%	2.8%	2.8%	2.6%	2.0%	1.7%	2.3%	2.2%
Vaasa UAS	2.1%	0.6%	1.7%	2.2%	2.3%	2.0%	0.6%	0.9%	0.9%	1.6%
Laurea UAS	5.2%	8.0%	1.9%	6.8%	7.1%	7.0%	3.5%	7.7%	4.5%	5.4%
Tampere UAS	7.4%	4.6%	1.9%	7.4%	8.2%	7.1%	4.2%	7.6%	5.3%	6.9%
HUMAK UAS	1.4%	1.8%	5.7%	1.2%	1.2%	1.2%	1.1%	1.2%	3.4%	1.4%
Haaga-Heli UAS	6.2%	7.0%	1.1%	7.1%	6.7%	7.8%	2.7%	7.4%	6.9%	6.3%
Metropolia UAS	12.4%	7.3%	12.4%	11.6%	10.0%	11.4%	5.4%	12.6%	6.8%	10.6%
Novia UAS	2.8%	3.5%	1.1%	2.8%	3.7%	2.4%	3.1%	1.4%	4.5%	2.8%
Lapland UAS	4.2%	2.8%	2.8%	4.2%	4.0%	4.3%	6.1%	4.4%	3.9%	4.2%
South-Eastern Finland UAS	6.5%	17.3%	10.3%	6.3%	5.7%	6.7%	13.0%	7.2%	8.2%	8.1%
LAB UAS	6.4%	4.2%	9.7%	5.9%	5.2%	6.5%	7.3%	7.8%	12.1%	6.4%

¹⁶ Note: Colour intensity reflects relative difference between total share of funding and share of funding within the specific indicator domain. The method differs slightly from the one used in the Ministry's internal charts.

Source: Adapted from data from the Ministry of Higher Education and Culture, Finland (see note 16 yllä)

In international comparison, the Finnish HEI funding model is exceptionally strongly based on the performance and results of HEIs. There are only a few other countries that have such a high degree of performance orientation. While performance-based funding is rather widespread, the degree of funding allocated in this way is highly varied.

Figure 6 Types of funding mechanisms and share of core funding tied to performance in EU Member States

		Degree of performance orientation			
		No PBF (0%)	Small (1-14%)	Moderate (15-59%)	High (60-100%)
Funding mechanism type	Formula-based	HU	LV	RO	SE BE-NI SK
	Formula + performance agreement and/or other	BE-Fr	IE	LT NL IT CZ PL EE SI DE-LS AT ES	BG DK FI
	Negotiations-based (perform. agreement and/or other)	EL MT PT FR LU CY		HR DE-BE	

Source: Adapted from ICF/CHEPS (2023), p. 26.¹⁷ Note: In the countries/states shown in red, the share of PBF has increased over the period 2010-2020. Emphasis added: Finland marked by a blue circle and reference countries with green boxes.

Strategy-based funding programmes

As mentioned above, the strategy-based funding is divided into a part that supports the strategy and renewal of the HEIs and a part that supports the government's HE and science policy goals. The latter is devoted to dedicated programmes addressing these goals. In the years 2021-2024 the share of programme-based funding is devoted to

- Raising the level of education and skills (around €40m annually to allocated to universities and €6m to UASs)
- Developing the digital service environment of higher education institutions - Digivisio 2030
- Promoting the internationalisation of higher education institutions and education-based immigration and integration - related to the TalentBoost policy package

The **Digivisio 2030** is a joint programme, which aims at creating a future for learning that benefits higher education institutions, learners and society as a whole. All 38 Finnish higher education

¹⁷ Study on the state and effectiveness of national funding systems of higher education to support the European Universities Initiative, a study for the European Commission, available at: <https://op.europa.eu/s/yCsd>

institutions (35 under the Ministry's purview)¹⁸ have signed the programme's participation agreement, and the programme office was established at the end of 2020. The Ministry has allocated a total of €43.8m to the programme so far. In 2021, the Ministry awarded a special grant of €20m to the Digivisio 2030 programme. In addition to the special grant, €17.8m was allocated in strategic funding to the programme for 2021-2024. Finally, as part of Finland's Sustainable Growth Programme, the programme has been granted an additional €6m until 2024.

Digivisio's goal is to create a learning ecosystem that is initially based on Digivisio's digital services, the joint study offering of higher education institutions and interaction with companies and society. The services offered by the ecosystem will benefit learners so that they can flexibly and continuously complete studies that meet their individual needs across the boundaries of higher education institutions. Solutions are created openly in order to integrate them with other existing services and interfaces.

The steering and decision-making models of the Digivisio 2030 consists of three levels: General Assembly, steering group and programme office. The General Assembly, composed of representatives from all higher education institutions, is the supreme decision-maker of the programme. The steering group, in turn, steers the operational activities of the programme in accordance with the guidelines of the General Assembly. The higher education institutions have elected representatives from among their own personnel to serve in the programme steering group.

The programme office is responsible for the practical implementation of the programme. Practical development work is guided by the objectives and roadmaps established with the higher education institutions, i.e. the General Assembly and the steering group, and which are the following

- Funding and legislative aspects of the Digivisio 2030 programme
- Learners and high-quality digital pedagogy form the core of the programme
- Expertise of higher education institutions key to the programme
- Aim: an open learning ecosystem

TalentBoost - The Finnish government outlined in its spring 2021 mid-term discussions that the aim is to triple the number of new foreign degree students by 2030, and at the same time the aim is to increase the employment and retention of students in Finland to 75 percent. In the TalentBoost programme, the government invests in keeping international students in Finland through business cooperation and improving the willingness of workplaces to recruiting former foreign students and increasing their diversity.

The Talent Boost programme is coordinated by the Ministry of Economic Affairs and Economy and the Ministry of Education and Culture. It is a cross-ministry programme supporting the immigration of special experts, workers, students, and researchers. It focusses is on companies' growth and internationalisation, as well as the essential skills for the top and growth sectors of R&D activities, as well as sectors suffering from labour shortages. The aim of the programme is to raise Finland's attractiveness to skilled workers and their families to a new level.

¹⁸ In addition, Åland University of Applied Sciences and the Police University College operate under the ministry of the interior, and the Finnish National Defence University under the defence administration.

Figure 7 Internationalisation Programme for HEIs



Source, Ministry of Education and Culture, Finland

The TalentBoost service promise is based on measures that the university uses to strengthen the integration of international students and researchers into Finnish society and the transition to the Finnish labour market. In addition to the TalentBoost related to support, the Ministry has also funded collaborative projects in non-EU countries as a part of the strategic funding.

2.3.3 Capital funding for universities

The Ministry started to capitalise the universities in 2008, aiming to maintain their independence as government funding was expected to decline. Later this policy was expanded to cover the UAS. Government capitalisation is tightly linked to fundraising as it can be used to match donations. The combined effect of capitalization and fundraising has visibly strengthened universities' balance sheets. There have been several phases of capitalization, implemented in differing ways as the decisions were made at different times and partly in different situations. The total capitalization of universities in the years 2008-2022 is 1,127 million euros, and of Universities of Applied Sciences 74 million euros. These have been accumulated through the following phases:

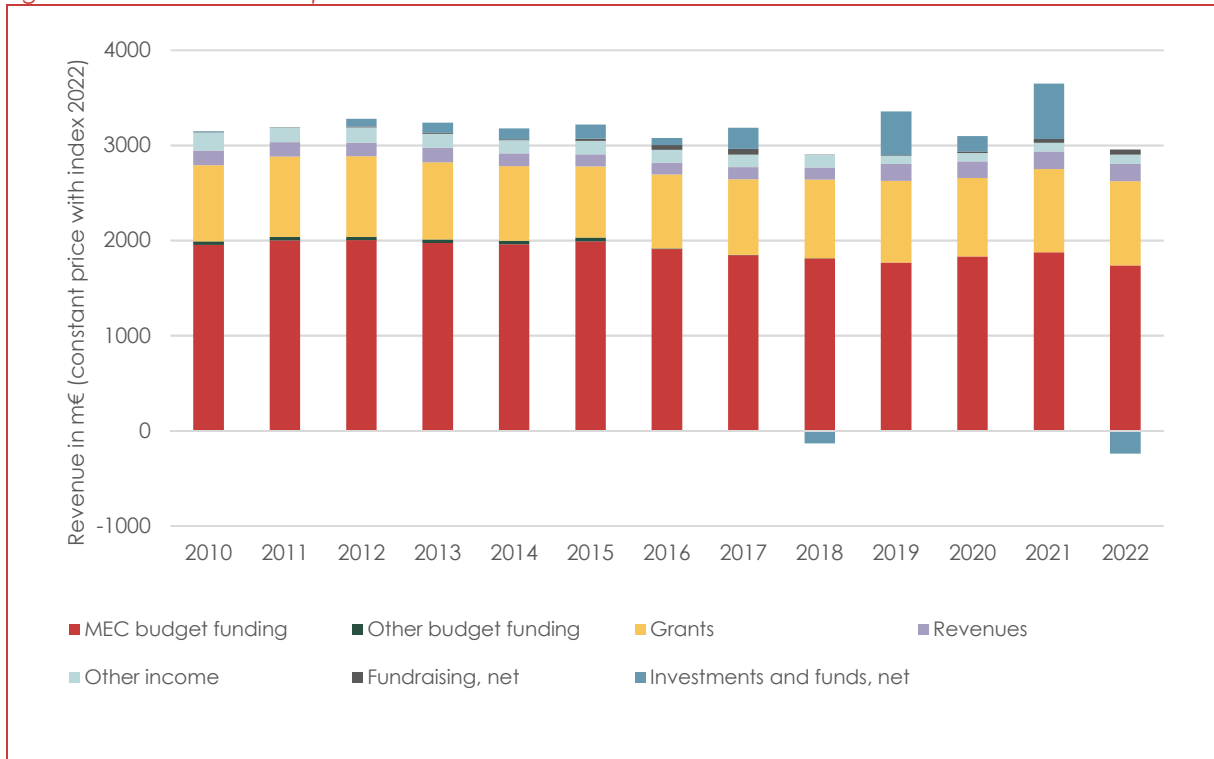
- 2008-2013 Capitalization of universities, linked to fundraising: €831.3 million
- 2015 Capitalization of Universities of Applied Sciences: €50 million
- 2017 Capitalization of universities, connected to fundraising: 150 M€
- 2018 Capitalization of universities: €46 million
- 2019 Capitalization of Universities of Applied Sciences, linked to fundraising: €24 million
- 2020-2022 Capitalization of universities: €100 million (67 million linked to fundraising)

The solvency of the universities and the availability of reasonably priced premises have also been supported by the transfer of some of the shares of three university real estate companies to the universities free of charge in connection with the university reform. In addition, the government established and capitalized a research impact support foundation (currently impact foundation) in 2019 for €60 million.

As Figure 4 shows, profits generated from investments and funds have grown to play a significant role in universities' incomes. Although the differences among years are quite large, it can be argued that these profits offer universities both flexibility in financial planning and opportunities to make strategic investments. The figures also show, however, that income from

this source can be volatile: Return on investment was negative in 2022, as well as in 2018 for the universities.

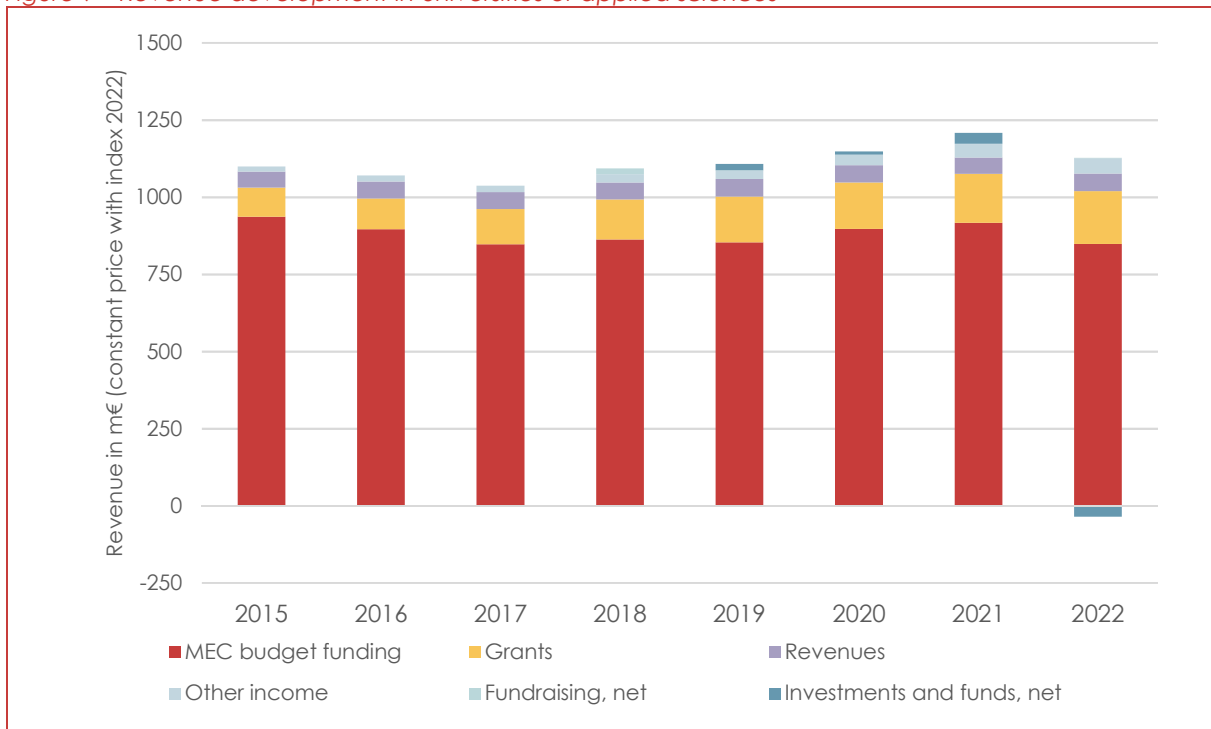
Figure 8 Revenue development in universities



Source: The Ministry of Education and Culture, Vipunen

The universities of applied sciences have had a shorter period for fundraising, so they have not yet received as big financial benefits from investment returns as universities. However, there is a clearly positive trend (see Figure 5).

Figure 9 Revenue development in universities of applied sciences



Source: The Ministry of Education and Culture, Vipunen

2.3.4 Competitively awarded grants

External funding is involved in national steering of Finnish HEIs as it is one of the indicators in the funding model. The share of external funding varies among the HEIs. Below are examples of competitive funding instruments that have particularly supported the profiling of HEIs. **Profiling (PROFI) funding** - The Academy of Finland has provided the funding instrument to support university profiling, called PROFI funding, since 2015. The money for the scheme (€50m annually) was transferred from the universities' core funding. The funding instrument is implemented in parallel with the University Act reform process with the aim to strengthen the universities in the fields of their own core areas. The Academy's PROFI funding is only about 2% of the total funding of university research in Finland¹⁹ but evaluations of the PROFI funding²⁰ have shown that it has been more valuable than this small proportion suggests. It has succeeded in speeding up the strategy-based research profiling of the universities and enhanced interdisciplinary and multidisciplinary cooperation in research themes selected by the universities. However, its impact on steering division of research between the universities remained weak.

Through **the Flagship Programme**, the Academy of Finland supports high-quality research and increases the economic and societal impact emerging from the research and builds on collaboration between institutions and with business and societal partners. Flagship

¹⁹ Hjelt, M., Sepponen, S., Roschier, S., Laine, A., Bröckl, M. & Raivio, T. 2018. Profiloitirahoituksen vaikutukset yliopistojen strategiseen suunnitteluun ja johtamiseen. Opetus- ja kulttuuriministeriön julkaisuja 2018:27

²⁰ Hjelt, M., Sepponen, S., Roschier, S., Laine, A., Bröckl, M. & Raivio, T. 2018. Profiloitirahoituksen vaikutukset yliopistojen strategiseen suunnitteluun ja johtamiseen. Opetus- ja kulttuuriministeriön julkaisuja 2018:27; Profirahoitusmuodon suunnitelmien toteutumisen arviointi. 12.6.2019. https://www.aka.fi/globalassets/1-tutkimusrahoitus/4-ohjelmat-ja-muut-rahoitusmuodot/5-yliopistojen-profiloituminen/profiarviointi2019_10062019.pdf

programmes focus on existing research strengths at universities and research institutes, unlike the PROFI programme which can also be employed to support strategic investments in new. While the PROFI funding helped universities to identify new areas of strength and develop them further, the Academy of Finland's Flagship programme²¹ have had a cumulative effect on profiling of Finnish universities, because the universities' Flagship applications build on the universities' already existing profile (PROFI) areas.

2.3.5 Information-based or 'soft' steering

Performance agreements between the HEIs and the Ministry have been used since mid 1990s in multiple rounds. Each agreement has a standardised structure. The structure (2021-2024) is shown in Figure 10.

The institutions are required to report on performance each year providing a 'soft' mechanism of re-enforcing the aims of the agreement. The targets in the performance agreements are set by the HEIs linked to their institutional profile in negotiations with the Ministry. In addition, the performance agreement is linked the funding formula is several ways: It forms the basis for support for 'strategic development' spelling out strategies objectives (2.1) and measures to support the strategy (3.1). Further, the degree objectives (3.2) define the number of graduates for which funding is awarded under the formula.

Figure 10 Structure of performance agreements between HEIs and the Ministry of Education and Culture

Universities and UASs (2021-2024)

1. Towards the target state of 2030

2. Higher education institution's strategic choices, profile and areas of strength

2.1 Strategic objectives, choices and profile

2.2 Areas of strength and new emerging fields

3. Measures to support the strategy of the higher education institution and the degree objectives

3.1 Measures to support the strategy of the higher education institution

3.2 Degree objectives

4. Financing

5. Monitoring

As in other countries, performance agreements have had positive effects on institutional strategic planning and profiling as well as on understanding and management of costs in HEIs.²² Seuri and Vartiainen (2018) provided an alternative perspective on profiling of Finnish universities and recommended that differentiation universities' research and education profiles should be further investigated. For instance, Bachelor's degrees and Master's degrees could be completed broadly in Finnish HEIs, whereas profiling of research does not necessarily require profiling of education.²³

The international reference countries use steering instruments in different ways. In 2018 the Dutch government established a **Sector Accord** with the higher education sector. This established joint agreements on a set of identified topics - such as raising the quality of Dutch

²¹ See more <https://www.aka.fi/en/research-funding/programmes-and-other-funding-schemes/flagship-programme/>

²² OECD / Roy, S. A working draft document: The future of Finland's higher education funding model. Options for supporting national policy objective.

²³ Seuri A. and Vartiainen H. (2018): Yliopistojen rahoitus, kannustimet ja rakennekehitys. Talouspoliittikan arviointineuvoston taustaraportti. Tammikuu 2018.

higher education in response to growing student numbers and the pressure this put on staff workload and the quality of higher education - which were then translated into more specific agreements. These Quality Agreements for Higher Education 2019 – 2024 set out six main areas in which HEIs were expected to invest in raising the quality of teaching and learning:

1. More intensive, smaller scale education
2. More and better support to students
3. Raising the study performance of students
4. More differentiation in education
5. Suitable and sound educational facilities
6. Further professionalisation of teachers

HEIs were to establish their own plans and approaches to pursuing these six priorities, together with representatives of students, teachers, and researchers from their institutions. The plans which HEIs developed were to be examined and approved by the Dutch Accreditation Agency (NVAO), which formally advises the Ministry of Education, Culture and Science that then approves the plans (or not). Each HEI has its own quality agreements and plans and agree to monitor these and account their activities in their annual reports.

Another important, recent policy priority for the HE sector is captured in the coalition agreement for the current Dutch government, which sets out strategic priorities for the cabinet period. A **governance agreement for higher education and science** has been established between the Ministry for Education, Culture and Science and the three main HEI associations, the Universities of The Netherlands (UNL), the Universities of Applied Sciences Netherlands (VH) and the Netherlands Federation of University Medical Centres (NFU) (which was represented via the UNL). These priorities and agreements have been drafted in the Governance Accord for Higher Education and Research in 2022 (*Bestuursakkoord 2022 Hoger Onderwijs en Onderzoek*) and provide more concrete objectives which the government and sector agree to work towards. To achieve these ambitions, the Ministry has allocated €650 million annually to the HEIs.

In **Sweden**, the Ministry of Education and Research instructs HEIs via their annual letter of appropriation. The main purpose of the letter is to inform the HEIs of the Government's priorities for the upcoming fiscal year. The letters convey both the funding priorities of each HEI and the individual HEI's goals, assignments, and reporting requirements to the Ministry as well as the budget made available to the university.

In **Ireland**, mission-based performance compacts are formally agreed in the strategy and performance dialogue between the Higher Education Authority and the HEIs. In this process, each HEI provide a description of its proposed approach to deliver on the regional, national and system objectives set out in the **System Performance Framework**, with reference to the individual mission, capacities, strengths and priorities of the HEI. Proposed targets are subject to challenge by an external expert panel. The main aims of this process are to improve system and institutional performance, enhance system accountability and enable the HEA to manage system risks.²⁴

Each HEI's mission-based performance compact consists of two parts:

²⁴ Higher Education Authority (HEA), Strategy and Performance Dialogue: <https://hea.ie/funding-governance-performance/managing-performance/strategy-and-performance-dialogue/>

- **Qualitative and strategic submission** - their proposed approach to deliver on each of the six key system framework objectives with a maximum of two institutional strategic priorities under each of the six key system objectives. The strategic initiatives should be described with reference to the high-level targets set out in the System Performance Framework.²⁵ The strategic initiatives provide a summary of the mechanisms to deliver on the outcome and include key performance indicators and measurable outputs. The HEA works with HEIs in framing priorities and initiatives to ensure that the compact demonstrates the HEI's priorities, is sufficiently outcomes-focussed, and lends itself to annual evaluation exercises²⁶
- **Quantitative data submission**, the System Performance Framework sets out a range of metrics and indicators to which the higher education system is required to respond. The HEIs work with the HEA to set out individual and national baselines for these indicators with reference to most recent available data so that progress can be tracked at national and regional level.²⁷

As in the Finnish system, performance against the mission-based performance compacts is monitored via a system of annual reporting and the strategic dialogue process, whereby the HEA meets with each individual HEI to review performance and confirm good ongoing governance and accountability of the public funding distributed in each case.²⁸

There is evidence that the **Higher Education System Performance Frameworks** have been successful in strengthening dialogue and coordination between HEIs and national-level policy makers in Ireland. An analysis²⁹ of the effects of the first three-year period of implementation (2014-2017) found that the objectives of the System Performance Framework were broadly supported by the Irish HEIs. The system was reported to have contributed to the creation of a constructive relationship between the HEA and the HEIs, and to have had positive impacts on self-reflective institutional learning and strengthening of strategic capacity building. However, the same study found little evidence of any direct effects on institutional behaviour, attributing this to a lack of enabling or incentive funding to trigger change and the fact that the potential funding penalty is insufficient to affect behaviour.

Other “Soft steering” tools

The Ministry has undertaken extensive consultations with HEIs, including visits and events. In this context, this can form part of a steering approach also based on information sharing, consensus-building, and 'soft' influence. These are important forms for steering the system and the individual HEIs.

Similarly, in Sweden the Government is frequently in dialogue with representatives of each HEI in matters concerning the HEI in question. This includes discussing the specialised research fields for each HEI, how these can be developed and potentially setting up specific goals for the concerned HEI in relation to a new Government's priorities.

²⁵ Higher Education Authority (HEA), Draft Mission-based Performance Compact Template 2018-2021 between Higher Education Institution and The Higher Education Authority: <https://hea.ie/assets/uploads/2017/04/Mission-Based-Performance-Compact-Template-2020-2021.pdf>

²⁶ *ibid*

²⁷ *ibid*

²⁸ Higher Education Authority (HEA), Governance Framework for the Higher Education System (Published May 2017): https://hea.ie/assets/uploads/2017/05/governance_framework-15.5.17-revised.pdf

²⁹ OECD, Resourcing higher education in Ireland – Funding higher education institutions, 2022, available: <https://www.oecd.org/ireland/resourcing-higher-education-in-ireland-67dd76e0-en.htm>

3 The effects of the Ministry's steering practices

3.1 Influence on higher education institutions

The combination of a high degree of autonomy among higher education institutions and a strongly performance-orientated funding system means that the steering effect of the Ministry's funding and governance practices relies on the influence it exerts on the HEIs' decision-making.

Following Evaluation Question 2 (see above), this section presents the findings concerning the influence of the current steering model along four main dimensions:

- Strategic decision-making
- Personnel and human resource policy
- Internal allocation of funding
- Partnerships and collaboration

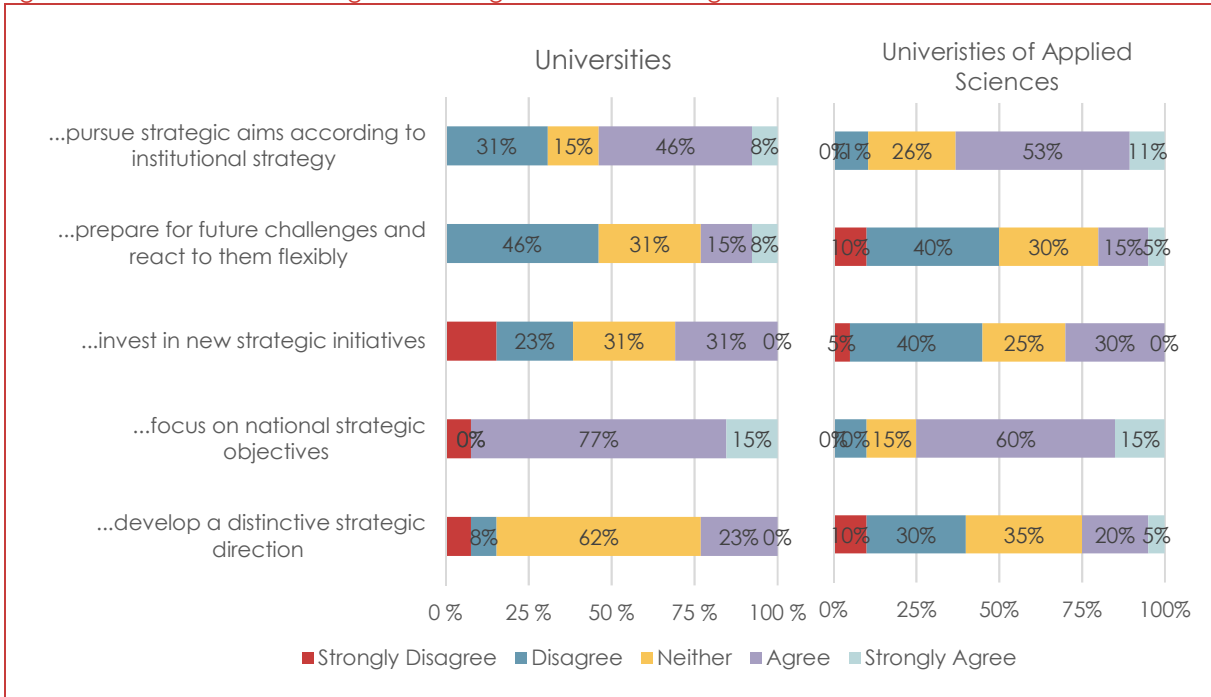
Evidence in this section is primarily based on findings from the consultation with the higher education institutions as part of this evaluation.

3.1.1 *Institutional autonomy and strategic decision-making*

Finnish higher education institutions have a very large degree of formal autonomy, but many institutions said that "real" autonomy in relation to strategic decision-making was somewhat more limited.

As shown in Figure 11, the government funding and governance practices are seen to be particularly supportive of the pursuit of (shared) national strategic objectives and there is support to the pursuit of strategic aims according to institutional strategies. However, interviews with HEI management revealed a large degree of consensus that most institutional strategies have a lot of similarities and include a broad range of goals in line with the HEI's interpretation of national policy goals. As one interviewee described the strategies: "they include everything and do not exclude anything" which means that real strategic choices are not made, and everybody does everything. There are some exceptions when institutional strategies aim to differ and define more individualised development routes. However, as the survey responses also highlight, developing a distinctive strategic direction and investing in new strategic initiatives are not regarded as being supported by the Ministry's funding and governance practices. Similarly, supporting risk taking and flexibility were elements missing from the system. Overall, HEIs perceived current practices to be a driver of uniformity in strategic orientation rather than the desired 'profiling' or division of labour between the institutions.

Figure 11 Government steering and strategic decision-making



Source: Survey of Finnish HEIs, 2023, Question: "To what extent do you agree or disagree with the following statements concerning the Ministry of Education and Culture's funding and governance practices?" (Appendix A)

Several specific features of the Ministry's model were seen as barriers to more effective strategic decision-making. The results-based nature of the funding formula involves a delay between investment in new areas of activity, the reward achieved based on the outputs and outcomes and these activities.³⁰ In the case of setting up a new degree programme, the delay can be as much as ten years, between the initial investment, the time it takes for the first students to complete the programme, and the further delay between the time of graduation and year in which it is taken into account in the calculation in formula funding.

The consultation with HEIs also reveal a degree of frustration with the specific way in which strategic areas are supported by the Ministry, particularly programme funding under the 'strategy' heading in the funding model. Programmes are often announced at short notice and the time allowed for implementation seen as insufficient to allow for the HEIs to prepare and execute activities in a meaningful way. Therefore, especially some of the UAs – for whom funding is predominantly determined by the number of degrees and much less is available for strategic development – expressed a desire to keep the strategic funding proportion of their funding as low as possible if it is to continue in the current form and ways of allocation. Relatedly, the criteria used to award programme are often seen as vague and untransparent, in contrast to the metrics used in other parts of the funding model.

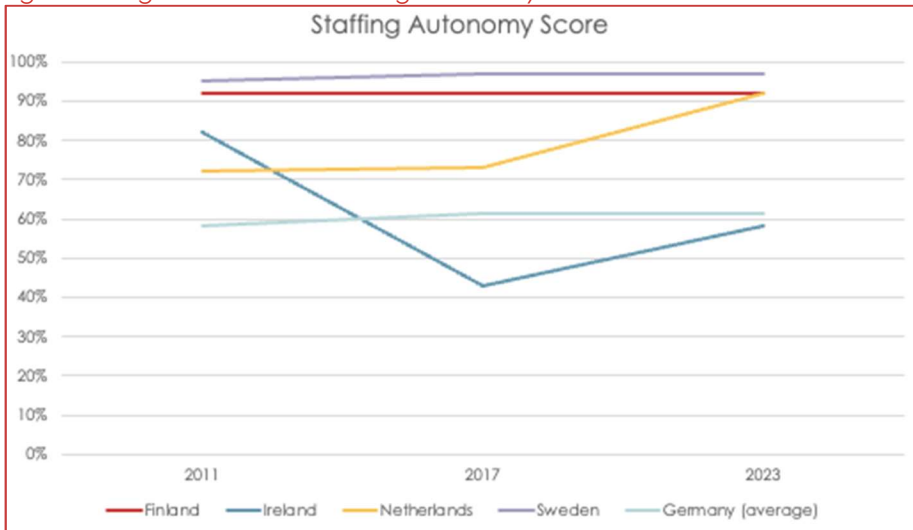
3.1.2 Staff and human resource policy

The reforms of the higher education sector in Finland over the past decades have fundamentally changed the position of academic staff. University staff no longer belong to the

³⁰ The Ministry's core funding allocation is transferred to HEIs as a lump sum and as such, the funding formula is not used to fund specific activities.

civil service, and higher education institutions in Finland have a high degree of autonomy to make staffing decisions.

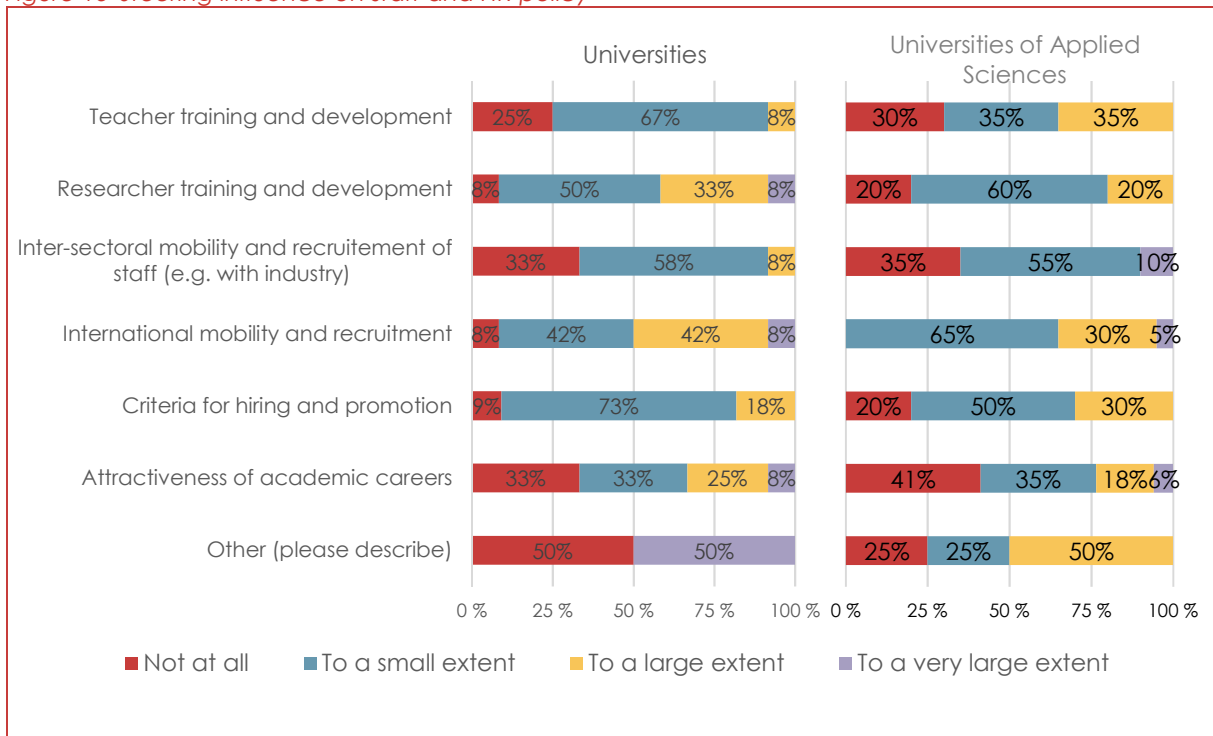
Figure 12 Higher Education Staffing autonomy in selected countries



Source: EUA autonomy scorecard, data for Bavaria not available Germany average based on three other Länder

This is, of course, not to say that staff and HR policies might not be influenced by the Ministry's governance and funding practices, but the HEI consultation suggests that the Ministry's governance and steering has limited *direct* effects on staff decisions and human resource policy. Although there are examples of departmental bonuses for meeting institutional targets and these targets can be related to the Ministry's funding formula, few HEIs report Ministry practices being an important factor in key staffing decisions about hiring and promotions.

Figure 13 Steering influence on staff and HR policy



Source: HEI survey 2023, Question: "To what extent do the Ministry governance and funding policies influence the following aspects of your institution's HR policy?"

Even so, staffing policies and decisions are influenced in several respects:

- The Ministry's use of temporary programme funding (see in section 2 above) was reported to have an effect on the ability of institutions to commit to long-term appointments. As a result, some institutions reported an increasing use of temporary contracts to hire staff. In turn, this was seen to have a detrimental effect on the ability of institution to retain knowledge and ensure sustainability of the results of new or innovative programmes, as key staff implementing these programmes are more likely to leave
- Perceived strain on teacher time as more students and less time
- For UASs, regulatory issues, the lack of ability to use the professor title represents a barrier to attracting staff, especially international staff who might compare with similar titles abroad, according to many consultees. Similarly, participation in EU funded programmes is reported to be more somewhat difficult due to these differences in titles
- The visits to HEIs also revealed an increasing concern from student representatives about student welfare, mental health and wellbeing, access to relevant services. This is a problem that affects about half of the student population, therefore requires addressing

3.1.3 Internal allocation of funding

The relationship between the external funding formula used by the Ministry to fund institutions and the internal allocation of funding within these institutions has been studied previously and is an issue of concern for policymakers.

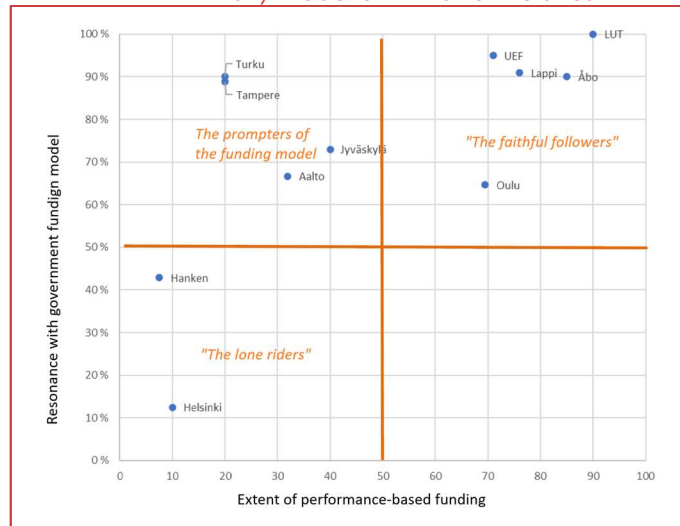
According to the study conducted by Kivistö et al. (2021), focusing on universities, the funding model encourages universities to replicate the external funding model in their internal funding distribution down to faculty and department level and beyond. There are differences among universities in the way that they use performance-based funding in their internal funding allocation. Six of the universities apply a model in which the share of performance funding is less than 50%, five universities apply a model in which the share is more than 50%, and one university applies a model in which performance funding is not directly taken into account.³¹

A cluster analysis reveals that the universities can be divided into three groups:

1. Universities where **most of the funding is distributed according to the funding model** indicators model and with significant output-based parts ("the faithful followers")
2. Universities where most of the funding is distributed by means other than results funding, but **the result component strongly follows the funding model indicators** ("the prompters of the funding model")
3. To universities where most of the funding is distributed **using a model other than results-based** and where the result component does not follow the funding model ("the lonely riders")³²

In practice, however, there is a strong sense that it is difficult to ignore funding formula in internal allocation as the institutions need to ensure the basis for funding future activities. There is a perceived need in several quarters to reduce reliance on formula funding due to uncertainty around the funding frame, however due to the changes in the past, such shift has not been implemented by many institutions as yet, which is a barrier to strategizing and change.

Figure 14 Performance-based funding and resonance with Ministry model at Finnish universities

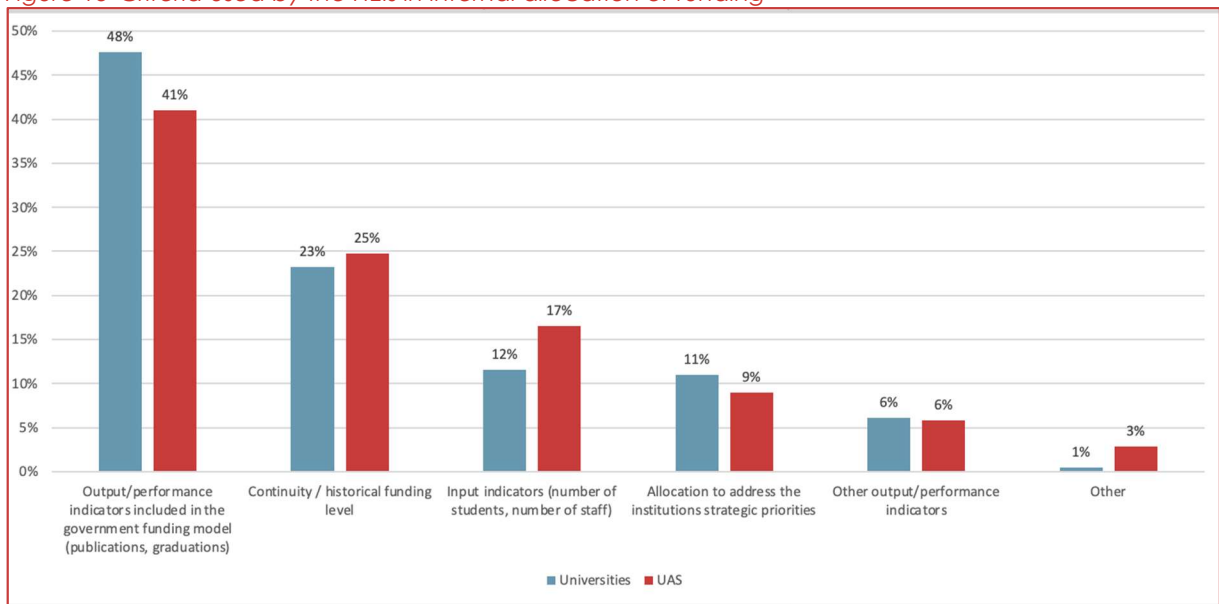


Source: adapted from Kivistö J. et al (2021), p. 13.

³¹ Kivistö J. et al (2021): Selvitys yliopistojen sisäisistä rahoitusmalleista. Osa 1: Yliopistojen sisäiset rahoitusmallit. Päivitetty versio 19.5.2021. Note: in the chart: for University of Jyväskylä and University of Eastern Finland, the use of performance of indicators varies between faculties. University of Vaasa does not use performance-based funding

³² Ibid.

Figure 15 Criteria used by the HEIs in internal allocation of funding



Source: HEI survey, 2023. Question: "Considering the internal allocation of core funding for education and research in your institution, how much weight is given to the following factors?"

There are varying degrees of explicit use of the Ministry's funding model in internal allocation, but there is clearly a greater steering effect on management and staff through awareness of the funding formula and its effects on the institution. Survey responses clearly show that both universities and UAS put the largest emphasis on the output/performance indicators included in the government funding model as a main criterion for internal funding allocations. The impact of this element can be clearly seen in the case of HEIs participating in the European University Alliances, which due to the current financing is not rewarded in Finland, beyond a one-off payment for participation in the first wave of initiatives. Internal funding allocation based on the continuity and historical funding levels also plays an important role for many universities and UASs. Such a view is of course simplistic, as all of these criteria in combination influence the internal funding allocations in the HEIs.

The explanations provided by the different HEIs about the rationale for their internal funding allocation all have common themes pointing at the staff and facilities-related as well as service-provision related costs that all require long-term stability. The internal allocations of UAS are, however, more affected by the input indicators, which in combination with the nature of the funding formula and time lag between student intake and related budget allocations cause strains on the organisations. The predictability of the funding suffers from the results of very retrospective results, and it does not support pursuing bigger strategic changes.

Especially UAS operate with lean organisational structures, which in turn negatively affect their service delivery according to student and staff representatives interviewed. Allocations to address the institutions' strategic priorities play a small role in the internal budget consideration, which was also discussed in chapter 3.1.1 already.

Regardless of the internal funding allocation mechanism applied, all HEIs agree that the key aspects are predictability and stability over longer time periods. Without the possibility to plan their financing, strategic changes and initiatives that require larger upfront investments are very difficult to implement. All HEIs – universities and UASs alike – know the current funding model and know how to 'use' it. This is reflected in a general consensus that the formula should not change much in the near future, and adding new quantitative indicators should be avoided.

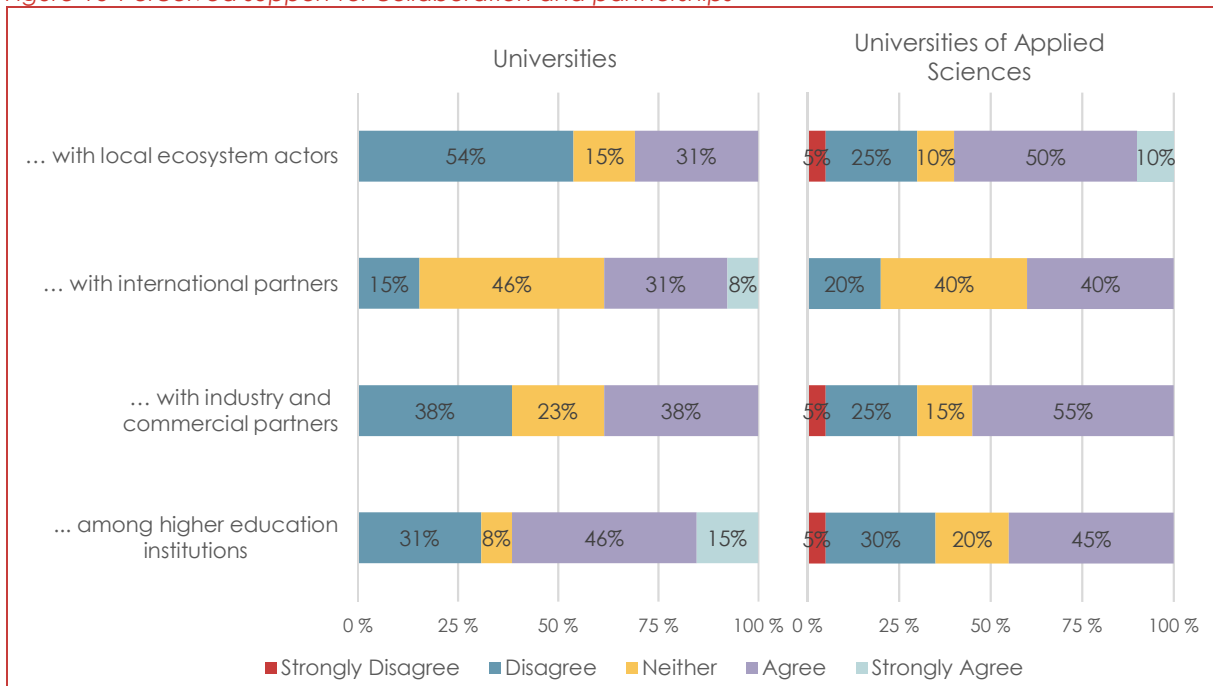
The external stakeholders we interviewed emphasised the benefits of the funding model's incentives for productivity but argued that it has too much focus on outputs. It is seen as failing to provide incentives for quality or support for the HEIs to respond better to labour market demands.

3.1.4 Partnerships and collaboration

The evidence on the effects of Ministry's governance and funding practices on HEI decisions on partnerships and external collaboration is mixed. On the one hand, the competitive nature of the funding formula – often described as a “zero-sum game” – does not incentivise collaboration but fosters competition among the HEIs. However, additional programmes and dedicated funding – also external to the Ministry – often promote collaboration among the institutions. Digivisio and the Academy of Finland's Flagship programmes are examples of this mechanisms, as they require institutions to work together to obtain funding and deliver benefits of mutual interests.

The partnerships where Ministry's steering and funding is regarded less supportive are with ecosystem actors (e.g. local companies, research organisations, regional and local authorities, NGOs and foundations)– only 1/3rd of the university respondents agree that the Ministry's funding and governance practices support such collaboration - and industry and commercial partners. Although these are areas that are very close to the mission of UAS and their traditionally close links to the local ecosystem actors is reflected in the survey responses. There are numerous good examples of how to foster partnerships with local ecosystem actors. An interesting model of engaging with external stakeholders in strategic and stable partnerships is Laurea UAS's key partnership model, that offers services and access to the UAS's knowledge base and talents to strategic partners for an annual fee, while ensures structured and strategic collaborations for the UAS with these companies.

Figure 16 Perceived support for collaboration and partnerships



Source: HEI survey, 2023. Question “The Ministry of Education and Culture's funding and governance practices supports collaboration ...”

There are various examples of collaboration among institutions on a range of topics, still the overriding feeling is competition in the system. Competition between universities and UAS – although the different profiles and student intake – competition among institutions for the same funding instruments, and importantly without a clear and shared vision of how the system can improve together.

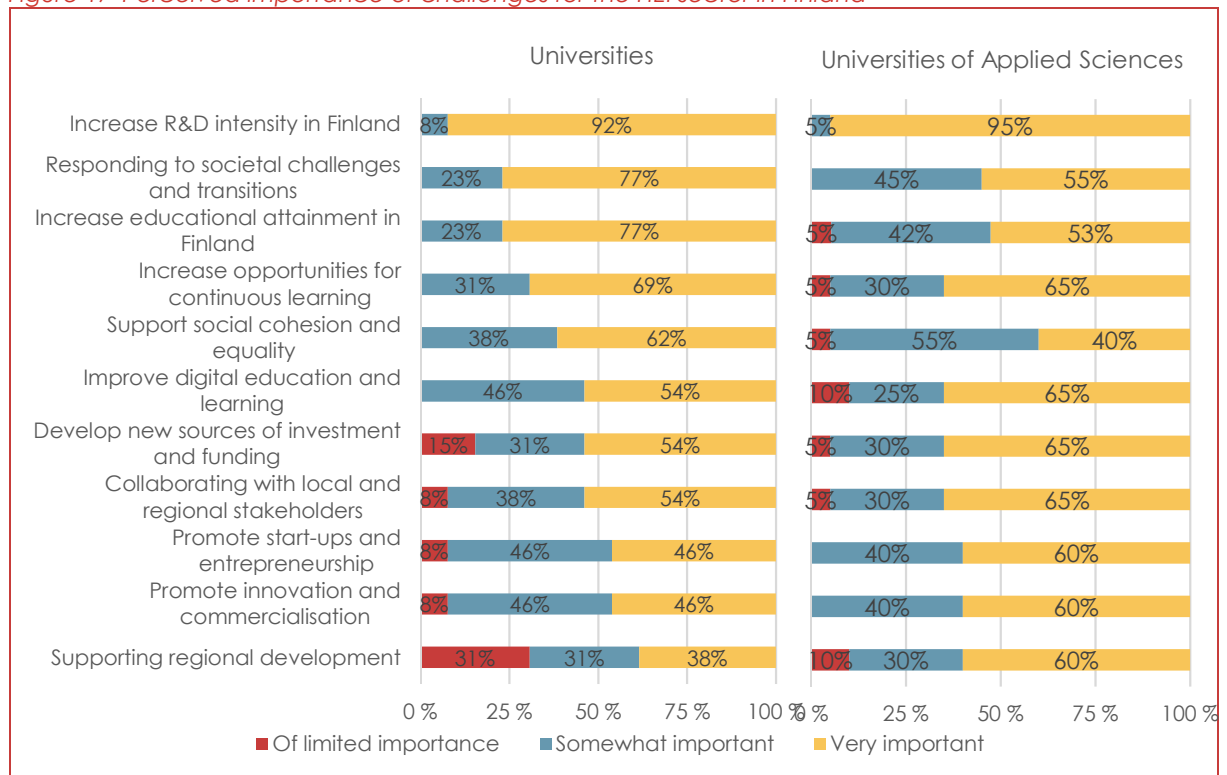
3.2 Challenges and trends

Higher education institutions in Finland faces a number of challenges, some internal to the sector and others related to expectations about the sector's contribution to meeting government policy objectives as well as societal and economic welfare. This section sets out our findings on the current system's ability to meet these challenges.

Although the importance of the challenges the sector faces and its ability to solve them vary greatly from one higher education institution to another, consultation with the sector (survey, interviews and visits) suggests that there is broad consensus on what the key challenges are, and that there is an overall commitment to addressing them.

There is general agreement that increasing Finland's R&D intensity is the most important among the challenges, notwithstanding that the other challenges - collaborating with local and regional stakeholders; developing new sources of investment and funding; improving digital education and learning; increasing educational attainment in Finland; increasing opportunities for continuous learning; promoting innovation and commercialisation; promoting start-ups and entrepreneurship; responding to societal challenges and transitions; supporting social cohesion and equality; and supporting regional development - are important.

Figure 17 Perceived importance of challenges for the HEI sector in Finland



Source: HEI survey, 2023. Question: In your view, how important are each of the challenges listed below for the Finnish higher education sector?

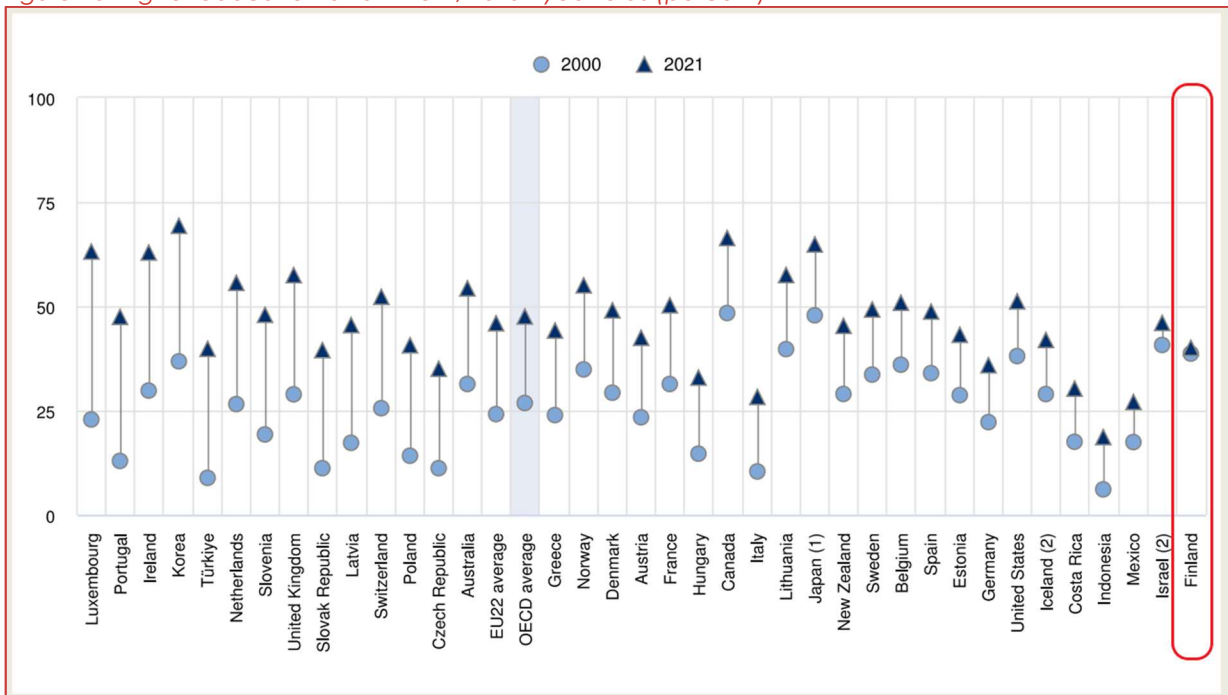
The challenges must be understood in the context of the increasing need for a highly educated workforce, demographic changes, and increasing urbanisation. There are many yet unresolved questions, including:

- How to educate more students, whilst maintaining the quality of education at the same time as basing the education on the newest research?
- How to ensure enhancing competencies with the aid of continuous learning, especially when competencies are more important than having formal degrees?
- How to build international-level concentrations of high-quality research?
- How to increase the number of international students and foster their integration into Finnish society in a sustainable way?
- How to bring research results more quickly to society to tackle pressing societal challenges?
- How to ensure that study places in different fields address the future needs of the labour market, considering also geographical disparities?

3.2.1 Educational attainment

The aim of expanding higher education to 50% of each cohort by 2020 is one of the headline objectives of the 2030 Roadmap. Most recent data shows that participation in higher education in Finland has stagnated at around 40% while other countries have gone beyond this.

Figure 18 Higher education attainment, 25–34-year-olds (percent)



Source: OECD Education at a Glance 2022, p. 37, Figure A1.1 (highlighting of Finland added)

Eurostat provides information on the population by educational attainment level and the education attainment level in the context of the degree of urbanisation. Urbanisation is a trend that is affecting Finland as well as the other reference countries, however the educational attainment levels of the population in the different areas vary as displayed in the table below. The stagnating tertiary attainment level is a challenge in Finland, especially as the slight

increase over the past seven years has focused on the urban areas. The other four countries show larger and more even increases.

Table 7 Population by tertiary educational attainment level and degree of urbanisation (%)

		Finland	Germany	Ireland	Netherlands	Sweden
Data for 2012	Total	40.2%	29.6%	54%	45.1%	46.5%
	Cities	47.7%	37.5%	63.2%	51.9%	56.8%
	Towns, sub-urbs	35.8%	23.9%	48.9%	37.3%	39%
	Rural areas	29%	21.7%	46.6%	35%	31.1%
Data for 2022	Total	40.7%	37.1%	62.3%	56.4%	52.4%
	Cities	48.5%	44.5%	70.1%	62.3%	66.2%
	Towns, sub-urbs	34.6%	30.7%	58.7%	46.4%	44.2%
	Rural areas	26.9%	28.9%	54.1%	41.3%	34.2%

Source: Eurostat, no data are available for Bavaria, the figures are displayed for Germany. Cities are densely populated areas in which at least 50% of the population lives in urban centres. In towns and suburbs less than 50% lives in urban centres, but also less than 50% lives in rural grid cells (which are grid cells with no urban centres or clusters). In rural areas more than 50% of population lives in rural grid cells.

In international comparison, admission to higher education in Finland is very selective and leaves a large degree of discretion to individual institutions in determining their admission policies. Hence, the admission process can be very complex and success rates for applicants low. To reach the targets of 50% higher education attainment the admission system and the diverse needs of future student populations have to be considered. Access to higher education by way of vocational training, the “VET route” is highlighted by stakeholders and experts as one option. Currently, some 40% of new students at UASs have previously completed a vocational degree but few go directly from vocational training to UASs.³³ There is scope to increase the through-put.

In parallel to rethinking the sources of student intake, through the enhanced emphasis on the VET route, the higher education system needs to be prepared for a much more heterogenous student population with a very diverse set of needs, skills and competencies. Addressing the needs of a more heterogenous student population requires additional investment, for example through programmes and foundation courses run to ensure that students' skills and competencies are up to the required level. It also creates enhanced demand for various support services to provide more individualised support, including help to reduce the number of dropouts, address students' learning related problems, and connect to professional services addressing students' mental health-related issues.

Box 1 Example from Ireland - incentivising more inclusive higher education

In **Ireland**, the review of the funding model in 2017³⁴ led to a change in the funding formula to include core funding for access performance through higher weighting for disadvantaged students and students from under-represented

³³ Data from VIPUNEN: “Korkeakoulujen uusien opiskelijoiden ja opiskelijoiden pohjakoulutus” [Basic training of new students and students of higher education institutions]

³⁴ Review of the Allocation Model for Funding Higher Education Institutions: Final Report by the Independent Expert Panel for the Higher Education Authority - December 2017, available: <https://www.gov.ie/en/publication/3f572c-review-of-the-allocation-model-for-funding-higher-education-institut/>

backgrounds.³⁵ This is to take account of the additional costs of recruiting and retaining students from under-represented backgrounds. Thus, a student from a target socioeconomic group, or with a disability, attracts a weighting of 1.7 for discipline plus 0.33 for access.³⁶ The weighing is applicable for the first two years of the course duration, to reflect the higher support needs during this period for under-represented groups and mature students. For students with disabilities, the weight is applicable to the entire length of the course.³⁷ The increased weighting does not directly incentivise the admission of disadvantaged students by individual HEIs, since Ireland operates a central application system with a national approach to distributing college places.³⁸

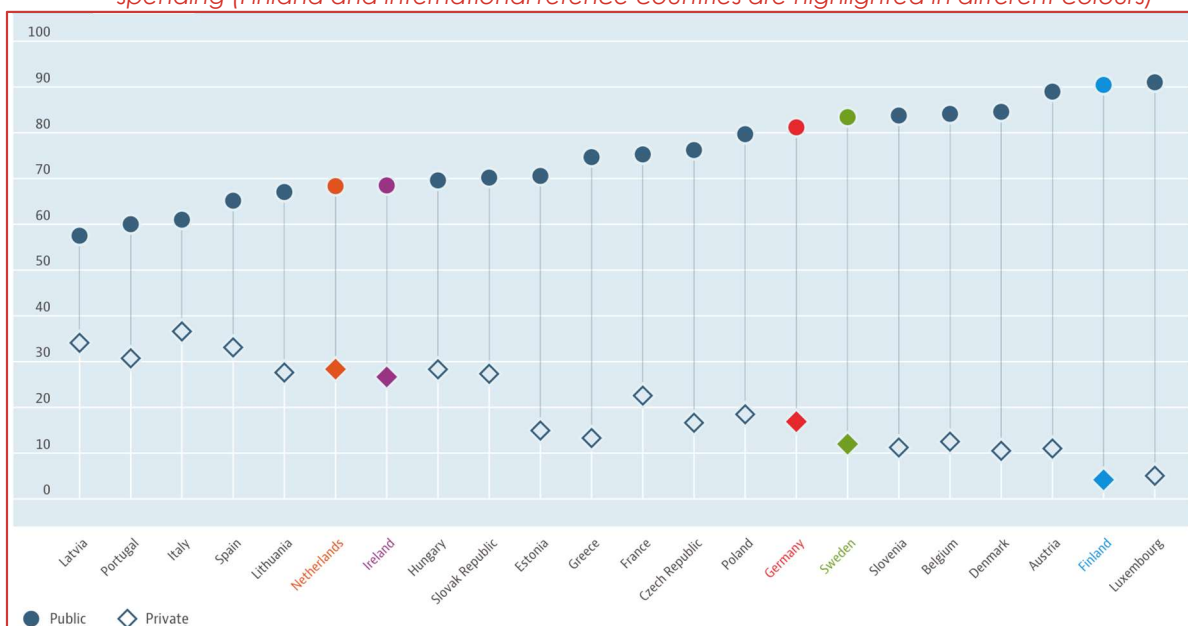
Box 2 Example from Sweden – encouraging lifelong learning through varied education pathways

The Swedish higher education system is well-adapted to facilitating life-long learning. An important cause is the flexibility of the system as a whole, where Swedish HEIs offer education programmes, freestanding courses, and distance studies. Students in Sweden are admitted either to free-standing or programme-based courses. Programmes at bachelor's and master's level largely consist of modules of compulsory courses in combination with several optional courses, offering students the opportunity to shape their education to fit their needs. Swedish HEIs offer a significant number of free-standing courses, which provides good preconditions for employees who wish to return to higher education and either acquire new skills or improve existing skills, free of charge.

One of the most crucial aspects of successful life-long learning in Sweden is tuition-free education. In fact, Sweden has one of the highest level of adults pursuing tertiary studies among EU countries; 40% of students who have acquired a tertiary education degree return to higher education later in life by pursuing free-standing courses.

In terms of financing of the higher education sector, the ratio of public vs private funding shows major differences across the countries, with Finland having the highest share of public funding.

Figure 19 Spending on tertiary education – private vs public as a percentage of total education spending (Finland and international reference countries are highlighted in different colours)



Source: OECD (2023), Spending on tertiary education (indicator), doi: 10.1787/a3523185-en

³⁵ European Commission (DG EAC), Final Report of the Study on the state and effectiveness of national funding systems of higher education to support the European Universities Initiative (Volume I), 2022

³⁶ Higher Education Authority (HEA), How we fund: <https://hea.ie/funding-governance-performance/funding/how-we-fund/>

³⁷ Ibid.

³⁸ [Central Applications Office \(cao.ie\)](http://cao.ie)

There are however mounting pressures on financing HEIs due to the current inflationary period (that requires nominal increases in government funding) and the ending of the temporary funding that was aimed at increasing student intake. Funding per student in Finland is about the OECD average and has remained constant in nominal terms over the past decade during which time the reference countries have seen an increase of 10-25%.³⁹ The growth in the number of students has correspondingly increased the resources needed for teaching as well, and any further increase in intake due to the enhanced *diversity* of students will require additional resources.

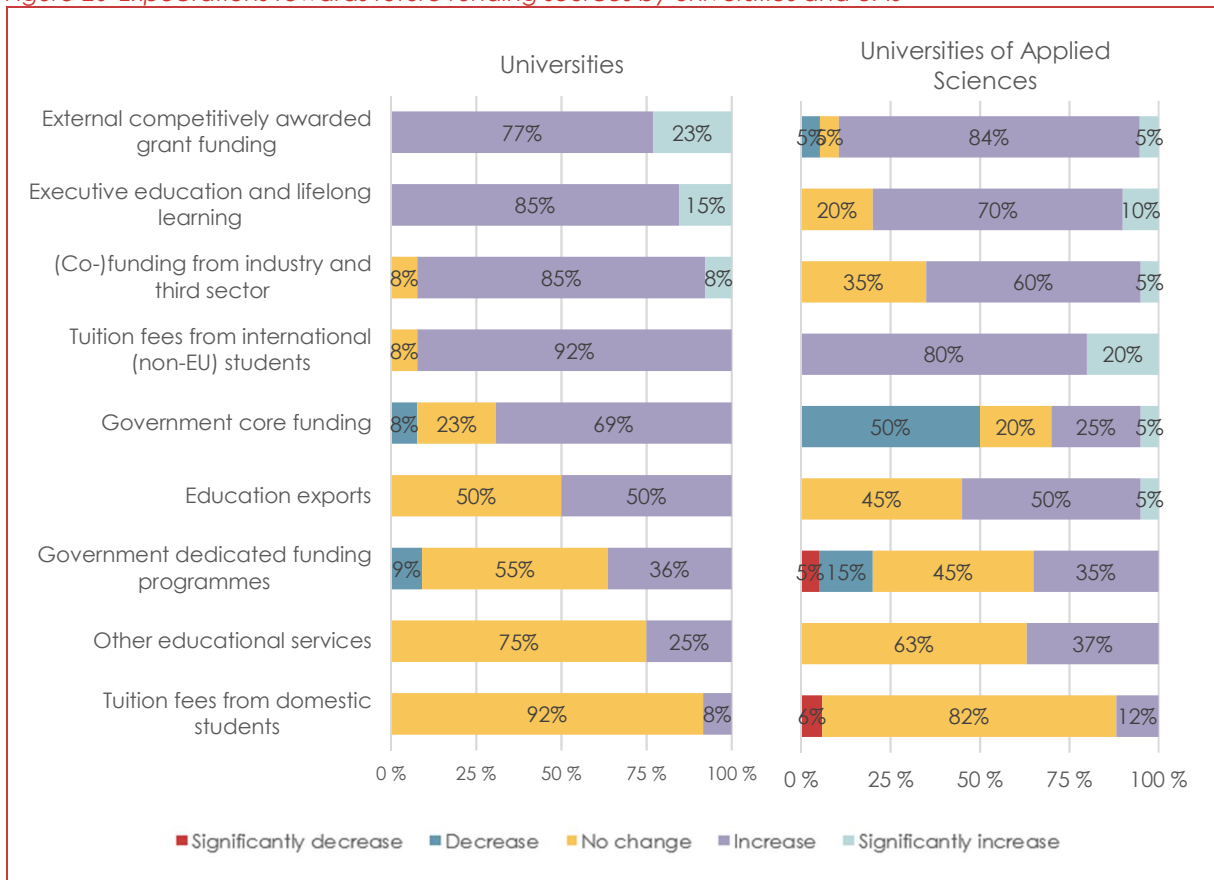
Both universities and UAS expect an increase or significant increase in the tuition fees from international students continuing the trend that has already started. Unlike funding received based on Finnish and EU student intake, tuition fees from non-EU students generate an immediate income for the institutions and for many it has represented a steady income – although the degree varies highly among the different intuitions - over the past years.

There is an even larger emphasis on increasing external competitively awarded grant funding - due to RDI legislation that affects HEIs directly and via the Academy of Finland, Business Finland grants - and income generated from executive education and lifelong learning. The latter is an area where further calls for changes in the funding modes are present. Different options called for include divorcing the continuous education funding from the core funding of the HEIs, recondensing the pricing applied for the courses, and enhancing the role of private funding in continuous education. However, as the continuous learning strategy is implemented and the non-degree study opportunities are improving both in terms of availability and quality, the generated income will likely also increase.

Most HEIs share the understanding that core funding from the Ministry and government dedicated funding programmes will not provide increased funding in the future. Those who expressed the view that core funding will increase in the future expect such increase to be due to new RDI legislation, the bigger student intake as well as inflation-driven university index development. Government dedicated funding programmes in general are not seen as solutions to deliver quality results compared to well-invested core funding.

³⁹ OECD (forthcoming) The future of Finland's higher education funding model: Options for supporting national policy objectives

Figure 20 Expectations towards future funding sources by universities and UAS



Source: HEI survey, March 2023, question B1 "Considering the resourcing of your institution, how do you expect the following sources of funding to develop in the future?" (Appendix A)

The debate on tuition fees has to be mentioned when it comes to the financing of higher education. For a long time the degree education offered by the Finnish HEIs was free. The first step towards introducing tuition fees was the amendment to the Universities Act that entered into force in Finland in 2016⁴⁰. This amendment set a fee of at least 1,500 euros for students from outside the EU and EEA. The change concerned students who started their studies after 1st August 2017 for degrees in a foreign language. An evaluation of the adaptation of tuition fees international students noted that HEIs have developed their practices related to fees and grants, as well as their marketing, from their own starting points. However, the grant practices of institutions vary greatly, which can be challenging from the applicant's point of view. Also, joint grant programmes of higher education institutions have not been created to support marketing.⁴¹ In practice, widespread use of scholarships and exceptions from fees to attract international students means that the net income from these fees has been relatively modest so far. In 2019-2020, more than half of all HEIs provided grants to over 75% of

⁴⁰ The Amendment can be found here <https://www.finlex.fi/fi/laki/kaannokset/2009/en20090558.pdf>

⁴¹ Kokemuksia lukuvuosisimaksujen käyttöön otosta lukuvuonna 2017–2018 – seuranta- ja arviointiryöryhmän väliraportti. Available here: [\(link\)](#)

international students. For all HEIs, the net income was approximately €14 million as compared to €42 million if full fees had been paid by all international students.⁴²

With very few exceptions, stakeholders agree that everyone should have an equal opportunity to education, regardless of financial background, therefore education should remain free of charge for students. This value is deeply embedded in Finnish society. The national student unions are very vocal about this expectation and the consultations carried out as part of this study with student representatives reinforced this view. However, the question about the role tuition fees could play in financing the higher education system remains.

During recent years the discussion of expanding tuition fees to domestic students has intensified. A memo published by the Ministry of Finance (December 2022) stated that enabling the collection of fees for higher education institutions would be justified in a situation in which it is challenging to increase public funding due to the tight overall situation of the public finances and where the financial benefit of higher education for the student is large. Higher education institutions could, if they wished, decide on different fees for different degree fields. The possibility of charging fees would expand the funding base of higher education institutions and thereby enable, for example, a stronger investment in the quality of teaching than at present. Thus, the introduction of tuition fee would not replace the current funding practices.⁴³

Box 3 Examples from the international reference countries – development of tuition fees

Tuition fees in Germany

Since 2014, there are no general student tuition fees at public universities in any German federal state. In some federal states, including Bavaria, there are still exceptions for long-term students, for part-time students, for foreigners from outside the EU or so-called "senior students" (retirees or older people taking classes at a university). Another special case is distance learning, because this model is mainly offered by private universities. Depending on the degree programme, the tuition fees for the exceptions mentioned above can amount to up to €2,000 per semester. In addition, there are semester fees, which amount to between €100 and €150 depending on the university. For international students, there are no maximum fees defined by law introduced in January 2022. It is expected that at least some universities in Bavaria (like TU Munich) will make use of the new regulation for foreign students and charge fees. As of now, there is no information on the amount of fees. Judging from the practice of universities in the neighbouring state of Baden-Württemberg these will be around €1,500-2,000 per semester.

Tuition fees in the Netherlands

The system included a basic scholarship (basisbeurs), a supplementary scholarship (aanvullende beurs), and a voluntary student loan (vrijwillige lening) to make education affordable to all. Differentiation whether students live at home or alone. Performance scholarship system was introduced in 2000, which meant that student provisional loans (initiele lening – covering both previous basic and supplementary scholarships) were turned into grants for those students who graduated within 10 years

In 2015 a new law transformed the basic scholarship into a loan along with a reduction of the supplementary scholarship. Students would have up to 35 years to pay back the loan at an interest rate of 0%. This legal change to the financing led to budget savings on the part the government of around €1 billion. One of the ideas behind the 2015 student financing reforms was that the savings from abolishing the grants were to be invested in a strengthening of higher education, in particular in improving the quality of teaching and learning. In 2018 the government established a sectoral accord (i.e. agreement) with the higher education sector.

Recently however, plans were put forward to reintroduce the basic scholarship (basisbeurs) for the 2023-2024 academic year. The Ministry of Education, Culture and science planned a scholarship of €275 for students living independently and €110 for students living at home. The policy rationale for this decision is to reduce financial stress

⁴² Korkeakoulujen lukuvuosimaksujen käyttönoton seuranta- ja arviointiryhmän väliraportti 2021. Opetus- ja kulttuuriministeriö. (Midterm report 2021 Monitoring and evaluation group for implementation of tuition fees. MEC)

⁴³ Tuition Fees, a memo published by the Ministry of Finance 8.12.2022.

(aversion to loans) among students and to reduce some of the financial obstacles for students in higher education as well as tertiary vocational (VET) programmes.

Currently, in the Netherlands most, students pay the government-regulated tuition fee. This is a standard fee, adjusted slightly each year. The fee for 2022-2023 is €2,209 per year for a full-time student with new entrants paying half that amount. The fee for non-EU or non-EEA students and students who already completed an academic degree is set by the HEI itself and is supposed to reflect the actual costs of the degree programme, as the government does not fund these student categories. This fee is referred to as the institution fee (*instellingscollegegeld*), and it can vary per HEI and per study programme. Tuition fees for such international students can range from EUR6,000 to 10,000 for Bachelor programmes, and from EUR 8,000 to 20,000 for Master programmes⁴⁴. Students from the EU/EEA and those with special permit statuses (e.g., refugees) pay the stipulated fee. Dedicated scholarships for international students are relatively rare.⁴⁵

Tuition fees in Sweden

Education is free in Sweden at all levels. It is regarded as a most crucial aspect of successful life-long learning in Sweden having access to tuition-free education.⁴⁶ In fact, Sweden has one of the highest levels of adults pursuing tertiary studies among EU countries; 40 percent of students who have acquired a tertiary education degree return to higher education later in life by pursuing free-standing courses.⁴⁷

In 2011, the Swedish Government introduced tuition fees for students from outside the EU, the EEA and Switzerland. The fees were introduced as a quality measure with the purpose of increasing the overall quality in the Swedish higher education system. The decision to introduce the fees was based on a survey that had been answered by international students. The survey had shown that the tuition fee-free education was a larger incentive for international students to study at Swedish HEIs than the quality of Swedish education. While acknowledging the importance of free and available higher education for all, the Government stated that there were not enough reasons for this to apply to all international students. The intended outcome of the introduction of the tuition fees was also to increase the financial means available in the system since the tuition fees can be spent on increasing the quality of education and research.⁴⁸

The tuition fees are set by the HEIs themselves, therefore, vary across different HEIs, but also between branches of study, courses, and programmes. In general, the tuition fees are higher for courses and programmes within design and architecture – they differ between SEK 190,000 and SEK 295,000 per academic year. For programmes in social sciences, the tuition fees for are usually between SEK 80,000 and SEK 110,000 per academic year, and within technical and natural sciences, the tuition fees are from SEK 120,000 and SEK 145,000.⁴⁹

The developments of the continuing education system also offer the opportunity to rethink the system and reassess whether the emphasis should be on obtaining new degrees or obtaining new knowledge, skills and competence and the source of funding for participation in upskilling and reskilling initiatives. Such discussion requires all ecosystem stakeholders, including the HE sector and the Ministry as well as other relevant sectoral ministries and employer representative bodies.

Figure 21 Initiatives for upskilling in the reference countries

The **Swedish** Government implemented the new subsidy “student finance for transition and retraining” in 2023. The overall purpose of the subsidy is to increase the flexibility on the labour market by offering a catch-all type of financial aid to include workers who are not connected to a collective agreement through which unionised workers have access to similar subsidies. The subsidy is granted to employees who need to acquire new skills to become more

⁴⁴ <https://www.umultirank.org/study-in/the-netherlands/>

⁴⁵ Finnish Ministry of Education and Culture (2023), Dutch case study on attracting international students, (by Technopolis NL on behalf of Innolink Finland), not public.

⁴⁶ Interview with the former Inquiry Chair of the Government Inquiry on the Governance and Funding of Higher Education (SOU 2019:6), March 23rd, 2023; with the Secretary General of SUHF, April 5th, 2023; with a Government Official, March 24th, 2023; and with an official from the Swedish Higher Education Authority, March 23rd, 2023.

⁴⁷ Interview with the Secretary General of SUHF, April 5th, 2023.

⁴⁸ The Swedish Government, Prop. 2009/10:65 Konkurrera med kvalitet – studieavgifter för utländska studenter.

⁴⁹ Study in Sweden, “Plan your studies. Fees & costs”, n.d, available at <https://studyinsweden.se/plan-your-studies/fees-costs/> [last viewed 2023-04-18].

attractive on the labour market, or who decide to switch careers and need a new education.⁵⁰ Grants started to be approved in the beginning of 2023, and when the reform is planned to be fully implemented in 2026, 44,000 applicants are on average planned to receive the subsidy annually.⁵¹

The "student finance for transition and retraining" subsidy consists of both a grant of up to 80 percent of the grantee's current salary, and an optional loan. The subsidy can be granted to employees between the ages of 27–62 during a maximum of 44 weeks for full-time studies, and twice as long for part-time studies. The applicant needs to have had an employment during eight out of the last 14 years of their life, and he/she must have worked for at least 16 hours per week each month to be eligible for the subsidy.⁵²

In addition to their core courses, **Irish** HEIs offer upskilling and reskilling programmes through Springboard+ and the Human Capital Initiative, as well as various modular skills courses. The Springboard+ initiative is managed by the HEA and provides free and heavily subsidised upskilling and reskilling higher education opportunities in areas of identified skills needs. The primary objective is to provide upskilling and reskilling courses to develop the talent base in Ireland in key growth sectors of the economy. Springboard+ courses are at Level 6 (Certificate) to Level 9 (Masters) on the NFQ and are delivered by public and private higher education providers around the country. Courses are not all a full award at each level, they may also be minor awards or special purposes awards. All courses provide job-readiness training and most offer the opportunity for work placement, project-based learning or industry site visits where appropriate. All courses approved for funding under Springboard+ are selected by an independent panel with experts from industry and education following a competitive tendering process.⁵³

The Human Capital Initiative (HCI) was launched by the Government in late 2019 and aims to increase the capacity in higher education in skills-focused programmes designed to meet priority skills needs and to enable the higher education system to respond rapidly to changes in both skills requirements and technology. These needs are identified through a detailed and comprehensive framework under the National Skills Council, which includes publications from the Regional Skills Fora as well as direct involvement of employers.⁵⁴ HCI offers incentivised places for graduates to reskill in areas of skills shortage and emerging technologies, including ICT, High End Manufacturing, Data Analytics, Robotics, Artificial Intelligence, via full-time graduate conversion courses.⁵⁵

3.2.2 *Research and development*

The downward trend in R&D intensity in Finland during the 2010s has been reversed, and Finland remains above the OECD and EU averages. The recently adopted Research and Development Act provides a very strong political commitment to increasing R&D investment. Even so, there is a significant challenge ahead to reach the Government's 4% target (see above).

⁵⁰ The Swedish Government, "Omställnings- och kompetensstöd", 2022.

⁵¹ Bengtsson, Anna et al., "Lärosätenas utbildningsutbud relaterat till omställningsstudiestödet. Sammanställning och analys", 2023.

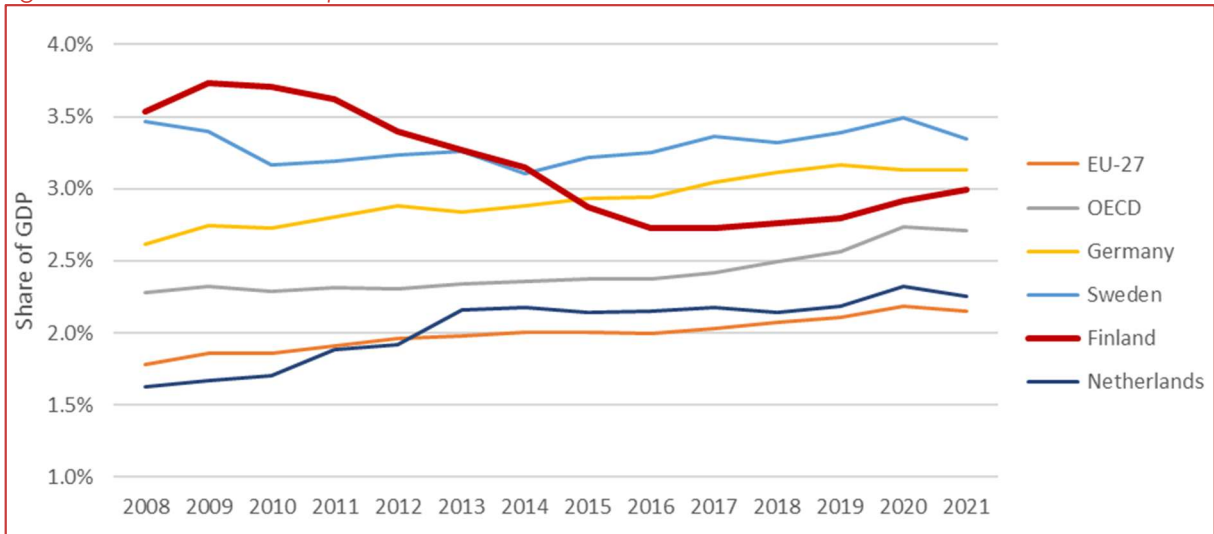
⁵² Swedish Board of Student Finance, "Omställningsstudiestöd", 2023.

⁵³ Higher Education Authority (HEA), Springboard+ 2022: <https://hea.ie/skills-engagement/springboard/> [accessed 27-04-2023]

⁵⁴ Higher Education Authority (HEA), The Human Capital Initiative (HCI): <https://hea.ie/skills-engagement/what-is-human-capital-initiative-hci/> [accessed 27-04-2023]

⁵⁵ EU Funds Ireland, The Human Capital Initiative: <https://eufunds.ie/home/our-funds/the-human-capital-initiative/> [accessed 27-04-2023]

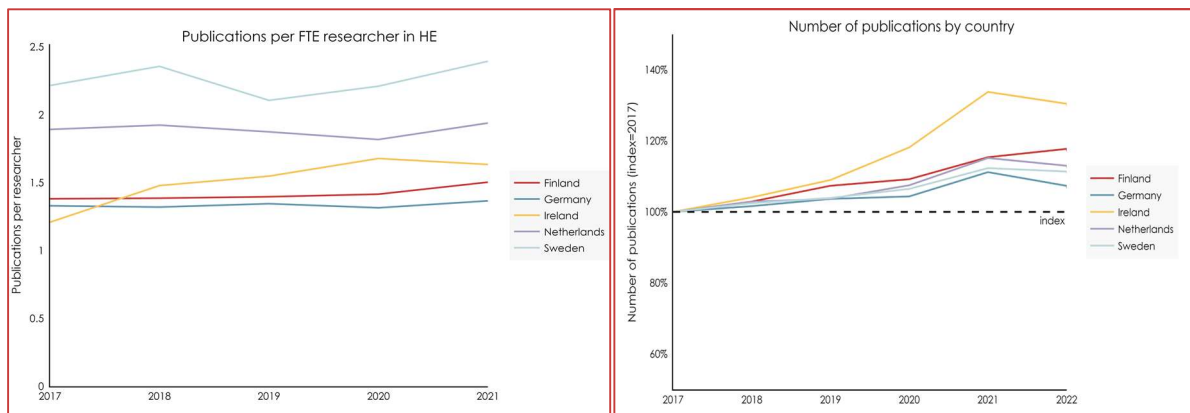
Figure 22 Gross Domestic Expenditure on R&D as a share of GDP in selected countries



Source: OECD, Main Science and Technology Indicators Database

Over the past five years a modest increase can be observed in research productivity at aggregate level, but overall, there is no clear evidence that the funding model distinguishes performance in Finland from other countries.

Figure 23 Scopus-publications⁵⁶ in Finland and the reference countries (per FTE research and total volume)



Source: Technopolis based on Scopus/Eurostat

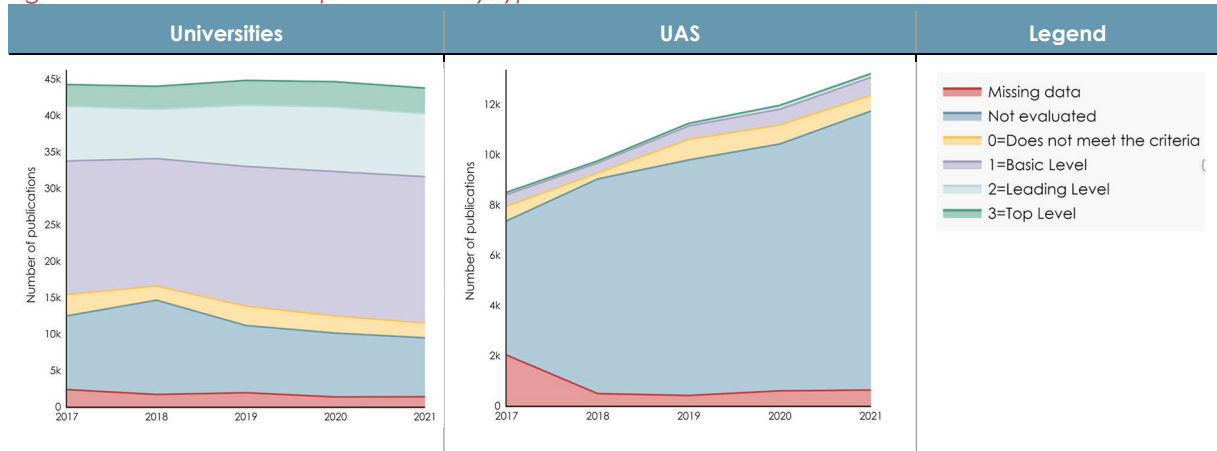
NB: Note that these figures are drawn from international sources to facilitate comparison; they may therefore differ from figures from the national publication system in Finland displayed in Figure 24 Number of JUFO-publication by type of institution Figure 24.

Looking at the number of publications by type of institutions over the past five years, the publication outputs of the universities remained rather stable, while there is a sharp increase in the publication volume of UAS. However, a significant proportion of the latter belong to the

⁵⁶ This only considers publications published in outlets that are indexed in the Elsevier's Scopus database. In general Scopus favours English and higher quality outlets.

category 'not evaluated' as the funding formula does not require peer reviewed publications from the UAS.

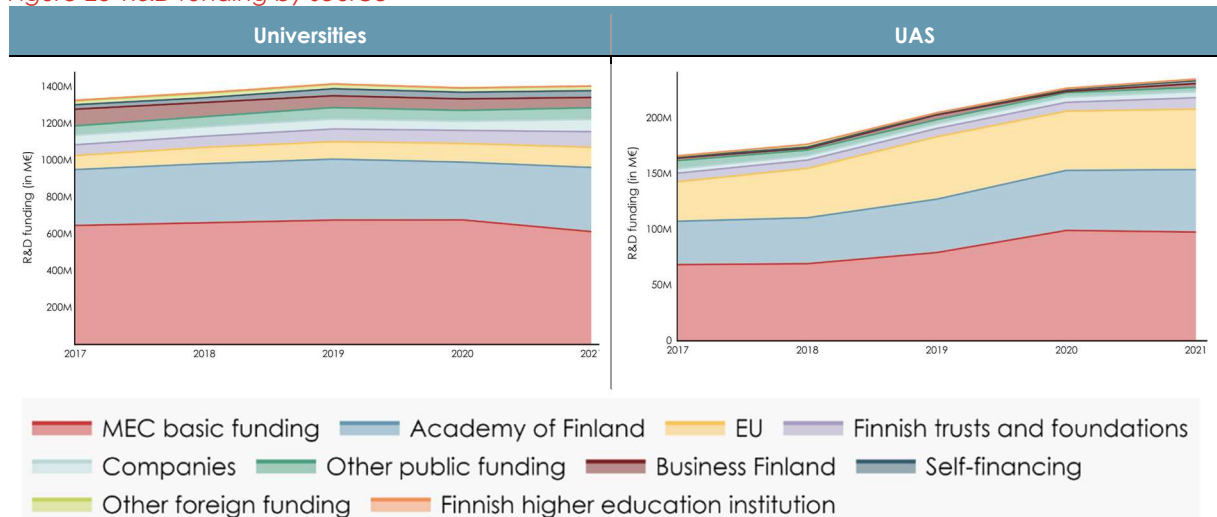
Figure 24 Number of JUFO-publication by type of institution



Source: Technopolis, based on Vipunen

The R&D financing act represents a significant change in the system, which is welcome by most stakeholders as it brings long terms commitment. To ensure the optimal use and implementation of the enhanced R&D funding, there are, however, some system characteristics that need to be addressed. In addition to significantly increasing the investments of the public authorities, investments made by companies have to significantly increase as well in parallel. This requires enhancing the research capabilities and capacities of the SME sector and the rethinking of the funding instruments used for such purposes.

Figure 25 R&D funding by source



Source: Technopolis, based on Vipunen

Consultations with HEIs furthermore revealed a clear desire for UASs to expand on their R&D activities. This would involve greater access allocation to R&D within the funding formula as well as greater access to external funding. Importantly, the Ministry's current governance and funding practices do not appear to have much focus on non-academic impact or on societal challenges and impact, which is an area that requires addressing.

3.3 Internationalisation – a horizontal topic

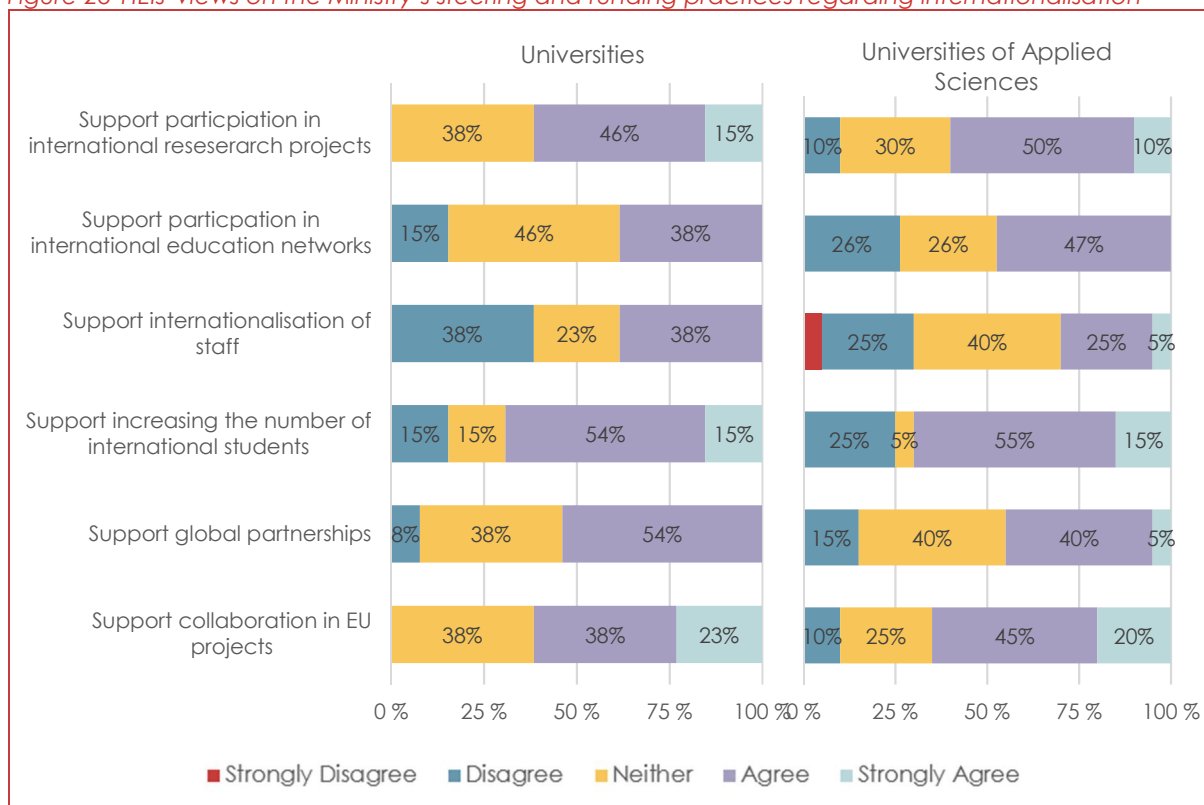
Internationalisation is seen as an essential component in addressing nearly all of the challenges discussed: attracting fee-paying students as a way to contribute to the financing of higher education, attracting international talent to improve the quality of research and teaching, attracting and retaining young people to help address labour shortages at Finnish companies and in the public sector, and obtaining international funding and investment.

Views regarding the current steering and funding practices are however rather diverse. In line with the government objectives of increasing the number of international students, the area is regarded the most positively. The system has experienced a lot of changes in this regard, the number of degree programmes available in English keeps increasing and the support provided by the Talent Boost programme is regarded positively by most stakeholders. At the same time areas remain for further improvement specially to help retain international students upon graduation. Many of the points below reach beyond the remit of the Ministry's and require input from other relevant Ministries as well.

Areas for improvements include:

- Accelerated access to enter Finland – currently HEIs report long administrative waiting times for international students to enter the county
- Better integration of international students during their studies by offering an enhanced range of services to them – career advice and counselling, better representation in the student unions, provision of internships with Finnish companies
- Follow-up activities such as facilitating employment and alumni services to help retain talent, ensuring access to relevant healthcare and social services for the families of retained talent as well

Figure 26 HEIs' views on the Ministry's steering and funding practices regarding internationalisation

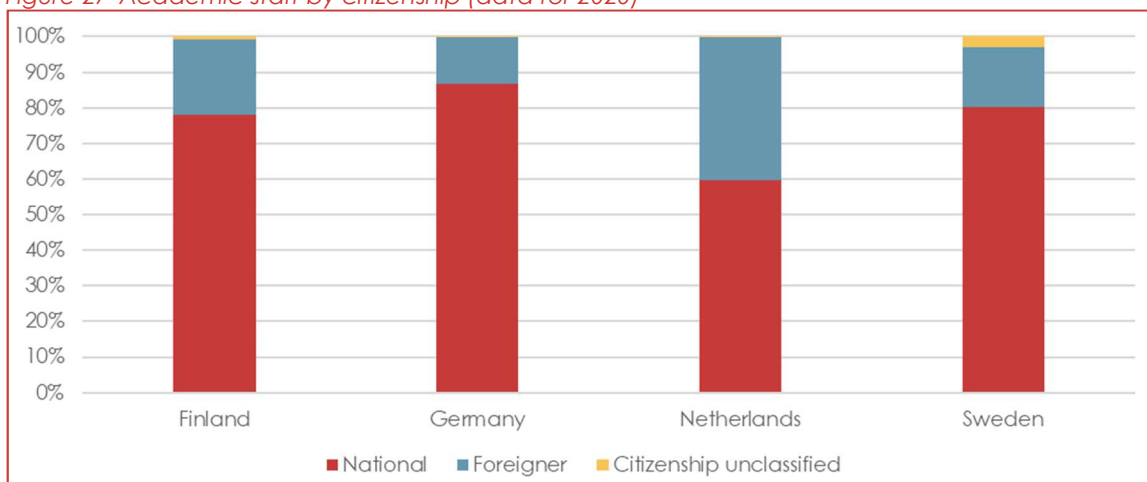


Source: HEI survey, March 2023, question “To what extent do you agree or disagree with the following statements concerning the Ministry of Education and Culture’s funding and governance practices? (Appendix A)

According to shared view, the overall competitiveness and attractiveness of Finland should be the main focus of changes to the Ministry’s funding and steering mechanisms. Ensuring globally competitive research excellence supports the attraction and retention of talent in Finland.

Consultations about the Ministry’s steering and funding practices regarding aspects of international also revealed that supporting internationalisation of staff is the area least supported by the current practices, although in comparison with the reference countries the ratio of foreign staff is not particularly low.

Figure 27 Academic staff by citizenship (data for 2020)



Source: Technopolis, based on data from the European Tertiary Education Register (ETER)

4 Conclusions and policy options

This chapter addresses the Ministry’s evaluation questions, first drawing conclusions and then setting out policy options for tackling the challenges that emerge.

4.1 Conclusions - Suitability of current governance and funding practices

EQ1: Nature of the Ministry’s steering approach

The Finnish higher education system has experienced a series of reforms and mergers over the past decade and looks very different now than it did before 2010. The reforms have been very successful in establishing a high degree of organisational autonomy for higher education institutions, but this increased autonomy has to be counter-balanced by steering instruments that encourages the HEIs to operate in ways consistent with policy.

The Ministry of Education and Culture remains the main funder of the HEIs – more so than its counterparts in most other countries – but its role in governing and steering the institutions has necessarily changed in with the increased institutional autonomy. The highly performance-based funding model has been firmly established and has become the dominant steering tool. The indicator-based funding formula is supported by most institutions and, disagreement on individual elements notwithstanding, they see it as broadly predictable and fair.

The performance-based funding model is backwards-looking, rewarding past performance. Accordingly, institutions view the backwards-looking nature of performance funding as a disincentive to investment in new activities that will pay off over a longer period and as increasing the risks associated with change. However, Finland also uses performance agreements, and competitively-granted funding to steer the sector. Programmes like PROFI have shown positive results in supporting the development in institutional strategic development and profiling. Still, most institutions need to make further steps to develop their distinctive profile.

Finally, the “zero-sum” nature of the formula has been much remarked upon during the consultation for this evaluation. Although all countries have budget limits, the mechanics of Finland's indicator-based model makes this much more automatic and apparent. As the introduction of the model has coincided with a period of budgetary constraint during the 2010s, this has further narrowed the perceived scope of action available within the model.

Despite the presence of dynamic elements in the mix of steering instruments, the overall effect appears to be overly conservative, suggesting that change is needed in order to support a more future-orientated development of the system.

Coordination among sector ministries and steering towards government objectives are relatively weak. This function used to be a strength of the Finnish research and innovation system and recent steps to re-enforce this function could be a welcome help in enabling higher education institutions to address cross sector challenges and collaboration.⁵⁷

EQ2: Influence of the steering approach in HEIs

Despite the high degree of formal autonomy granted to HEIs in Finland, the evaluation findings suggest that the Ministry's steering practices exert a very strong influence on the sector, particularly through the performance funding system. The governance model has been driving a focus on efficiency within the institutions and the model has arguably been very effective in this respect. The transparent and predictable nature of the funding formula has also allowed the institutions to do financial planning, within the bounds of the incentives provided by the funding formula.

The introduction of 'PROFI' funding notwithstanding, the evidence collected for this evaluation suggests that the remainder of the current steering model primarily drives the institutions towards shared national goals rather than distinctive institutional ones.

Similarly, the competitive nature of the performance-based system provides a disincentive for collaboration. Programme funding provided alongside the core funding formula does require collaboration and there are various examples of collaboration among institutions on a range of topics, still the overriding feeling is competition in the system. Competition between universities and UAS – although the different profiles and student intake – competition among institutions for the same funding instruments, and importantly without a clear and shared vision of how the system can improve together.

The funding formula is also a driver of internal allocation of funding, in some cases directly through the adoption of the Ministry's metrics for internal purposes. As with any indicator-based system, there are examples of 'game-playing', for example reported delivery of sub-standard online modules or overly generous subsidy to international students. More generally, there is a

⁵⁷ Tutkimus- ja kehittämistoiminnan rahoituksen käyttöä koskeva monivuotinen suunnitelma, Parlamentaarinen TKI-työryhmä 2022

very great awareness among staff as well as university management, of the requirements of the performance metrics and of its financial implications. Universities of Applied Sciences have been particularly systematic in their monitoring and modelling of performance metrics, but even among the research universities, there is a clear sense that these cannot be ignored. To an extent, this is natural and attests to the strength of the steering capacity of the formula, but it is not clear that the incentives given by the model support longer-term policy objectives.

Overall, the current model appears to be a driver of uniformity and competition rather than of specialisation and collaboration between institutions. At the same time, positive effects on efficiency and management capacity appears to have been largely realised and it is not obvious that the current model will continue to deliver further improvements in these areas.

EQ3: Effects of the model on outcomes - Challenges and trends

The evaluation has identified a series of challenges and trends that the higher education sector has to contend with in the coming years. Meeting these challenges will be essential for the future success of the sector as well as its contribution to key societal and economic challenges in Finland.

Educational attainment: Increasing higher education attainment is an important element in the overall effort to meet future demands for skilled labour within the Finnish economy. In international comparison, the 50% target is not overly ambitious, but Finland has been stuck at approximately 40% for more than a decade. Reaching the 50% target would imply not only expanding the number of places (more of the same) but also attracting and supporting a more diverse student body.

The strong results-orientation has driven an increasingly efficient delivery of higher education degrees, but the limit for efficiency savings seems now to have been reached and an expansion of places would require additional resources (see below). As importantly, increasing participation in higher education requires not only a quantitative but also a qualitative change to accommodate students with different backgrounds and requirements for support. In other words, reaching this target would imply not only expanding the number of places (more of the same) but also attracting and supporting a more diverse student body. The 50% goal should not be seen in isolation from a wider discussion about the role of higher education and skills in Finnish the society and economy. The current system is very strongly focussed on degree education. The 50% goal aside, the need for skills provided by the higher education sector goes beyond what is reasonably delivered through or 4-5 year degree programmes, and there is a need to rethink the role of the various continued education and online infrastructure being developed in delivering this. The focus on degree education is reflected in the expectations of institutions, students and employers. Among other things, we have heard that a full second or third degree, as opposed to more targeted upskilling, can be necessary for those who wish to reskill in order to meet expectations of employers. These are not issues for the Ministry or the institutions alone but must involve a much wider deliberation.

Research and Development: The planned increase of R&D intensity in Finland to 4% of GDP has been accompanied by an impressive set of measures which gives a real momentum behind the push to increase the R&D investment and support future jobs in Finland. This is a very welcome development.

This implies an important role for the higher education sector and institutions will need to increase capacity to provide researcher training as well as carry out research and development. In addition to the direct expansion of capacity within the HEIs, the higher education sector will also have an important role in enabling R&D in the private sector through

collaboration, valorisation and provision of trained scientists. The current funding model does not provide strong support or incentives for such expansion.

With respect to the general need to expand capacity, there is scope to rethink the respective roles of the two parts of the higher education system in Finland with regards to research. Within the established research universities, there is a need to further strengthen centres of excellence to ensure that they can participate in the global competition for funding and talent.

The universities of applied sciences would also be able to expand their research capacity in the context of their distinctive role with respect to working life in Finland. It is therefore worth reconsidering the current limitations placed on UASs with respect to their ability to award research degrees. Although they should not compete with research universities, a somewhat bigger role could be beneficial and create a greater space for collaboration and exchange between the two parts of the sector. International examples provide several models for doing this: Bavarian universities of applied sciences can apply for the right to award doctoral degrees, allowing some related resources to be focussed on the best suited institutions.

The current funding model provides limited incentives or support for collaboration with industry. This is understandable in so far as available indicators have limitations and their inclusion in the funding formula could lead to distortions or perverse incentives. Further, there are many examples of close collaboration between UASs and businesses, which suggests the model does not prevent this either. Even so, in the context of the overall ambition to expand R&D, additional focus on this within steering model as a whole would be beneficial.

Funding the higher education sector: It seems clear that the ambitions described above will require additional investment. At the same time, it is not obvious that these can be covered through increases in government core funding in a system that is already heavily reliant on public funding. Potential new or underused sources of resources include tuition fees, external funding, contracts and co-funding from industry, and capital income and donations (e.g. from alumni).

The Ministry has an important role in ensuring that the framework conditions enable this to happen. Indeed, better access to external funding was a key rationale for the reforms which granted HEIs increased autonomy but institutional autonomy has not been sufficient to realise this aim. Through capital grants, the Ministry has supported institutions to build up capital and thereby an independent source of income through return on investments. But there are risks involved, as illustrated by the recent downturn in return during 2022, and there further challenges for smaller institutions with limited resources for financial management. The current model does reward HEIs for attracting external funding, but it might not be sufficient to support the additional effort to bring in international grants which would contribute 'new' money to the system.

Introducing or increasing tuition fees or increased fees for continuous education could potentially contribute significantly to sector resources. HEIs are currently allowed to charge fees for international students, but the net income of 14m euros after waivers and scholarships are accounted for, corresponds to about a third the potential income of 42m euros had full fees been applied. This illustrates the need to consider the interaction between any new fees and other parts of the funding model. Fees for domestic students go against established norms and might be more acceptable if targeted at specific services.

Overall, developing additional sources of funding must be a priority for the sector. Increasing external funding will also provide a degree of effective autonomy for higher education institutions and potential scope for making strategic decisions beyond what will maximise the return on the core funding formula.

4.2 Policy options

Considering each of the challenges presented above, a number of policy options are available for the Ministry. These range from refinements of the current model to more fundamental changes to the Ministry's governance and funding approach. Although the current report is delivered in the context of the preparations for the coming period, 2025-2028, we recommend taking a longer look at the development of the system beyond the next four-year funding cycle. Balancing the need for predictability with the need for change, some of the policy options presented could be considered for near immediate implementation whereas other would require longer to be prepared and implemented.

Enhancing institutional strategic development and system level impact

There is a need to create system in Finland that consists of higher education institutions that together represent significant research and educational capacity and excellence with individual strengths and distinct profiles while delivering system-wide impacts. To achieve this the Ministry should consider the following options:

- Use the **performance agreements** and the discussion about **institutional strategy developments** to support achieving overarching national policy objectives, while ensuring that there is room for individual institutional profile developments. This could be fostered by having a set **of core** as well as **institution specific indicators** that on a system level monitor the delivery of national policy objectives, but more generously reward institution-specific strategic development while maintaining a results-based focus and accountability
- **Reduce the weight of performance indicators in the funding formula and increase the agreements-based (dialogue-based) funding.** This could increase the scope for institutions to exercise strategic autonomy without being penalised for diverging from a path that would maximise returns according to the common funding formula
- **Emphasise the importance of quality and the impact delivered** throughout the HEI's activities. There are multiple ways to do this, which vary from the identification of a set of qualitative indicators and subsequent reporting on them in the performance agreements, through stakeholder surveys, to carrying out impact assessments as part of the funding process. As an initial step, requiring institutions to provide narrative case studies describing key examples of impact of education and impact of research – without direct links to funding or on a pass-fail basis – would bring increased focus to the issue without the risks of distorting behaviour
- **Ensure that the framework conditions are supportive** to reach national policy objectives and development goals. There is a need for better cross-ministry coordination within government to steer and support the activities of the higher education sector for example in the field of internationalisation (attracting and retaining talent), the use of research to address societal challenges, and the further development of the continuous education sector

Effective and equitable support for expanding student intake and educational attainment

The current focus on graduations in the funding model gives institutions incentives that are not always aligned with the policy objectives and create opportunities for a degree of gaming on the part of individual institutions that can be detrimental to the system as a whole.

- **Student 'transfer fees':** The current model favours the institution from which the students graduate (Institution A), even in cases where parts of the degree have been completed elsewhere (Institution B, C etc.). The current model supports institutions delivering modules

for students at other institutions but for credits obtained by a student at one institution before subsequently moving to a new one. Maintaining an outcomes-based model with funding for graduations, the formula could be revised to distribute the funding for the degree among institutions which have contributed to the students' education. Technically, this might be done at the time of graduation, or by 'Institution A' paying a 'transfer fee' to other institutions (B, C etc.) for any study credits validated to form part of the degree

- **Supplementary funding for inclusive student intake:** Admission to HEIs, particularly to universities, is very selective in Finland. Institutions have a clear incentive to prioritise 'safe' students with a high probability of graduating within the prescribed time. Increasing overall educational attainment will require institutions to welcome a more diverse set of students some of whom might require additional support to succeed. Based on the Irish model, a supplementary amount could be awarded to institutions which enable students with specific characteristics to obtain a degree
- **Expanding the intake from secondary VET to higher education:** There is scope to expand progression of students from secondary vocational institutions into universities of applied sciences. Introduce a more targeted approach reinforced by a range of supporting instruments (e.g., foundation courses, targeted teacher training, enhanced support services) offered to both students and HEIs to facilitate the entering higher education after secondary VET studies
- **Restricting access to multiple degrees:** The Finnish educational system and tradition is strongly bound to norms of free access to education. Some people benefit from this to obtain two or more degrees, no doubt with significant personal and professional benefits. In a situation of funding constraint, however, it is reasonable to ask whether this is an effective use of resources. The funding formula does reduce the amount of funding available to HEIs for second or subsequent degrees, but HEIs are not able to refuse entry to such students. The introduction of tuition fees for students for second and subsequent degrees would be a way to maintain access to higher education while also making room for first-time students
- In parallel, a dialogue should be initiated - backed by evidence from forecast exercises - with employer representative and business support organisations to develop a shared vision and understanding about the future skills needs in the economy and the best ways of tackling them. This should entail **assessing the value, costs and benefits of degree education vs skills and competences** gained through continuous learning in the portfolio of upskilling and reskilling

Expanding R&D capacity

The planned increase in R&D intensity in Finland to 4% of GDP involves an important role for the higher education sector and requires an expansion of the research capacity both within higher education (Master's and PhD level alike) as well as in the research and business sectors, including the SMEs. The following policy options should be considered:

- **Expanding the role of UASs in research and development:** UASs are increasingly active in R&D and would be able to further increase their involvement. Concretely, UASs are requesting the right to award doctoral degrees and make use of professor titles. Relatedly, this would enable increased allocation of funding through the core formula and competitive (AKA and Business Finland) funding. Similar steps have been seen internationally. This would provide a route to expansion of R&D activities within existing structures, with an emphasis on applied research

- **Enhance the overall system capacity while ensuring that international centres of excellence are also supported:** In the context of a system with relatively numerous institutions, maintaining the focus on a small number of internationally competitive institutions is key to produce leading edge research and technology needed by companies in international competition. Such internationally recognised centres of excellence should be supported with dedicated instruments
- There is a clear need to work closely with industry, especially SMEs, to leverage private investment in R&D. One way to address this need would be to add specific innovation indicators to the funding formula. This would provide a powerful signal to the sector. Adoption within the general funding formula would, however, carry risks as available indicators cover intended outcomes only partially and tend to unintended strategic behaviour (gaming).⁵⁸ It is therefore more appropriate to use other parts of the steering model for this purpose:
 - The introduction of stronger innovation-related elements including tailored indicators in institutional performance agreements in accordance with specific institutional objectives and initiatives (see above in institution-specific indicators)
 - The introduction of **Industrial PhDs** would further enhance collaboration between higher education and businesses and would address research capacity building-related objectives as well. It could be particularly relevant to SMEs

Funding higher education

- **Expanded role of tuition fees:** Free and equal access to higher education is a central value in Finland. The Ministry of Finance issued a discussion paper on this issue in December 2022 suggesting that this is on the agenda. A wholesale adoption of a fee-paying system would require a fundamental restructuring of the financing model and does not have much support in the sector. A more targeted adoption of fees would be more feasible, especially within a shorter timeframe. Tuition fees have already been introduced for overseas (non-EU) students. Expansion of fees to students studying for their second or subsequent degree could raise additional funds and help focus core funding on first degree students
- **Fees for continuous education:** The principle of free access to education largely extends to continuous education as well and Finnish businesses have become used to benefiting from this on being a taxpayer funded benefit. Introducing fees for continuous education could achieve two aims: first, it could provide an additional source of income for the higher education sector separate from government funding. Secondly, it would incentivise companies to be more discerning in what they buy, and thereby provide stronger incentives to ensure the relevance and quality of their offer

⁵⁸ See e.g.: Good, B., Vermeulen, N., Tiefenthaler, B. & Arnold, E., 2015. Counting quality? The Czech performance-based research funding system. *Research Evaluation*, 24(2), pp. 91-105.

Table 8 Summary of policy options

Policy option	Challenges addressed						Timeline for implementation	Pros and cons	International precedent (where relevant)
	Strategic development	Collaboration	Educational attainment	R&D capacity	Internationalisation	Resourcing			
Enhancing institutional strategic development and system level impact									
institution specific indicators	x						Short term	<ul style="list-style-type: none"> Supports the development of distinct institutional profiles Adds complexity and requires monitoring by the MEC 	
Reduce the weight of performance indicators	x	(x)					Medium term	<ul style="list-style-type: none"> Creates stable core funding, more predictability Could reverse some of the positive effects and efficiency gains of the performance based funding 	<ul style="list-style-type: none"> Netherlands, Denmark, Norway
Formative use of impact case studies								<ul style="list-style-type: none"> Promotes sharing of good practice 	<ul style="list-style-type: none"> Extensively used in the UK although summative
Enhanced framework conditions incl. cross-ministry policy coordination	x	x		x	x		Medium term	<ul style="list-style-type: none"> Provides enabling context for attracting talent and addressing challenges cutting across ministerial portfolios (industry, health etc.) 	<ul style="list-style-type: none"> Finland's Research and Innovation Council prior to 2006
Effective and equitable support for expanding student intake and educational attainment									
Student 'transfer fees'		x	x				Short-term	<ul style="list-style-type: none"> More equitable, better incentives for institutions to support study progression regards of final destination Adds complexity 	<i>Unique issue in Finland due to the prominence on the number of graduates in the funding formula</i>

Policy option	Challenges addressed						Timeline for implementation	Pros and cons	International precedent (where relevant)
	Strategic development	Collaboration	Educational attainment	R&D capacity	Internationalisation	Resourcing			
Supplementary funding for inclusive student intake			x					<ul style="list-style-type: none"> Support for quantitative increase, support for more inclusive student body Requires additional funding 	<ul style="list-style-type: none"> Ireland: Higher weighting for disadvantaged students and students from under-represented backgrounds
Expanding the intake from secondary VET to higher education			x				Medium term	<ul style="list-style-type: none"> Create more diverse routes for students to enter higher education Increase student intake and attainment Potential decrease in number of mid-level qualifications 	<ul style="list-style-type: none"> Irish "Unified Tertiary System for Learning, Skills and Knowledge"
Limiting free access to multiple degrees			x				Short term	<ul style="list-style-type: none"> Opens space and resources for new students Potential additional fee income (likely modest) Challenges norms of free education and access to reskilling (but see below) 	<ul style="list-style-type: none"> Netherlands: Reduced fees for first-time students
Assess needs and value of degree education			x					<ul style="list-style-type: none"> Improved targeting of resources towards needs Enable stakeholders to re-evaluate the value and role of different types of higher education qualifications 	<ul style="list-style-type: none">
<ul style="list-style-type: none"> Expanding R&D capacity 									
Enhance the overall system capacity while ensuring that international centres of excellence are also supported				x	x		Continuous	<ul style="list-style-type: none"> Improve global competitiveness of Finnish universities 	<ul style="list-style-type: none">

Policy option	Challenges addressed					Timeline for implementation	Pros and cons	International precedent (where relevant)
	Strategic development	Collaboration	Educational attainment	R&D capacity	Internationalisation			
Expanding the role of UASs in research and development		x		x		(x)	<ul style="list-style-type: none"> Expanded capacity in best placed part of the sector Increased emphasis on applied research Potential leverage of resources for collaboration with industry Risk of fragmentation of research effort 	<ul style="list-style-type: none"> Legal reform in Germany (Bavaria case study)
Industrial PhDs		x		x		(x)	<ul style="list-style-type: none"> Enhance collaboration between higher education and businesses Support R&D capacity and innovation among SMEs 	<ul style="list-style-type: none"> Swedish Foundation for Strategic Research (SSF)
<ul style="list-style-type: none"> Funding higher education 								
Expanded role of tuition fees			x			x	<ul style="list-style-type: none"> Target resources on new students Challenges principles of free access to education 	<ul style="list-style-type: none"> The Netherlands (general increase reversed)
Fees for continuous education		(x)				x	<ul style="list-style-type: none"> Raise additional revenue Improve targeting of the offer to areas of most value to industry 	

5 Key references

- Arnold et al. (2022), "Evaluation of the Academy of Finland", Publications of the Ministry of Education and Culture: 2022:7, available at: <https://julkaisut.valtioneuvosto.fi/handle/10024/163881>
- Farla and Simmonds (2015), "REF Accountability Review: Costs, benefits and burden", Report by Technopolis to the four UK higher education funding bodies, available at: <https://www.technopolis-group.com/report/ref-accountability-review-costs-benefits-and-burden/>
- Golden, Troy & Weko (2021), "How are higher education systems in OECD countries resourced? Evidence from an OECD Policy Survey", OECD Education Working Papers No. 259, available at: https://www.oecd-ilibrary.org/education/how-are-higher-education-systems-in-oecd-countries-resourced_0ac1fbad-en
- Good, B., Vermeulen, N., Tiefenthaler, B. & Arnold, E., 2015. Counting quality? The Czech performance-based research funding system. *Research Evaluation*, 24(2), pp. 91-105.
- Hjelt, M., Sepponen, S., Roschier, S., Laine, A., Bröckl, M. & Raivio, T. 2018. Profiloitirahoituksen vaikutukset yliopistojen strategiseen suunnitteluun ja johtamiseen. Opetus- ja kulttuuriministeriön julkaisuja 2018:27; Profi-rahoitusmuodon suunnitelmien toteutumisen arviointi. 12.6.2019. https://www.aka.fi/globalassets/1-tutkimusrahoitus/4-ohjelmat-ja-muut-rahoitusmuodot/5-yliopistojen-profiloituminen/profiarviointi2019_10062019.pdf
- Jongbloed & de Boer (2020), *Performance Agreements in Denmark, Ontario and the Netherlands*, CHEPS and NIFU, September 2020, available at: <https://research.utwente.nl/en/publications/performance-agreements-in-denmark-ontario-and-the-netherlands-rep>
- Jongbloed, B., McGrath, C., Boer, H., et al. (2023), Final report of the study on the state and effectiveness of national funding systems of higher education to support the European universities initiative. Volume I, Publications Office of the European Union, 2023, <https://data.europa.eu/doi/10.2766/885757>
- Kalio et al. (2022), "Balancing between accountability and autonomy: the impact and relevance of public steering mechanisms within higher education", *Journal of Public Budgeting and Accounting & Financial Management*, Vol 34, No. 6, pp. 46-68
- Kivistö J. et al (2021): Selvitys yliopistojen sisäisistä rahoitusmalleista. Osa 1: Yliopistojen sisäiset rahoitusmallit. Päivitetty versio 19.5.2021.
- Loukkola, Peterbauer and Gover (2020), *Exploring higher education indicators*, European University Association, May 2020
- Melin et al. (2015), "Towards a future proof system for higher education and research in Finland", Publications of the Ministry of Education and Culture, Finland 2015:11, available at: <https://julkaisut.valtioneuvosto.fi/handle/10024/75119>
- OECD (2020), "Resourcing Higher Education: Challenges, Choices and Consequences", Paris: OECD Publishing, available at: https://www.oecd-ilibrary.org/education/resourcing-higher-education_735e1f44-en
- OECD (2022), "Expanding and steering capacity in Finnish higher education – Thematic Policy Brief", OECD Education Policy Perspectives, No. 50, available at:

<https://www.oecd.org/publications/expanding-and-steering-capacity-in-finnish-higher-education-61ad64b9-en.htm>

- OECD (2022), Education at a Glance, Paris: OECD Publishing, available at: <https://www.oecd.org/education/education-at-a-glance/>
- Owl Group. Impact evaluation of the Universities Act reform. Publications of the Ministry of Education and Culture, Finland 2016:30
- Pruvot and Esterman (2022), "Allocating core public funding to universities in Europe: state of play & principles", European University Alliance, March 2022, available at: <https://eua.eu/resources/publications/1015:allocating-core-public-funding-to-universities-in-europe-state-of-play-principles.html>
- Pruvot, Estermann and Popkhadze (2023), "University Autonomy in Europe IV: The Scorecard 2023", European University Association, March 2023, available at: <https://www.eua.eu/resources/publications/1061:university-autonomy-in-europe-iv-the-scorecard-2023.html>
- Seuri A. and Vartiainen H. (2018): Yliopistojen rahoitus, kannustimet ja rakennekehitys. Talouspolitiikan arviointineuvoston taustaraportti. Tammikuu 2018.
- Staring et al. (2022), "Digital higher education: Emerging quality standards, practices and supports", OECD Education Working Papers No. 281
- Wennberg, M., Korhonen, N. & Koramo, M. (2018), „Impact evaluation of higher education reforms”, Publications of the Ministry of Education and Culture, Finland 2018:33

Appendix A HEI Survey

All universities and universities of applied sciences were invited in February to participate in a survey. Nearly all institutions managed to respond in time to this request.

Table 9 Response

	Number of surveys sent	Number of responses	Response rate
Universities	13	13	100%
University of applied sciences	22	20	91%

A.1 Survey question

The survey was designed using an Excel workbook containing 9 sheets with questions, covering the following topics:

- A. Funding
- B. Strategic development
- C. Personnel and HR
- D. Education
- E. Research
- F. Collaborations
- G. Internationalisation
- H. Future challenges
- I. Future model

On the left side of each sheet relevant data was displayed and prepopulated by Technopolis to the extent possible, while on the right side the institutions were asked to reflect on the data. The next pages will present the handout of the survey

SECTION A - Profile																					
Background data	Survey questions																				
<p>Establishment</p> <p>Name of the institution (in English)</p> <p>Legal status <input type="text"/> Year of establishment <input type="text"/></p> <p><small>* public universities are corporations under public law</small></p> <p>Ownership (if relevant)</p> <table border="1"> <thead> <tr> <th>Entity</th> <th>Ownership share (%)</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table> <p>Locations</p> <table border="1"> <thead> <tr> <th>City and campus or regional office</th> <th>Total personnel (FTE)</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>	Entity	Ownership share (%)									City and campus or regional office	Total personnel (FTE)									<p>A.1 Please comment on any recent changes (since 2017) in legal and organisational structure, and the reasons for these changes</p> <p>[please write here]</p>
Entity	Ownership share (%)																				
City and campus or regional office	Total personnel (FTE)																				

SECTION B - FUNDING						
Background data						
Funding from the Ministry of Education and Culture						
Source: MEC						
	2017	2018	2019	2020	2021	2022
Core funding with imputed criteria						
National duties						
Strategy-based funding *						
Total	€0	€0	€0	€0	€0	€0
VAT compensation						
Total (incl. VAT)	€0	€0	€0	€0	€0	€0
* Note: Prior to 2021, this figure includes sector funding and other funding						
Funding from external sources						
Source: Vipunen.fi						
	2017	2018	2019	2020	2021	2022
External funding - domestic						
of which Domestic competitive fundings [1]						
...Domestic companies						
...Other domestic						
External funding - international						
of which International competitive funding [2]						
...Foreign companies						
...Other international						
Total external funding						
Notes: [1] Includes funding from the Academy of Finland, Business Finland, private funds and foundations, and funding from other ministries;						

Survey questions						
B.1 Considering the resourcing of your institution, how do you expect the following sources of funding to develop in the future? (Please choose one option per line, using 'X')						
	Significantly decrease	Decrease	No change	Increase	Significantly increase	n/a
Government core funding						...
Government dedicated funding programmes						...
External competitively awarded grant funding (e.g., Academy of Finland)						...
Investment and co-funding from industry and third sector collaborators						...
Education exports						...
Tuition fees from international (non-EU) students						...
Tuition fees from domestic students						...
Executive education and lifelong learning						...
Other educational services						...
B.2 Can you please explain your answers above? What are the main reasons for the changes?						
The planned interviews will provide an opportunity to follow up on these questions and discuss in more depth						
[please write here]						
B.3 Considering the internal allocation of core funding for education and research in your institution (excl. strategy-based funding and funding for national duties), how much weight is given to the following factors?						
Please estimate the importance of each factor, assigning a combined weight of 100% across the categories described.						
		<i>Example for illustration</i>				
Continuity / historical funding level					20%	
Input indicators (number of students, number of staff)					20%	
Output/performance indicators included in the government funding model (publications, other output/performance indicators)					20%	
Allocation to address the institutions strategic priorities					20%	
Other					0%	
Total					100%	
B.4 Please explain your answer (B.3)						
The planned interviews will provide an opportunity to follow up on these questions and discuss in more depth						
[please write here]						
B.5 Please comment below on the use of strategy-based funding and funding of national duties						
The planned interviews will provide an opportunity to follow up on these questions and discuss in more depth						
[please write here]						

SECTION C - Strategic development		Survey questions																																																																																						
Background																																																																																								
<p>Areas of strength as specified in the performance agreements between the higher education institution and the Ministry of Education and Culture (MEC)</p> <table border="1"> <thead> <tr> <th>2017-2020</th> <th>2021-2024</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table> <p><i>In some cases, the performance agreements between the higher education institution and the Ministry of Education and Culture (MEC) include a description of 'emerging areas' of importance to the institution.</i></p> <p>Emerging areas as specified in the performance agreements between the higher education institution and the Ministry of Education and Culture (MEC)</p> <table border="1"> <thead> <tr> <th>2021-2024</th> <th>Please comment</th> </tr> </thead> <tbody> <tr> <td>[not found]</td> <td> </td> </tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table> <p>Initiatives related to carbon neutrality as specified in the performance agreements between the higher education institution and the Ministry of Education and Culture (MEC)</p> <table border="1"> <thead> <tr> <th>2021-2024</th> <th>Please comment</th> </tr> </thead> <tbody> <tr> <td>[not found]</td> <td> </td> </tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>		2017-2020	2021-2024															2021-2024	Please comment	[not found]												2021-2024	Please comment	[not found]												<p>C.1 What have been the main drivers for change affecting the identified 'areas of strength' for your institutions? [please write here]</p> <p>C.2 To what extent do you agree or disagree with the following statements concerning the Ministry of Education and Culture's funding and governance practices - including support for strategic development from the Academy of Finland as well as direct funding from the MEC? (please choose one answer per line)</p> <table border="1"> <thead> <tr> <th>The current model supports our institution to:</th> <th>Strongly Disagree</th> <th>Disagree</th> <th>Neither</th> <th>Agree</th> <th>Strongly agree</th> <th>n/a</th> </tr> </thead> <tbody> <tr> <td>...pursue strategic aims according to institutional strategy</td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td>...develop a distinctive strategic direction</td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td>...focus on national strategic objectives</td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td>...invest in new strategic initiatives</td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td>...prepare for future challenges and react to them flexibly</td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <p>C.3 Please explain your answer (C.2) and comment on any areas of the current governance and funding practices could be improved to better support strategic development and how these could be reformed. <i>The planned interviews will provide an opportunity to follow up on these questions and discuss in more depth</i> [please write here]</p>	The current model supports our institution to:	Strongly Disagree	Disagree	Neither	Agree	Strongly agree	n/a	...pursue strategic aims according to institutional strategy							...develop a distinctive strategic direction							...focus on national strategic objectives							...invest in new strategic initiatives							...prepare for future challenges and react to them flexibly						
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...prepare for future challenges and react to them flexibly																																																																																								

SECTION D - Personnel and HR							
Background				Survey questions			
Personnel in person work years Source: Vipunen ("Teaching and research staff at universities" and "Other staff at universities")							
	2017	2018	2019	2020	2021	2022	
Level 1 (e.g. Doctoral student)							
Level 2 (e.g., Postdoc)							
Level 3 (e.g., university lecturer)							
Level 4 (e.g., Professor, Research director etc.)							
Part time lecturer							
Total teaching and research personnel	-	-	-	-	-	-	
Total other staff							
Total Personnel	-	-	-	-	-	-	

D.1 Can you please highlight the key drivers for change that influenced staff numbers and composition over the years?
The planned interviews will provide an opportunity to follow up on these questions and discuss in more depth

[please write here]

D.2 For your institution, how would you describe the availability of academic staff for teaching and research roles? E.g., do you have any problems with unfilled positions?
The planned interviews will provide an opportunity to follow up on these questions and discuss in more depth

[please write here]

	Not at all	To a small extent	To a large extent	To a very large extent	N/A	
Criteria for hiring and promotion						...
Researcher training and development						...
Teacher training and development						...
International mobility and recruitment						...
Attractiveness of academic careers						...
Inter-sectoral mobility and recruitment of staff (e.g. with industry)						...
Other (please describe)						...

D.4 How could current governance and funding practices be improved to better support personnel and staff development?
The planned interviews will provide an opportunity to follow up on these questions and discuss in more depth

[please write here]

SECTION E - Education						
Background data				Survey questions		
Students						
Source: Vipunen (Students by level of education (tier 1), institution and year)						
	2017	2018	2019	2020	2021	2022
Bachelor's or equivalent level						
Master's or equivalent level						
Doctoral or equivalent level						
Total students	-	-	-	-	-	-
Degrees						
Source: Vipunen (Degrees by level of education (tier 1), institution and year)						
	2017	2018	2019	2020	2021	2022
Bachelor's or equivalent level						
Master's or equivalent level						
Doctoral or equivalent level						
Total students	0	0	0	0	0	0
<i>Source: Technopolis, based on data from Vipunen</i>						
E.1 The figures opposite state student numbers in recent years at your institution. What are the main reasons behind this development in student numbers? [please write here]						
E.2 Looking forward, what are your expectations to future changes in student numbers and composition of the student body? [please write here]						
E.3 The Ministry of Finance recently issued a working paper on the issue of tuition fees. In your view, what would be the impact of introducing tuition fees for domestic students in Finland? [please write here]						

SECTION F - Research																																																																					
Background data				Survey questions																																																																	
<p>Publications with JUFO-level 1-3 Source: Vipunen</p> <table border="1"> <thead> <tr> <th></th> <th>2017</th> <th>2018</th> <th>2019</th> <th>2020</th> <th>2021</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>Medical and Health Sciences</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Agricultural Sciences</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Natural Sciences</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Engineering and Technology</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Social Sciences</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Humanities</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Missing data</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Total publications</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table> <p>Source: Technopolis, based on data from Vipunen</p>								2017	2018	2019	2020	2021	2022	Medical and Health Sciences							Agricultural Sciences							Natural Sciences							Engineering and Technology							Social Sciences							Humanities							Missing data							Total publications	-	-	-	-	-	-
	2017	2018	2019	2020	2021	2022																																																															
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Total publications	-	-	-	-	-	-																																																															
<p>F.1 The figures opposite show the scientific production measured by the number of publications in recent years at your institution. What are the main reasons behind the development shown? [please write here]</p>																																																																					
<p>F.2 Looking forward, what are your expectations to future changes? [please write here]</p>																																																																					
<p>F.3 How could current governance and funding practices be improved to better support research and development? [please write here]</p>																																																																					
<p>F.4 How should the Agreement on Reforming Research Assessment be reflected (or not) in the ministry's funding practices with the overarching goal to maximise the quality and impact of research? [link] [please write here]</p>																																																																					

SECTION G - Collaboration

Survey questions

G.1 To what extent do you agree or disagree with the following statements

(please choose one answer per line)

The Ministry of Education and Culture's funding and governance practices supports collaboration ...

	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neither</i>	<i>Agree</i>	<i>Strongly Agree</i>	<i>n/a</i>	
... among higher education institutions							...
... with local ecosystem actors							...
... with industry and commercial partners							...
... with international partners							...

G.2 Please explain your answer (F.1) and comment on any areas of the current governance and funding practices could be improved to better support different types of collaboration

The planned interviews will provide an opportunity to follow up on these questions and discuss in more depth

[please write here]

SECTION H - Internationalisation																																																															
Background data				Survey questions																																																											
International students																																																															
Source: Vipunen ("Foreign students")																																																															
	2017	2018	2019	2020	2021	2022																																																									
Bachelor's or equivalent level																																																															
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Doctoral or equivalent level																																																															
Total	0	0	0	0	0	0	0																																																								
Source: Technopolis, based on data from Vipunen																																																															
International graduates																																																															
Source: Vipunen ("Degrees attained by foreign students")																																																															
	2017	2018	2019	2020	2021	2022																																																									
Bachelor's or equivalent level																																																															
Master's or equivalent level																																																															
Doctoral or equivalent level																																																															
Total	-	-	-	-	-	-	-																																																								
Source: Technopolis, based on data from Vipunen																																																															
International profile of staff over time																																																															
Source: Vipunen (Person work years, by nationality)																																																															
	2017	2018	2019	2020	2021	2022																																																									
Finland	1,548,4	1,485,7	1,466,9	1,461,6	1,514,0																																																										
Europe	363,0	375,1	401,9	439,8	469,3																																																										
Latin America and Caribbean	33,4	37,0	40,9	34,2	30,6																																																										
North America	33,0	41,8	48,8	56,7	63,0																																																										
Africa	26,6	37,6	44,2	48,6	45,8																																																										
Asia	349,3	422,9	475,6	548,6	599,4																																																										
Oceania	10,3	9,3	9,0	11,9	11,8																																																										
Total	2.364,0	2.409,4	2.487,3	2.601,5	2.734,0	-																																																									
<p>Share of international staff at Finnish Universities, 2017-2021</p> <table border="1"> <caption>Approximate data from the chart</caption> <thead> <tr> <th>Year</th> <th>Aalto University (%)</th> <th>Weighted average (%)</th> </tr> </thead> <tbody> <tr> <td>2017</td> <td>35</td> <td>22</td> </tr> <tr> <td>2018</td> <td>38</td> <td>24</td> </tr> <tr> <td>2019</td> <td>41</td> <td>25</td> </tr> <tr> <td>2020</td> <td>44</td> <td>26</td> </tr> <tr> <td>2021</td> <td>46</td> <td>27</td> </tr> </tbody> </table>								Year	Aalto University (%)	Weighted average (%)	2017	35	22	2018	38	24	2019	41	25	2020	44	26	2021	46	27																																						
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Source: Technopolis, based on data from Vipunen																																																															
H.1	<p>The figures opposite show the number international students and graduates in recent years at your institution. What are the main reasons behind this development in student numbers?</p> <p>The planned interviews will provide an opportunity to follow up on these questions and discuss in more depth</p> <p>[please write here]</p>																																																														
H.2	<p>In your view, what has been the effect of the introduction of tuition fees for foreign (non-EU) students?</p> <p>The planned interviews will provide an opportunity to follow up on these questions and discuss in more depth</p> <p>[please write here]</p>																																																														
H.3	<p>To what extent do you agree or disagree with the following statements concerning the Ministry of Education and Culture's funding and governance practices (please choose one answer per line)</p> <table border="1"> <thead> <tr> <th></th> <th>Strongly disagree</th> <th>Disagree</th> <th>Neither</th> <th>Agree</th> <th>Strongly Agree</th> <th>n/a</th> <th></th> </tr> </thead> <tbody> <tr> <td>Support increasing the number of international students</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>...</td> </tr> <tr> <td>Support internationalisation of staff</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>...</td> </tr> <tr> <td>Support participation in international education networks</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>...</td> </tr> <tr> <td>Support participation in international reseerarch projects</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>...</td> </tr> <tr> <td>Support collaboration in EU projects</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>...</td> </tr> <tr> <td>Support global partnerships</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>...</td> </tr> </tbody> </table>								Strongly disagree	Disagree	Neither	Agree	Strongly Agree	n/a		Support increasing the number of international students							...	Support internationalisation of staff							...	Support participation in international education networks							...	Support participation in international reseerarch projects							...	Support collaboration in EU projects							...	Support global partnerships							...
	Strongly disagree	Disagree	Neither	Agree	Strongly Agree	n/a																																																									
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H.4	<p>How can the MEC's governance and funding practices be improved to better support intemationalisation?</p> <p>The planned interviews will provide an opportunity to follow up on these questions and discuss in more depth</p> <p>[please write here]</p>																																																														

SECTION I - Future challenges

Survey questions

I1 In your view, how important are each of the challenges listed below for the Finnish higher education sector?

(please choose one answer per line, using 'X')

	Not important	Of limited importance	Somewhat important	Very important	N/A	
Increase educational attainment in Finland						...
Increase R&D intensity in Finland						...
Responding to societal challenges and transitions						...
Supporting regional development						...
Support social cohesion and equality						...
Collaborating with local and regional stakeholders						...
Promote innovation and commercialisation						...
Promote start-ups and entrepreneurship						...
Improve digital education and learning						...
Increase opportunities for continuous learning						...
Develop new sources of investment and funding						...

I2 Please explain your answer below and describe any further challenges you would add to the list above

[please write here]

SECTION J - Future governance and funding model

Survey questions

J1 Overall, how suitable you find the different components of the Ministry's current governance and funding practices to meet the future challenges described in the previous section (section I)?

	Significant reform is required	Some changes are needed	Only minor adjustments	Keep the current model	Don't know	
Funding formula: Education						...
Funding formula: Research						...
Funding formula: Strategic development						...
PROFI funding						...
Performance agreements and reporting						...
Information exchange and dialogue with the Ministry						...
Regulatory framework (legislation)						...

J2 How should guidance governance and funding practices/funding model(s) be reformed?

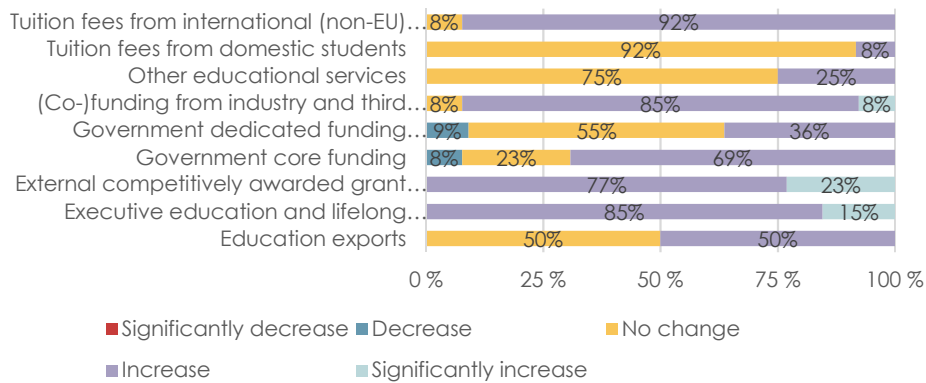
*Please describe any concrete proposals for amendments to the existing model below:
[please write here]*

A.2 Survey responses (closed questions)

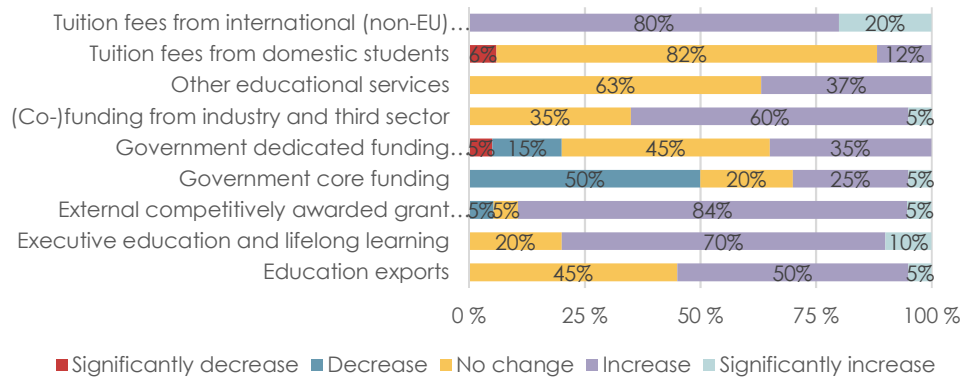
This section presents the responses to the closed survey questions. In here we differentiate for each question the responses provided by the universities from the responses of the universities of applied sciences

B.1 Considering the resourcing of your institution, how do you expect the following sources of funding to develop in the future?

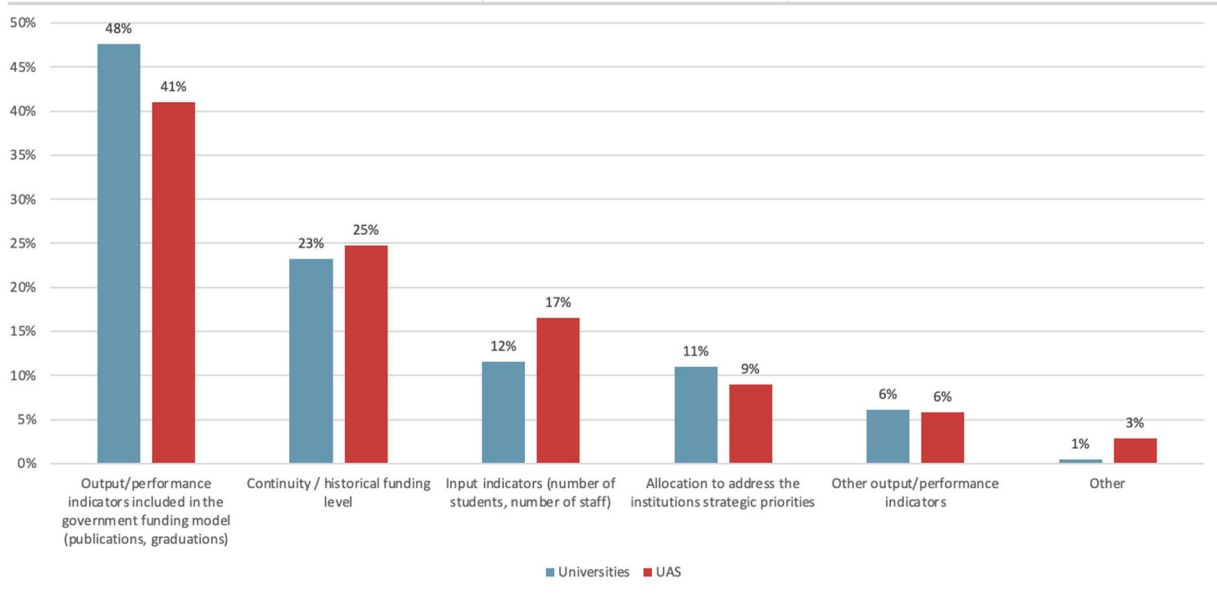
Considering the resourcing of your institution, how do you expect the following sources of funding to develop in the future? (universities)



Considering the resourcing of your institution, how do you expect the following sources of funding to develop in the future? (uas)

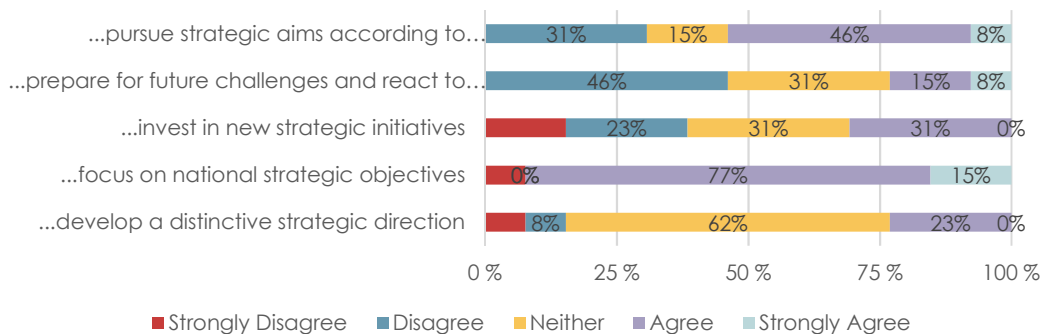


B.3 Considering the internal allocation of core funding for education and research in your institution (excl. strategy-based funding and funding for national duties), how much weight is given to the following factors?

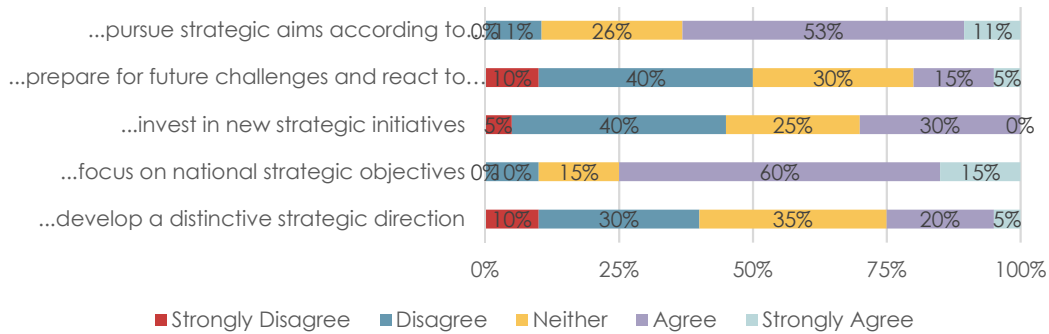


C2 To what extent do you agree or disagree with the following statements concerning the Ministry of Education and Culture's funding and governance practices - including support for strategic development from the Academy of Finland as well as direct funding from the MEC?

To what extent do you agree or disagree with the following statements concerning the Ministry of Education and Culture's funding and governance practices - including support for strategic development from the Academy of Finland as well as direct funding f



To what extent do you agree or disagree with the following statements concerning the Ministry of Education and Culture's funding and governance practices - including support for strategic development from the Academy of Finland as well as direct funding f

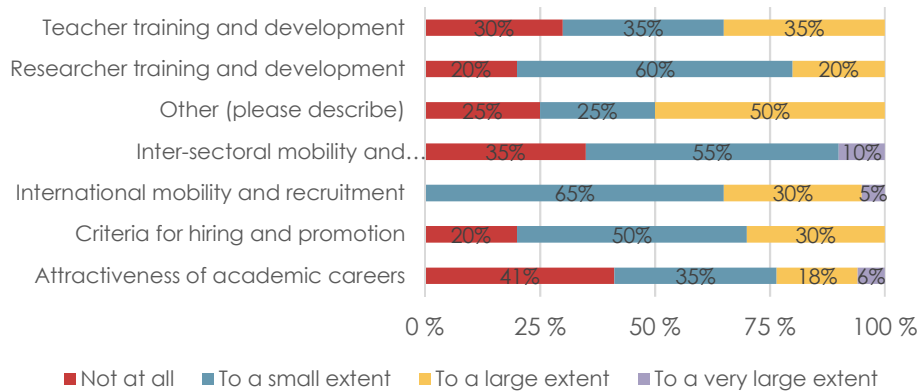


D3 To what extent do the Ministry governance and funding policies - including relevant support from the Academy of Finland as well as directly from the Ministry - influence the following aspects of your institution's HR policy?

To what extent do the Ministry governance and funding policies - including relevant support from the Academy of Finland as well as directly from the Ministry - influence the following aspects of your institution's HR policy?
(universities)

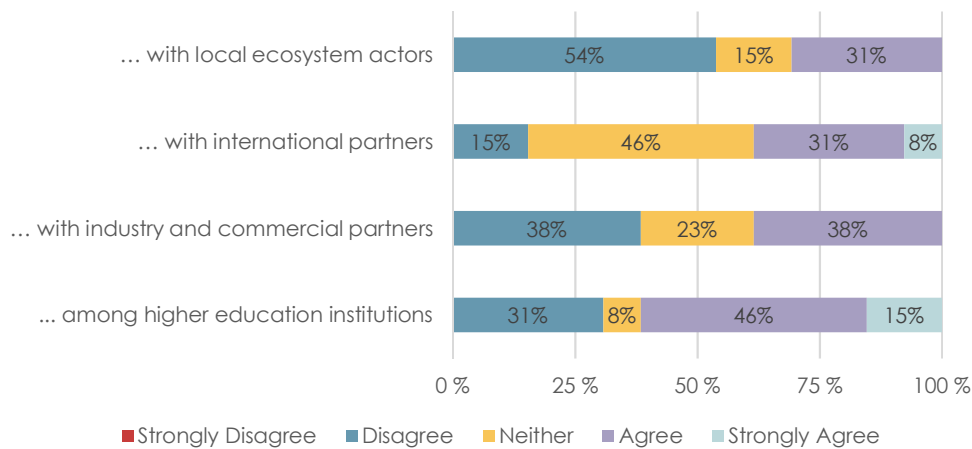


To what extent do the Ministry governance and funding policies - including relevant support from the Academy of Finland as well as directly from the Ministry - influence the following aspects of your institution's HR policy? (uas)

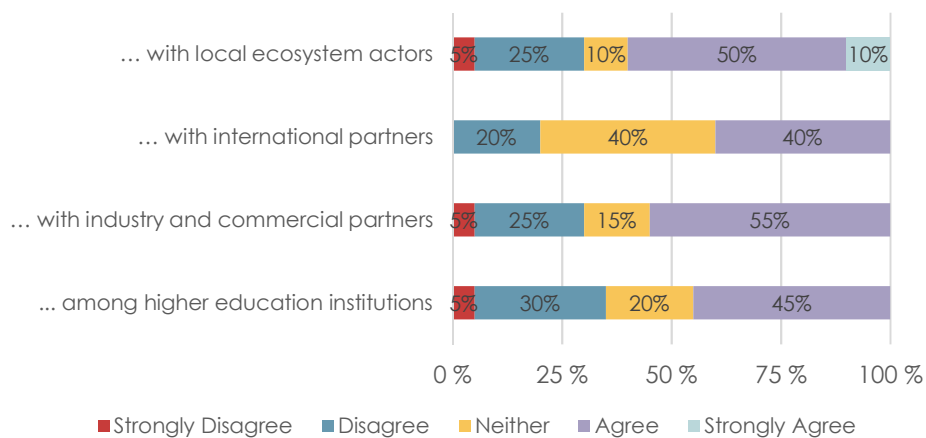


G1 The Ministry of Education and Culture's funding and governance practices supports collaboration ...

The Ministry of Education and Culture's funding and governance practices supports collaboration ... (universities)

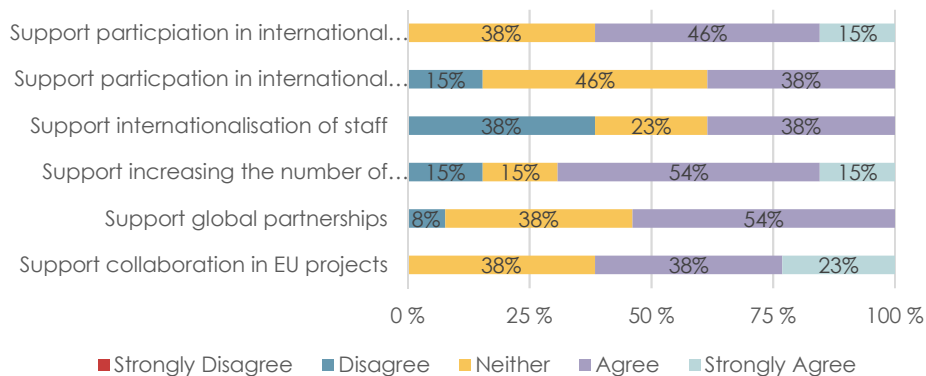


The Ministry of Education and Culture's funding and governance practices supports collaboration... (uas)

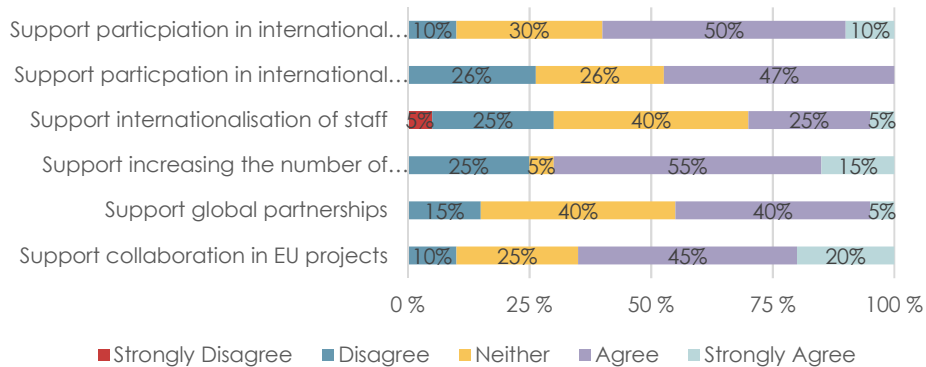


H3 To what extent do you agree or disagree with the following statements concerning the Ministry of Education and Culture's funding and governance practices?

To what extent do you agree or disagree with the following statements concerning the Ministry of Education and Culture's funding and governance practices? (universities)

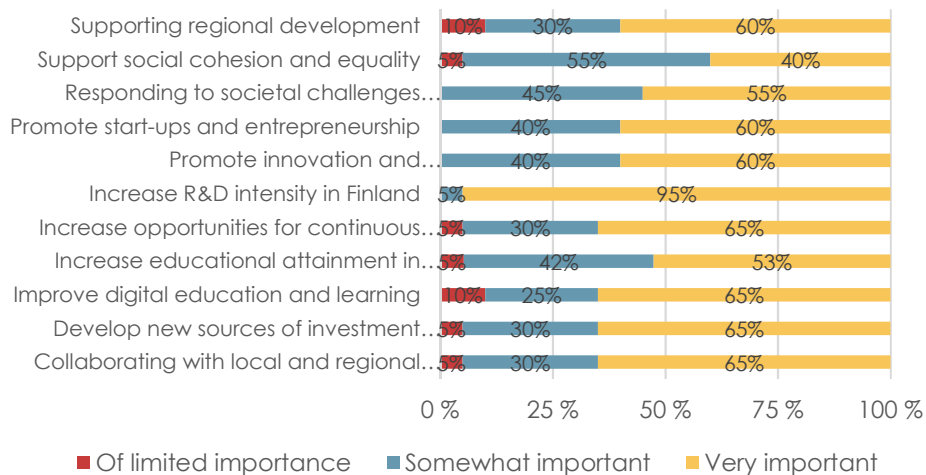


To what extent do you agree or disagree with the following statements concerning the Ministry of Education and Culture's funding and governance practices? (uas)



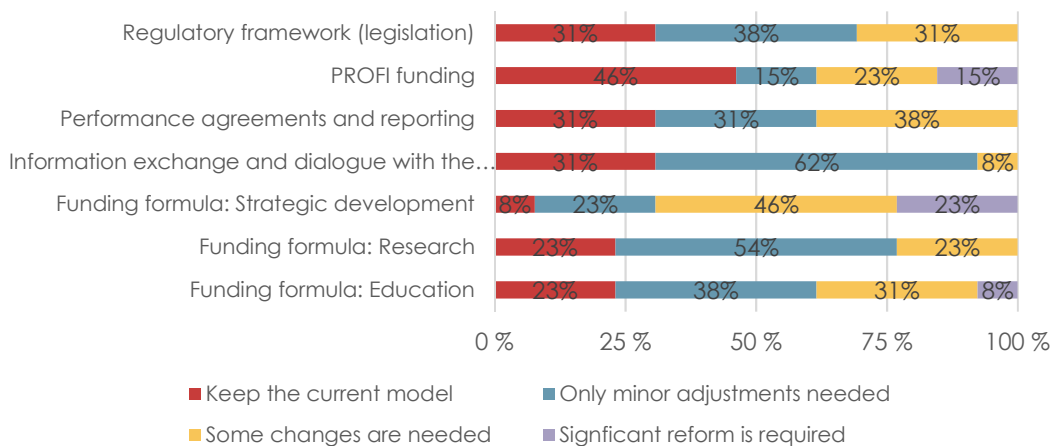
I1 In your view, how important are each of these challenges for the Finnish higher education sector?

In your view, how important are each of these challenges for the Finnish higher education sector? (uas)

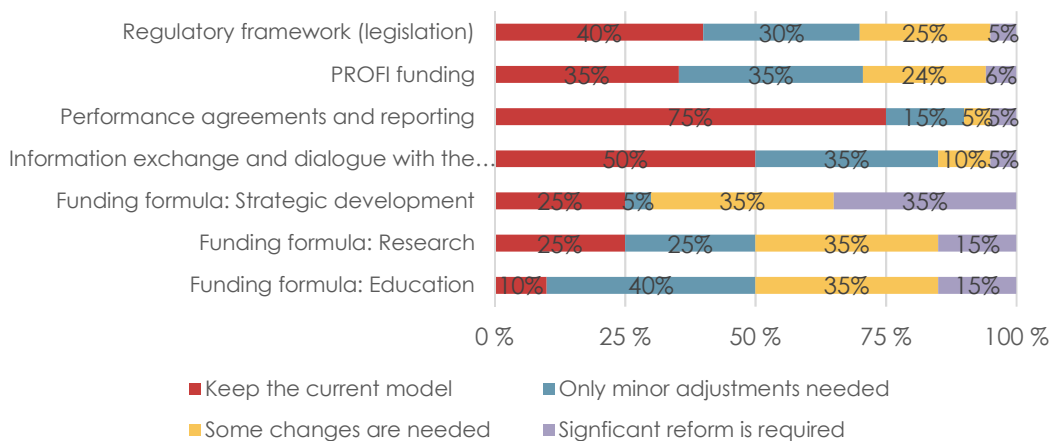


J1 Overall, how suitable you find the different components of the Ministry's current governance and funding practices to meet the future challenges?

Overall, how suitable you find the different components of the Ministry's current governance and funding practices to meet the future challenges? (universities)



Overall, how suitable you find the different components of the Ministry's current governance and funding practices to meet the future challenges? (uas)



Appendix B Support Group

- Atte Jääkeläinen, Director General, Ministry of Education and Culture (Department for Higher Education and Science Policy, DHESP), Chairman
- Paula Eerola, President, Academy of Finland
- Mona Forsskåhl, Rector, Arcada University of Applied Sciences
- Erja Heikkinen, Deputy Director General, Ministry of Education and Culture (DHESP/ Division for Science Policy)
- Keijo Hämäläinen, Rector, University of Jyväskylä
- Jonna Korhonen, Deputy Director General, Ministry of Education and Culture (DHESP/ Division for Higher Education Policy)
- Sari Lindblom, Rector, University of Helsinki
- Jukka Mönkkönen, Rector, University of Eastern Finland
- Sanna Nieminen, Ministerial Adviser, Ministry on Finance
- Teija Palko, Ministerial Adviser, Ministry on Economic Affairs and Employment
- Vesa Saarikoski, Rector, Jyväskylä University of Applied Sciences
- Vesa Taatila, Rector, Turku University of Applied Sciences

Appendix C Interviews and institutional visits

C.1 List of interviewees

C.1.1 Ministry of Education and Culture

- Petri Honkonen, Minister of Science and Culture
- Anita Lehtikainen, Permanent Secretary
- Atte Jääskeläinen, Director General of Higher Education and Research Policy
- Erja Heikkinen, Deputy Director General, Science Policy
- Jonna Korhonen, Deputy Director General, Higher Education Policy

C.1.2 Higher Education Institutions

- Ilkka Niemelä, President, Aalto University
- Janne Laine, Vice President for Innovation, Aalto University
- Ingmar Björkman, Rector, Hanken School of Economics
- Kaarlo Hildén, Rector, University of the Arts
- Mari Walls, Rector, Tampere University
- Jukka Kola, Rector, University of Turku
- Minna Martikainen, Rector, University of Vaasa
- Mikael Lindfelt, Rector, Åbo Akademi University
- Elina Juntunen, CEO, Rector, Centria
- Pirjo Hakala, Vice President, Centria
- Anna-Kaisa Kiiski, Financial Director Stakeholders, Centria
- Minna Hiillos, Rector, Haaga-Helia University of Applied Sciences
- Jukka Määttä, Rector, Humak University of Applied Sciences
- Päivi Marjanen, Education Director, Humak University of Applied Sciences
- Pertti Puusaari, Rector, Häme University of Applied Sciences
- Matti Sarén, Rector, CEO, Kajaani University of Applied Sciences
- Petri Raivo, Rector, Karelia University of Applied Sciences
- Turo Kilpeläinen, Rector, LAB University of Applied Sciences
- Riitta Rissanen, Rector, Lapland University of Applied Sciences
- Jouni Koski, President/CEO, Laurea University of Applied Sciences
- Mari Vuolteenaho, Vice rector (RDI), Laurea University of Applied Sciences
- Katri Ojasalo, Vice rector (education), Laurea University of Applied Sciences
- Kimmo Hannonen, Vice rector (support services), Laurea University of Applied Sciences
- Heidi Fagerholm, Rector, Oulu University of Applied Sciences
- Mervi Vidgrén, President and CEO, Savonia University of Applied Sciences, Chair of Rectors Conference of Finnish UAS
- Jaakko Hallila, President and CEO, Seinäjoki University of Applied Sciences
- Kati Komulainen, Rector, Vaasa University of Applied Sciences

- Piia Kujala, Director of Administration and Finance, Vaasa University of Applied Sciences
- Mona Forsskåhl, President and CEO, Arcada University of Applied Sciences

C.1.3 Other Stakeholders

- Paula Eerola, President, the Academy of Finland
- Sanna Nieminen, Ministerial Adviser, Ministry of Finance
- Annika Klimenko, Deputy Director General, Ministry of Finance
- Antti Pelkonen, Science Specialist, the Prime Minister's Office
- Antti Vasara, President & CEO, VTT
- Elina Pykkänen, Under-Secretary of State, Ministry of Economic Affairs and Employment
- Joonas Soukkio, President of the board, SAMOK
- Kyösti Värri, Senior adviser, Finnish Association of Municipalities
- Lotta Leinonen, President, National Association of University Students in Finland
- Marja Vartiainen, Educational Affairs Specialist, The Federation of Finnish Enterprises
- Mika Tirronen, Team Finland Knowledge specialist at the Embassy of Finland in New Delhi
- Pasi Pohjola, Director of Strategic Affairs, Ministry of Social Affairs and Health
- Rikka Heikinheimo, Director, Confederation of Finnish Industries
- Riina Nousiainen, Senior Adviser, The Finnish Confederation of Professionals (STTK)
- Sanna Marttinen, Executive Director, Finnish Partnership for Research Institutes (Tulanet)
- Tiina Korhonen, Director General, Regions and Growth Services, Ministry of Economic Affairs
- Timo Metsä-Tokila, Executive Director, Business Finland

C.2 Institutional visits

The evaluation team conducted 10 site visits during March 2023.

Name of the HEI	Type	Location	Town	Size of the HEI
University of Helsinki	University	Capital - Helsinki	Helsinki	Largest university
Metropolia University of Applied Sciences	UAS	Capital – Helsinki	Helsinki	Largest UAS
University of Lapland	University	Regional – North Rovaniemi	Rovaniemi	Small university
South-Eastern Finland University of Applied Sciences	UAS	Regional – East - Mikkeli	Mikkeli	Large UAS
Novia	UAS	Regional – West	Vaasa	Small UAS
Tampere University of Applied Sciences	UAS	Regional – Central Finland - Tampere	Tampere	Large UAS
Turku University of Applied Sciences	UAS	Regional – West- Turku	Turku	Large UAS

Aalto University	University	Capital - Helsinki	Helsinki	Large university
University of Jyväskylä	University	Regional – Central Finland - Jyväskylä	Jyväskylä	Medium university
JAMK University of Applied Sciences	UAS	Regional – Central Finland - Jyväskylä	Jyväskylä	Medium UAS

For each visit, the evaluation team met with between 3 and 5 different groups, representing different parts of the institution as well as key external stakeholders. In a few cases where interviewees were unavailable on the day of the visit, follow-up interviews are conducted remotely at a different day. The table below outlines the schedule of the evaluation team's visit to Turku University of Applied Sciences, for illustration.

Table 10 Schedule for institutional visit to Turku University of Applied Sciences

Time	Activity
9.45	Arrival
10.00 – 11.00	Board and management team members of Turku
11:00-12:00	Meeting with the resource planning and quality management team
12:00-13:00	Lunch
13:00-14:00	Meeting with the student representatives
14:00-15:00	Meeting with the staff representatives
15:00-16:00	A recap session with the rector and some other management team members

Source: Technopolis and 4Front

C.3 Interview guides

C.3.1 Interviews with higher education institutions

A: Influence of the governance and funding (Evaluation Question 2)

1. Influence of the current system on university strategy (Survey section C)
 - Exercising institutional autonomy
 - Developing new strategic initiatives
2. Influence on human resource management and policy (Survey section D)
 - Influence on hiring and firing.
 - Ability to attract/retain talent
 - Ability to attract international staff
3. Influence on internal resource allocation (type of influence / extent) (Survey section B)
4. Influence on collaboration with ecosystem stakeholders (Survey section G)
 - Influence on collaboration with other HEIs

- Influence on collaboration with ecosystem
- Influence on international collaboration

B: Future challenges (opportunities and threats) (EQ 3a)

5. Ability to meet government goals: (
 - 50% of the population to have tertiary education degree (Survey section E)
 - 4% GERD/ GDP (Survey section F)
 - *Internationalisation – increased international student numbers (BA)* (Survey section H))
6. Funding higher education (Survey section B)
 - Role of fundraising / capital investment
 - Role of tuition
7. Contribution to skills and labour market / societal challenges. (Survey section I)
 - Contribution to skills (general)
 - Life-long learning; Micro-credentials; continuous learning
8. Other challenges (Survey section I)
 - Digitalisation
 - Geopolitical context

C: How would you change the current governance and funding practices (EQ 3b)

9. What works/doesn't work in the current system? (Survey section J)
10. What would you change? (Survey section J)
 - Medium/long term

C.3.2 Visits and stakeholder interviews

Table 11 Question guide for visits and interviews (with indicative timing based on 45-minute duration)

Questions	Prompts			
	HEI management	Departments / academics	Students	Stakeholders
A: influence on HEIs	15 min	20 min	10 min	15 min
1. Strategic decisions	<ul style="list-style-type: none"> Exercising institutional autonomy Developing new strategic initiatives 	n/a	General question: What do you think about the current government funding and governance of higher education? What are the consequences for your university/UAS?	Does HEI strategy 'make sense' in terms of local/regional needs?
2. HR policy and management	<ul style="list-style-type: none"> Influence on hiring and firing. Ability to attract/retain talent 	<ul style="list-style-type: none"> Influence on hiring and firing. Ability to attract/retain qualified staff 		n/a
3. Internal allocation of funding	<ul style="list-style-type: none"> Influence on internal funding allocation 	<ul style="list-style-type: none"> Influence on internal funding allocation 		n/a
4. Collaboration with ecosystem	<ul style="list-style-type: none"> Influence on collaboration with other HEIs Influence on collaboration with ecosystem Influence on international collaboration 	<ul style="list-style-type: none"> Influence on collaboration with other HEIs Influence on collaboration with ecosystem Influence on international collaboration 		<ul style="list-style-type: none"> What is the interaction like between the HEI and the ecosystem? Do they know how to collaborate well? Do HEIs have incentives to do it?
B: Future challenges	15 min	15 min	30 min	20 min
5. Meeting government goals	<ul style="list-style-type: none"> 50% of young people in higher education 4% R&D intensity Internationalisation 		<ul style="list-style-type: none"> 50% goal: Attracting young people to higher education 4% R&D intensity: Attracting students to a career in R&D (Academia or business) Internationalisation: 	

Questions	Prompts			
	HEI management	Departments / academics	Students	Stakeholders
			<ul style="list-style-type: none"> - Foreign students in Finland - Attractiveness of outward 	
6. Funding higher education	<ul style="list-style-type: none"> • Role of capital investment • Role of external funding • Role of tuition fees 	<ul style="list-style-type: none"> • Role of external funding • Role of tuition fees 	<ul style="list-style-type: none"> • Role of tuition fees 	<ul style="list-style-type: none"> • Role of external funding
7. Contribution to skills / labour markets	<ul style="list-style-type: none"> • Contribution to skills (general) • Life-long learning; Micro-credentials; continuous learning 	<ul style="list-style-type: none"> • Contribution to skills (general) • Life-long learning; Micro-credentials 	<ul style="list-style-type: none"> • Student outcomes, destinations 	<ul style="list-style-type: none"> • Supply of qualified people • Upskilling and re-skilling
8. Other challenges (open)	<ul style="list-style-type: none"> • Digitalisation; incentives for implementation 	<ul style="list-style-type: none"> • Digitalisation; incentives for implementation 		
C: Future governance and funding	15 min	10 min	5 min	10 min
9. What works / doesn't work in the current system?	[open]	[open]	[open]	[open]
10. What would you change?	[open]	[open]	[open]	[open]

Appendix D Profile of the higher education system of Bavaria

D.1 Structure of the HE system and their ecosystem

In Bavaria (currently 13 Mio. inhabitants and around 400.000 students in higher education) there are ten state and six non-state **universities**. This includes universities with a long tradition like University of Würzburg or Ludwig-Maximilians-University Munich (both founded in the 15th century). A number of universities in smaller cities was founded in the 70/80s as part of a German-wide surge of establishing universities (and even more universities of applied sciences) to address regional disparities in the university landscape. The youngest Bavarian university (University of Technology Nuremberg) was officially founded in 2021 and is currently set up. In addition, there are also non-Bavarian universities that are entitled to conduct courses of study in Bavaria. This includes the Ukraine Free University (established in 1921 and re-located from Prague to Munich in 1945), the only university outside Ukraine offering courses in Ukrainian, German and English and entitled to award master's and doctoral degrees.

Similar to the situation in Finland, the higher education system in Bavaria also includes **universities of applied sciences (UAS)**. The mission of UAS in Bavaria has a focus on teaching, but – as a result of development of institutional profiles in the last 20 years - seem to be somewhat more comprehensive (e.g. including research elements) than for UAS in Finland (see section below). Currently, there are 17 public and 7 private UAS as well as 8 universities art colleges in Bavaria.

Table 12 Overview of the university landscape in Bavaria

	Number of institutions
Universities	
Public Universities	10
Non-public Universities*	6
Universities of Applied Sciences	
Public Universities of Applied Sciences	17
Non-public Universities of Applied Sciences *	2
Private Universities of Applied Sciences	5

Source: Bavarian State Ministry of Science and Art; * universities/UAS governed by the church or the Federal Ministry of Defence (Universität der Bundeswehr)

The **institutional profiles** vary widely from teaching-oriented universities of applied sciences to research-intensive universities such as Technical University (TUM) Munich and Ludwigs-Maximilian-University (LMU) Munich (TU Munich ranked on position 30 by Times Higher Education World University Ranking and number 1 in Germany; LMU 33 worldwide and number 2 in Germany).

In recent years more and more universities of applied sciences have put a stronger focus on research (e.g. Hochschule Ingolstadt or Hochschule München, which are heavily benefitting from its proximity to car manufacturers such as Audi (headquartered in Ingolstadt) and BMW (headquartered in Munich)). In general, the differences between profiles of universities and (some) universities of applied sciences are increasingly fluid, partly also because of recent legal reforms which gave UAS the right to award doctoral degrees. However, in broad terms the

focus on teaching is still dominant at UAS (despite changes in the legally defined missions of UAS – see below).

D.1.1 *Legal framework and defined missions*

In Germany the federal states have the constitutional right to govern the university system in their own region. Thus, the legal framework is mainly defined by state rules (as opposed to federal level rules). There are some exceptions, for example on regulations concerning the labour contracts of junior researchers or the remuneration schemes for professors. However, in principle federal states are responsible for funding and governance universities. The following description thus focuses on the Bavaria only.

The legal framework in Bavaria was recently newly designed with the Bavarian Higher University Innovation Act (BayHIG⁵⁹) – the fundamental legal framework for higher education in Bavaria. The act has been debated between the state and stakeholders for around 5 years and has come into force in January 2023.

The missions of universities and UAS are directly defined in the BayHIG in two levels: overarching missions for all types of higher education institutions as well as missions tailored to universities and UAS.

The **overarching mission** for all types of higher education institutions as defined in Art 2 BayHIG comprise:

- Excellent research and teaching
- Contributing to/shaping the digital and ecological turn
- Knowledge and technology transfer including support the start-up ecosystem.
- Science communication
- International cooperation

In fulfilling their missions, universities are also obliged to contribute to the preservation of nature and biodiversity, climate protection and education for sustainable development.” (Art. 2. BayHIG)

There are also **differentiated missions** of universities and UAS stipulated by law (Art. 3 BayHIG).

- **Universities** are responsible for the advancement of the sciences through basic and application-oriented research and science-based teaching. The aim of teaching at universities is to enable the independent development and application of scientific methods and findings in science and professional practice.
- The **UAS** shall provide a qualification through application-oriented teaching that enables students to independently apply and further develop scientific methods in professional practice. They conduct application-oriented research and development.

The differences are somewhat subtle, but still notable and important for the governance and funding system in HE in Bavaria. The differences can be shown by two examples.

- Example 1: Universities shall enable students to “develop scientific methods”, while UAS shall put students in a position to “apply and further develop” scientific methods”

⁵⁹ The abbreviation BayHIG is used in the following for the Bayerisches Hochschulinnovationsgesetz, the reformed Bavarian Higher Education Act which came into force in January 2023.

- Example 2: Through the BayHIG, the UAS have now a stronger mandate also to conduct research, this objective was not clearly stipulated in the earlier Higher Education Act. Therefore, basic funding for research at UAS was basically non-existent

The basic idea of this differentiation between UAS and universities is still visible in the higher education landscape in Bavaria although – as noted above – differences are increasingly blurry. This is specifically the case between research-intensive UAS (some of which are also active in basic/fundamental research and are also represented in the Wissenschaftsrat - Science and Humanities Council⁶⁰) and less research-intensive universities.

D.1.2 Autonomy of universities in Bavaria

In general, universities in Bavaria have in the past had a “medium to high autonomy” according to the assessment by European University Association. Autonomy is rated as high on academic autonomy, lower on financial autonomy. This can be seen – for example - in arrangements like the allocation of staff positions from the state to the universities (Art 5 Bay HIG) or the fact that – by default, changes are possible – the ownership of facilities and buildings and the responsibility for construction works remains with the state. Like different other regulations, this element of university autonomy has however changed with the recent higher education law. It states now that “upon application, universities may be granted the responsibility (“Bauherreneigenschaft”) for individual construction measures or for all construction measures as well as for real estate (Art. 14 BayHIG). In addition, there are now more opportunities for universities to manage funds allocated to them via so-called global budgets (block funding, lump-sum budgeting, one-line budgeting).

The following table gives an impression about the stakeholder landscape in the Bavarian higher education system.

Table 13 Main stakeholders and responsibilities

Stakeholder organisation	Main responsibilities
Bavarian State Ministry of Science and Art	The ministry is responsible for the development and implementation of policies related to higher education, science, and research in the state of Bavaria. It oversees the funding of universities in Bavaria by allocating concrete positions and further funds to the university. Until recently, the Ministry also formally appointed professors at Bavarian universities. It still does have to approve of the President of the university and appoints the external members of the university council (Hochschulrat).
Bavarian State Parliament	The state parliament is responsible for passing laws related to higher education, science, and research in Bavaria. It also has a role in the approval of the state budget, which includes funding for universities and research institutions.
Bavarian University Association (Universität Bayern e.V.) Bavarian Association of Universities of Applied Sciences (Hochschule Bayern e.V.)	The Bavarian University Association (similar to a Rectors' conference) as well as the sister organisation for UAS represent the interests of universities in Bavaria. They advocate for the needs of universities in Bavaria in matters related to higher education policy and funding. In the context of the recent higher education act reform, specifically Universität Bayern e.V. voiced various concerns in a position paper in an early phase of the debate on the reform.
Hochschule Dual	Hochschule Dual was founded in 2006 as an initiative of all state universities of applied sciences in Bavaria, with the aim of providing a comprehensive

⁶⁰ https://www.wissenschaftsrat.de/SharedDocs/Pressemitteilungen/DE/PM_2023/PM_0723.html

Stakeholder organisation	Main responsibilities
	range of dual academic study programs. Hochschule dual is supported by the Bavarian State Ministry of Science and the Arts.
Virtual University Bavaria	The Virtual University of Bavaria (vhb) is a network of 33 universities in Bavaria which focus on sharing digital teaching offers. Vhb promotes and supports the development of digital teaching units. All courses are developed by professors from the host universities and can be used across university boundaries. In some courses, ECTS credits can be earned for studying. These courses are available free of charge to all students host universities. Other course offers ("open vhb") can be used by everyone, without the requirement of being enrolled at a university.
Landes-ASTen-Konferenz (LAK, association of the student representation bodies in the universities of Bavaria)	The Landes-ASTen-Konferenz (LAK) Bayern is the association of all elected student representatives in Bavaria. It assumes the tasks of the State Student Council in accordance with Art. 29 BayHIG. As a state-wide umbrella organisation, LAK Bayern is the mouthpiece of Bavaria's students and represents their interests vis-à-vis other associations, politics and society.
Trade Unions like GEW or ver.di	Labour unions are actively involved in the debates around working conditions at universities in Bavaria as well as Germany as a whole. Specifically in a recent debate (spring 2023) on possibilities for fixed-term employment for young researchers, the trade unions have been very outspoken.

Various other organisations have an influence on the Bavarian higher education system, although they are active on the federal level and not the state level. This includes the Federal Ministry for Education and Research, but also organisations like the Germany Science and Humanities Council (the most important advisory body on science policy in Germany) or the Joint Science Conference⁶¹.

D.2 Headline national policy priorities and initiatives

The most important relevant recent overarching science, technology and innovation policy strategy in Bavaria is the so-called "Hightech Agenda" (not to be confused with the Hightech-Strategy, an important policy strategy of the federal level in Germany since 2020, just recently replaced by the Future Strategy in February 2023).

The Bavarian Hightech Agenda has four pillars:

- The AI and SuperTec- Programme (€600m)
- Renovation and acceleration programme focused on research infrastructure/buildings (€600m)
- A higher education reform (€400m) (covered in detail below)
- Funding for innovation in the German „Mittelstand“ (SMEs) focusing on digitisation €230m, start-ups (€50m) and the automotive industry (€120m)

The BayHIG addressed various dimensions of higher education governance, like giving more autonomy to HEI, less state micromanagement, more options to use state funds strategically by the university ("innovation fund"), changed rules for recruitment of professors, more focus

⁶¹ In the Joint Science Conference, representatives of the Federal level and states in Germany deal with all questions of research funding, science and research policy strategies and the science system which jointly affect the Federal Government and the Länder. Whilst preserving their own competences, the members of the GWK strive for close coordination on questions of common interest.

on entrepreneurship and start-ups is part of the Hightech Agenda. Details of the BayHIG are sketched below.

D.3 Funding and governance of higher education

Research and teaching at universities in Bavaria are mainly financed via basic funding or block grants.⁶² A further important source of income is third-party funding, acquired in mostly competitive procedures by scientists of the respective institution in order to finance specific projects.

Student tuition fees are not a relevant factor in financing universities in Germany, as tuition fees are only relevant in exceptional cases.

Tuition fees in Germany

Since 2014, there are no general student tuition fees at public universities in any German federal state. In some federal states, including Bavaria, there are still exceptions for long-term students, for part-time students, for foreigners from outside the EU or so-called "senior students" (retirees or older people taking classes at a university). Another special case is distance learning, because this model is mainly offered by private universities. Depending on the degree programme, the tuition fees for the exceptions mentioned above can amount to up to €2,000 per semester. In addition, there are semester fees, which amount to between €100 and €150 depending on the university. For international students, there are no maximum fees defined by law introduced in January 2022. It is expected that at least some universities in Bavaria (like TU Munich) will make use of the new regulation for foreign students and charge fees. As of now, there is no information on the amount of fees. Judging from the practice of universities in the neighbouring state of Baden-Württemberg these will be around €1,500-2,000 per semester.

D.3.1 Relation between basic funding and third-party funding

After many years of steady growth in both absolute third-party funding income and the share of third-party funding in university budgets, the trend has reversed since 2013. From a peak of around 28.1 per cent achieved in 2013, the ratio has been stable or slightly declining. This development was supported by a new dynamic on the part of basic funding. Since 2010, the growth rates for basic funding have averaged 4.3 percent per year, while third-party funding has experienced only small increases after initially averaging 5.6 percent in the years 2010 to 2014, especially in 2015 (1.8 percent) and 2016 (0.7 percent).

Currently (figures for 2019) the ratio of third-party funding in relation to the sum of basic and third-party funding is around 30% for universities and 14% for UAS (numbers for Germany as a whole, 2019, Source: DFG Förderatlas 2021). Other sources report for the year 2020 the "third party funding ratio" of around 21% (for research and teaching taken together) and 45 % for research only (Wissenschaftsrat 2023).

The following table gives a headline overview on the budgets of one large research-intensive university (LMU Munich, around 50.000 students) and a small teaching-oriented university of applied sciences (UAS Coburg, around 5.000 students). Both examples are taken up further down in this case study on the section performance agreements and the funding related to it.

⁶² Some universities also have a share of administrative income that even exceeds the basic funds – but only if they have a university hospital that is responsible for the majority of the income registered here. As this is special case university hospitals are excluded from the following analysis.

Table 14 Exemplary headline budget of two Bavarian universities: Ludwig-Maximilians-University Munich and. University of Applied Sciences Coburg (in million €)

	LMU Munich (2021)	UAS Coburg (2022)
Basic funding	516,2 (69,4%)	41,01 (81,5%)
Third-party funding, including funds from	187,2 (25,2%)	8,73 (17,4%)
German Research Foundation (DFG)	73,3	0
EU	25,6	-
Federal Level Funding	30,8	5,35
Allocations from Excellence Strategy	27,1	0
Other third-party funds	30,4	-
Income/economic activities	40,5 (5,4%)	0,56 (1,1%)
Total	743,9 (100%)	50,3 (100%)

Sources: <https://www.lmu.de/en/about-lmu/lmu-at-a-glance/facts-and-figures/budget/index.html>; figures for LMU Munich exclude numbers for the university hospital; <https://www.hs-coburg.de/ueber-uns/zahlen-daten-fakten.html#c5539>

In a current position paper, the Science and Humanities Council in Germany criticises the ratio of 45-55 “third party funding” vs “basic funding” for research as not sustainable and calls for a re-adjustment of this ratio (Wissenschaftsrat 2023). Part of the problem discussed by the Wissenschaftsrat is covering the overhead costs of research projects funded by third-party funding. Research funders pay a lump sum for overheads related to research projects, but this has been criticised as not sufficient and “cannibalising” the basic funding at universities.

D.3.2 Funding principles/ways of funding and implications for funding

Basic funding is – as shown above – the main source of funding for higher education institutions in Bavaria. The main part of the funding is “needs-based”, where the allocation of specific post/positions and further resources is negotiated and set in a way that it is “appropriate for the fulfilment of the tasks of the universities (Art 11 BayHIG).

Within this setting, performance and target agreements play an important role in the governance between the states of Bavaria and the HEI. The BayHIG regulates the following rules related to performance and target agreements between HEI and the state (extracts from Art 8 BayHIG “Strategic Governance”):

- For the strategic management and further development of higher education and for securing and strengthening the ability to innovate, framework agreements are concluded between the state and universities. The framework agreements, which are valid for several years, contain statements on medium-term resources and serve to create planning security for the universities
- The ministry furthermore concludes university contracts with the individual higher education institutions in accordance with the state budget, generally for several years. These contracts define the university-specific focal points and tasks. In particular, the profile development and strategic development goals of the individual higher education institution as well as specific performance objectives of the higher education institution are covered
- The ministry may request anonymised data from the universities for the purposes of strategic university management, controlling, evaluation and statistics

- If a university contract is not concluded, the ministry may, after consulting the university and setting a reasonable deadline, unilaterally set the subjects of the contract as objectives if this is necessary to ensure the university development of the respective university

D.3.3 Content, scope, level of detail of performance agreements in Bavaria

The system of performance contracts between the state and the universities has two layers.

- Since 2005, Bavaria has agreed on multi-year so-called **innovation alliances** ("Innovationsallianzen", framework target agreements) with the universities, in which higher education policy goals and the services and contributions required for their implementation are agreed. In particular, the innovation alliances are intended to create financial planning security - in return for agreeing on higher education policy objectives and achievements. The innovation alliances are openly available and signed by all university heads in Bavaria as well as the Prime Minister and the Minister for Education and Research
- The common objectives of universities and the state, as defined on the basis of innovation alliances are concretised and implemented by **bilateral target agreements**. The state and universities jointly determine priorities for the development and profiling of the individual university. The way in which objectives are achieved is the responsibility of the universities. The state withdraws from detailed control in the implementation. This operational business is the responsibility of the universities, which have been strengthened in their autonomy

The following gives some details about the framework target agreements as well as the common elements of the individual target agreements (the most recent framework target agreement is from 2018). The framework agreements cover high level objectives. For example, agreements like the following are common in the framework agreements:

- "The universities are expanding their research strengths and further profiling their internationally competitive research priorities. To this end, they participate in the relevant federal-state programmes and EU funding programmes. They are striving for further success in attracting third-party research funding."
- "The universities will regularly check whether individual degree programmes should be cancelled or merged due to insufficient demand or a negative development of demand forecasts. Universities will not make subject and degree programme decisions solely on the basis of quantitative factors. Each course of study and each subject is evaluated in its importance for the overall picture of the university and the nationwide range of courses."
- "Academic continuing education is strengthened by the universities."

As can be seen from these examples, the framework target agreements do not have a direct steering of governance effect for the universities. They can be seen as a broader strategy document, covering the overarching political guidelines for the coming years.

The individual target agreements between universities and the state seem thus to be more important in the context of this study – mainly because they are more concrete instruments to steer and fund universities in Germany. Given the large heterogeneity in institutional profiles, the following section will present some examples from target agreements from a large research-based university (LMU München) and a smaller teaching-oriented university of applied sciences.

LMU Munich

The target agreements⁶³ (covering the period 2019-2022) of LMU Munich (annual budget of around €740m in 2021, excluding the hospital university – see Table 1) with the state of Bavaria cover four broad areas: research, junior academic staff (doctoral and post-doctoral phase, junior professors), teaching, transfer/societal impact. For each of these areas, concrete funds (per year) are earmarked for specific activities (e.g., €1.2m p.a. for research infrastructures; €400k p.a. for mentoring programmes for post-doctoral researchers, €350k p.a. for innovative teaching methods (MOOCS, digital tools, teaching innovation price), €400k p.a. additional funding for women professors to reach gender equality goals, €200k p.a. for support to combine private and professional life (child care, dual career activities etc))

At the end of 2021 the university has to report on the achievements regarding the agreed goals. For this purpose, specific indicators (“measurement criteria”) are explicitly listed in the agreement. If the agreed criteria are met, LMU will retain the resources according to this target agreement. If the objectives are not achieved, LMU has the opportunity to prove that this was due to reasons for which it is not responsible, although it has taken the necessary and appropriate actions to achieve the objectives. If this evidence is not convincingly substantiated, the resources agreed on in the target agreement will not be allocated for the year 2022.

University of Applied Sciences Coburg⁶⁴

The UAS Coburg was established in 1971. It currently has around 5000 students and an annual budget of around €50m (see Table 1). The university offers bachelor’s and master’s degree programmes in the areas of economics, technology, natural sciences and computer science, social work and health as well as building, design and design. The research intensity of the university is relatively low compared to all German higher education institutions, which is in line with its profile as teaching oriented university of applied sciences. Among its peer group of UAS the university has an above average performance with respect to success in attracting third-party funding.

For the target agreement UAS Coburg focuses on four areas: interdisciplinarity, knowledge and technology transfer, “individual support” (e.g. mentoring and other support mechanisms along the student life cycle) and measures to promote gender equality.

Exemplary measurement criteria from the target agreement comprise elements like “at least two new interdisciplinary courses have been implemented”, “the digital infrastructure have been improved”, “the branding and public perception of the university is strengthened”, “at least two continuous training offers are implemented”, “the number of (international) outgoing and incoming students has increased compared to 2017” or “as of 31.12.21, the proportion of women in professorships is about 21%.”

The monitoring mechanisms of the target agreement correspond to the mechanisms describe above: The university has to report on the achievements regarding the agreed goals. If the goals are reached the university keeps resources also for the year 2022. If not – and if this is the responsibility of the university - the resources will not be allocated for the year 2022.

Overall, it must be noted that share of funds covered in the target agreement – and which can be withdrawn if the measurement criteria are not met - is low. For LMU Munich the funds

⁶³ The document is available in German here:
https://www.stmwk.bayern.de/download/8901_endfassung_zv_lmum.pdf

⁶⁴ The target agreement is available in German here:
https://www.stmwk.bayern.de/download/8910_endfassung_zv_haw_coburg.pdf

mentioned in the target agreement cover around 1% of the funds allocated per year from the state to the university. For UAS Coburg this number is around 1,5%. This shows that the governance and steering mechanisms in Bavaria are not directly related to “financial penalties”. Not meeting the measurement criteria would not have severe impacts on the finances of the university. In addition, it can be observed that the measurement criteria also include rather soft criteria (“improve the branding and media public perception of the university”). This means that a direct measurement (like it would be possible for SMART criteria) of the achievements is not always possible.

D.3.4 Further third-party funding and thematic areas

Apart from performance and target agreements within the funding arrangements between the universities and the state of Bavaria, funding programmes on specific strategic topics play an important role for “governing through financing”. These programmes are often set up in cooperation of the Federal level and the states in Germany, although there are also programmes for specific federal states only. The joint programmes of the states and the Federal level are often larger and generate much more visibility and “management attention” among university leaders. Universities need to apply to these specific programmes and need to fulfil specific requirements to receive funding. Often, it is also a requirement that the activities for which funding is requested be embedded in an overarching institutional strategy. This intends to ensure that structural changes within the university are triggered and the funding is not only seen as “one of many projects” at a university.

Thematic areas in which developments at universities are pushed by providing additional third-party funding include the following.

- **Excellence in Research** (“Excellence Strategy”, most prominent initiative to support research intensive, large universities; it entails different funding lines, the most important one is called “Excellent Universities”, universities can apply for €10 to 15m per year or €15 to 28m in case of university cooperation. For the application an institutional strategy for the further development of the university as a whole is assessed by an international jury. In each funding round, 11 universities/university alliances can be selected. The Excellence Strategy has a yearly budget of €533m, it has no defined end date
- **Knowledge transfer and regional connectivity** (for example through the programme “Innovative Hochschule”). This programme is linked to the policy priority of knowledge transfer, a topic which has been high on the agenda both at the federal and Bavarian level. The funding initiative was adopted in 2016 and is force until the end of 2027. The Federal Government and the Länder are providing a total of up to €550m for projects at universities which advance the institutional knowledge transfer strategies and instruments. In the area of regional connectivity, a further flagship program called “Deutsche Agentur für Innovation und Transfer” was announced in the current government's coalition plan (from November 2021). It has not been translated into a concrete concept though
- **Career support and development of young researchers, establishment of the tenure track model** as relatively new career path in Germany (“Tenure Track Programme”). With this programme policy makers want to push the establishment of the tenure track model, but at the same time providing funds for universities to professionalise their career support/HR support mechanisms. Currently around 1,000 additional tenure-track professorships at 75 universities throughout Germany are funded. The federal government is providing a total of up to €1b for funding over the period from 2017 to 2032
- **Equal opportunities, promotion of female professors** (Professorinnenprogramm): In order to support women in their scientific careers and to increase their share of female professorships at German universities, the Federal Government and the Länder launched the Women

Professors Programme in 2008. The Federal Government and the Länder have made €500 m available between 2008 and 2022 and further €320 m for the 2030 Women Professors Programme (2023 to 2030). Half of the funds are provided by the Federal Government and half by the Länder

D.4 Notable initiatives or policy reforms of interest

As was mentioned above, the Bavarian state recently introduced the Bavarian Higher University Innovation Act (BayHIG⁶⁵) – the fundamental legal framework for higher education in Bavaria. The reform was initiated at the end of 2018 by an exchange and discussion process with university stakeholders, followed by a further consultation process. The debates on the reform proved difficult at times: The law was originally supposed to be passed by the state parliament before the summer break in 2021, but after headwinds from the university landscape and the opposition, the then minister gave more time for discussion – and later on had to step back from his position as the progress on the reform was sluggish.

Among the controversial issues in the law were the following:

- While all parties agreed on the goal of giving universities more autonomy, universities feared that detailed target agreements of university contracts would be detrimental for their autonomy. They pleaded for defining a clear distribution of responsibility and a lean process to monitor the achievements defined in the target agreements.⁶⁶
- The right to award doctoral degrees for UAS⁶⁷: while UAS were lobbying for it, university representatives argued that could endanger the level of scientific excellence and also argued that UAS would subsequently ask for additional research staff and lower teaching loads – issues that would jeopardise the relative advantage of university compared to UAS – at least from the perspective of university leaders.
- Highly controversial were also issues of the internal governance of universities: specifically student representatives, but also representatives of researchers criticised that non-professor scientific staff and the administration staff no longer have fixed voting shares in the central committees of the universities. They also feared that “essential tasks of democratically legitimized bodies such as the Senate are shifted to the executive responsibility of the university management, without this being subject to adequate control.”⁶⁸ The law was later on adapted in a way that allowed universities “experimentation” with different internal governance forms, but that the established participative decision-making processes remained the standard.
- The opposition also criticised that the level of basic funding for universities remained the same and was not increased.

⁶⁵ The abbreviation BayHIG is used in the following for the Bayerisches Hochschulinnovationsgesetz, the reformed Bavarian Higher Education Act which came into force in January 2023.

⁶⁶ See <https://www.unibayern.de/assets/Uploads/positionen/Positionen-der-Universitaeten-zum-Hochschul-innovationsgesetz.pdf>

⁶⁷ The final HE bill regulated that UAS can apply for the right to award doctorates degrees in subject areas for which a certain research strength can be proved (among others a sufficient number (at least 12) of research-active professors at the UAS, see Implementing Rules to the Bavarian Higher Education Innovation Act, §13). The applications are reviewed by a committee consisting of five external, independent representatives from science, non-university research and industry. The right to award doctoral degrees is awarded by the State Ministry for seven years; a successful evaluation leads to an extension. Collaborative applications from up to four UAS are also possible.

⁶⁸ See position paper on the website of the Bavarian student representatives: <https://hochschulvision.bayern/2021/05/25/innovationsdrang-auf-kosten-der-demokratie/>

Despite the controversial discussions, the law was passed in the Bavarian State Parliament on 21 July 2022. Its primary objectives are:

- Higher “agility” and flexibility in the higher education sector: Universities (and Universities of Applied Sciences) are given more freedom to operate and can increase their flexibility in the use of resources, for example concerning more flexible personnel management (Art. 11 BayHIG). A new strategic instrument is the Innovation Fund (Art. 11 BayHIG): universities are to allocate resources to this innovation fund and use them for targeted participation in new state programmes (“matching”). Observers, however, see this Innovation Fund as only of limited relevance. In practice it would mean that universities would have to save costs at some point in order to withhold funds to be used to match the new state programmes. The level of funding overall is, however, not raised by this instrument.
- On the basis of an innovation clause (Art. 126 BayHIG), the universities and UAS are given freedom to try out individual options for their internal organisation. This clause reacted to the criticism mentioned above and can be seen as a cut-down version of the institutional reforms in originally announced by the minister. In essence, the status quo remained the same, with the mere option to experiment with other formats. So far there are no known cases of universities having made use of the innovation clause.
- The promotion of innovation through suitable measures and institutions is explicitly declared to be a part of university missions (Art. 2 and 17 BayHIG). Centres for the promotion of start-ups are set up and expanded at all universities in Bavaria. In addition, there are more possibilities for entrepreneurship teams using the university infrastructure at no or reduced costs (Art. 17 BayHIG) as well as “start-up sabbatical semesters” for professors (Art. 61 BayHIG). The possibility for universities to set up or become shareholders in companies is also facilitated.
- Similarly: The research mandate of the UAS (Art. 3 BayHIG) is strengthened and knowledge and technology transfer as a task of all types of higher education institutions is made explicit in the law (Art. 2 BayHIG). Transfer is also confirmed as a service task of professors (Art. 59 BayHIG). At the same time, technology transfer centres are being further developed in all regions of Bavaria.
- Other changes relate to staffing and recruitment of professors (recruitment of professors is taking notoriously long in Germany). In addition to the traditional open recruitment procedure, a direct appointment is defined as a second “standard recruiting procedure”. As a new instrument, the “Excellence Appointment” (“Exzellenzberufung”) is introduced, which will enable a faster and easier appointment by the president and the responsible dean with the involvement of the respective faculty council. (Art. 66 BayHIG).
- The universities and also UAS now have the opportunity to assign professors a predominant or exclusive activity in research with no teaching obligations (research professorships or profile professorships; Art. 59 BayHIG). Research sabbatical semesters are now possible to support professors with family obligations (Art. 61 BayHIG). For teaching, similar rules were introduced: professors at universities and art institutes can be nominated as “teaching professors”/lecturers on the basis of Art. 59 BayHIG. They thus have obligations exclusively or predominantly in teaching, deviating from the rule that university professors in general cover both fields.

All in all, university representatives as well as representatives from Universities of Applied Sciences were mainly supportive of the reform in its final version. In addition, student representatives were at least pleased that their criticism had led to the ministry taking back some of the reforms concerning the internal governance of universities.

In summary, the reform plans had initially raised huge expectations in several reform plans. Observers described the final outcome of the reform, however, as “evolution instead of revolution”.

D.4.1 Evidence of effects of initiatives or policies

As the reform of the Higher Education Act has only been in place since 1 January 2023, there are currently no evaluations or systematic studies based on evidence. Existing “ex-ante assessments” are all based on the respective stakeholder position (university rectors fear that the increased autonomy of universities is not sufficient to be able to govern their institutions with enough flexibility; professors and student representatives point out that in their opinion a reduced participation of all groups (lack of democratic spirit) at universities will reduce societal acceptance of universities and give the university heads too much leeway for decision-making; unions point out the high rate of junior researchers (prae and post doc) with fixed-term contracts and the lack of career prospects for junior scientists in the German science system).

A neutral, systematic assessment of the effects of the Bavarian Higher University Innovation Act will thus have to be done in the future.

D.5 Lessons for Finland

Given the fact that the reforms described in this case study have only been implemented in early 2023, there are no empirical evaluations on the new regulations which could be assessed as a basis for deducing lessons for Finland. However, the following more points could be relevant for consideration in the Finnish context:

- The differentiation of the types of universities in Bavaria (and in Germany as a whole) is becoming increasingly blurry. Specifically, differentiation of universities of applied sciences and universities is getting less clear than before. For example, the UAS in Bavaria can now apply for the right to award doctoral degrees themselves and also have the formal mission to conduct research (instead of teaching obligations only). Similar developments can be seen in whole of Germany.
- With respect to external governance regulations, it seems that the autonomy enjoyed by higher education institutions in Finland is higher than in Bavaria – at least before, possibly also after the introduction of the reforms in Bavaria in early 2023. Recent developments in Bavaria indicate a trend towards granting more autonomy to Bavarian universities (e.g. ranging from matters of the internal governance of universities to the formal responsibility for buildings and construction projects or the nomination of professors). Also, a shift can be noted towards a stronger use of block grants instead of detailed specific budget lines.
- Relating to funding matters, the share of external funding in Bavaria seems comparable to the situation in Finland – although this heavily differs from institution to institution, both in Germany and Finland. However, it is relevant to mention that the relative shares of basic and third-party funding at universities in Germany are currently subject to a debate, fuelled just recently by a position paper of the Science and Humanities Council in Germany criticising the current ratio of 45-55 “third party funding” vs “basic funding” for research as “not sustainable”.
- The fact that the new higher education law includes the possibility to test other, “innovative” ways of internal governance in institutions might be of interest. So far, there is no evidence on how this “experimentation clause” will be used by the universities in Bavaria in practice. However, it seems like a good way to allow “innovation” in the governance of universities.

Appendix E Profile of the Irish higher education system

E.1 Structure of the HE system and their ecosystem

The higher education system in Ireland consists of universities, institutes of technology and colleges of education as well as additional third level institutions providing specific fields of education such as art and design, medicine, business studies, theology, music and law. Most universities in Ireland are state funded, but they are generally autonomous.⁶⁹ The table below provides a summary of the different public funded higher education institutions (HEIs) in the country.

Table 15 Publicly funded higher education institutions (HEIs)

Universities	Institutes of technology	Colleges	Other institutions that receive public funding
<ul style="list-style-type: none"> • University College Dublin • University College Cork • University of Galway • Maynooth University • University of Limerick • Trinity College Dublin • Dublin City University • Technological University Dublin • Munster Technological University • Technological University of the Shannon: Midlands Midwest • Atlantic Technological University • South-East Technological University 	<ul style="list-style-type: none"> • Dundalk Institute of Technology • Dun Laoghaire Institute of Art, Design and Technology 	<ul style="list-style-type: none"> • St Angela's College, Sligo • Mary Immaculate College, Limerick • National College of Art and Design, Dublin 	<ul style="list-style-type: none"> • Marino Institute of Education, Dublin • National College of Ireland, Dublin • Pontifical University of Maynooth • St Patrick's, Carlow College • Royal Irish Academy of Music, Dublin • Royal College of Surgeons Ireland, Dublin • Royal Irish Academy, Dublin • Dublin Institute for Advanced Studies
Number: 12	Number: 2	Number: 3	Number: 8

Government of Ireland, Publication – List of publicly-funded higher education institutions (universities and colleges): <https://www.gov.ie/en/publication/5088c-list-of-publicly-funded-higher-education-institutions/> [accessed 14-02-2023]

⁶⁹ Citizens Information, Third-level education in Ireland: https://www.citizensinformation.ie/en/education/third_level_education/colleges_and_qualifications/third_level_education_in_ireland.html#lf2aa9 [accessed 21-02-2023]

E.1.1 Legal framework

The current legal framework of the Irish higher education sector consists of the Higher Education Authority Act 2022⁷⁰, the Universities Act 1997⁷¹, the Institutes of Technology Act 2006⁷² and the Technological Universities Act 2018⁷³.

The Higher Education Authority Act 2022 sets out the objects and functions of the Higher Education Authority (HEA). The Act repealed and replaced the Higher Education Authority Act 1971. The HEA is required to allocate funding to HEIs, to provide policy advice and to exercise certain regulatory functions in respect of almost all publicly funded HEIs. It is required to measure and assess the performance of designated HEIs with a view to strengthening the performance of the higher education system, and to support the effective governance of designated HEIs by overseeing appropriate governance frameworks and ensure accountability and compliance with those governance frameworks. The commencement of the HEA Act 2022 reformed the governance and funding of HEIs in Ireland and provided for an expanded role of the HEA in higher education.

The Universities Act, 1997 sets out the objects and functions of seven of Ireland's universities, the structure and role of governing bodies, staffing arrangements, composition and role of academic councils and sections relating to property, finance and reporting. University governing authorities are required to ensure that strategic development plans and procedures for evaluating teaching and research are in place. The HEA has an overseeing role on such plans and procedures. The legislative framework is strongly grounded in institutional autonomy and academic freedom while also asserting the freedom of academic staff in their teaching, research and other activities.⁷⁴

The Technological Universities Act 2018 was enacted by the Government as a legislative priority in March 2018 to provide a detailed and comprehensive statutory framework for the establishment of technological universities as well the eligibility criteria and processes for the establishment of this new type of HEI.⁷⁵ Though the Act, technological universities are tasked with providing research-informed teaching and learning across all levels of higher education that reflect the needs of stakeholders in the region in which the campuses of the technological university are located.

The Institutes of Technology Act 2006 provides for a similar relationship between the institutes of technology and the HEA as that between the HEA and universities, as well as greater

⁷⁰ Higher Education Authority Act 2022 (Number 31 of 2022), available: <https://www.irishstatutebook.ie/eli/2022/act/31/enacted/en/html> [accessed 27-02-2023]

⁷¹ Universities Act, 1997, available: <https://www.irishstatutebook.ie/eli/1997/act/24/enacted/en/html> [accessed 23-02-2023]

⁷² Institutes of Technology Act 2006, available: <https://www.irishstatutebook.ie/eli/2006/act/25/enacted/en/html> [accessed 14-02-2023]

⁷³ Technological Universities Act 2018, available: <https://www.irishstatutebook.ie/eli/2018/act/3/enacted/en/html> [accessed 23-02-2023]

⁷⁴ Government of Ireland, Policy information – Higher education: <https://www.gov.ie/en/policy-information/175f3-further-education/> [accessed 14-02-2023]

⁷⁵ Government of Ireland, Policy information – Higher education: <https://www.gov.ie/en/policy-information/175f3-further-education/> [accessed 14-02-2023]

institutional autonomy, improved governance and a statutory guarantee of academic freedom for the institutes.⁷⁶

E.1.2 Stakeholder mapping (including the ecosystem) with roles and responsibilities

The **Department of Further and Higher Education, Research, Innovation and Science** identifies objectives, creates policy and outcomes, and determines funding for the higher and further education and research sectors. It also oversees the work of the state agencies and public institutions operating in these areas. The role of the department is to ensure that these sectors support and promote Ireland's social and economic development.⁷⁷

The following state agencies work with the Department of Further and Higher Education, Research, Innovation and Science on the development of the Irish tertiary education system:

- Higher Education Authority (HEA)
- Quality and Qualifications Ireland (QQI)
- An tSeirbhís Oideachais Leanúnaigh agus Scileanna (SOLAS)
- Irish Research Council
- Léargas - The Exchange Bureau
- Science Foundation Ireland (SFI)
- Skillnet Ireland CLG⁷⁸

The Department of Further and Higher Education, Research, Innovation and Science was created in 2020.⁷⁹ Responsibilities of Further and Higher Education, Research and Science was transferred from the Department of Education⁸⁰, and responsibilities of Research Policy and Programmes was transferred from the Department of Enterprise, Trade and Employment⁸¹.

The **Higher Education Authority (HEA)** is the statutory planning and development body for higher education and research in Ireland. As such, it has a statutory responsibility, at central government level, for the effective governance and regulation of higher education institutions (HEIs) and the higher education system.⁸² The HEA was established under the Higher Education

⁷⁶ Government of Ireland, Policy information – Higher education: <https://www.gov.ie/en/policy-information/175f3-further-education/> [accessed 14-02-2023]

⁷⁷ Government of Ireland, Organisation information - Department of Further and Higher Education, Research, Innovation and Science: <https://www.gov.ie/en/organisation-information/c481f-about-the-department-of-further-and-higher-education-research-innovation-and-science/> [accessed 21-02-2023]

⁷⁸ Government of Ireland, Organisation information - State agencies under the aegis of the Department of Further and Higher Education, Research, Innovation and Science: <https://www.gov.ie/en/organisation-information/7b903-state-agencies-under-the-aegis-of-the-department-of-further-and-higher-education-research-innovation-and-science/> <https://www.irishstatutebook.ie/eli/2020/si/451/made/en/print> [accessed 23-02-2023]

⁷⁹ Ministers and Secretaries and Ministerial, Parliamentary, Judicial and Court Offices (Amendment) Act 2020 (Act 10 of 2020), Ministers and Secretaries and Ministerial, Parliamentary, Judicial and Court Offices (Amendment) Bill 2020 (Bill 13 of 2020), available: <https://www.oireachtas.ie/en/bills/bill/2020/13/> [accessed 21-02-2023]

⁸⁰ S.I. No. 451/2020 - Further and Higher Education, Research, Innovation and Science (Transfer of Departmental Administration and Ministerial Functions) Order 2020, available: <https://www.irishstatutebook.ie/eli/2020/si/451/made/en/print> [accessed 21-02-2023]

⁸¹ S.I. No. 586/2020 - Research Policy and Programmes (Transfer of Departmental Administration and Ministerial Functions) Order 2020, available: <https://www.irishstatutebook.ie/eli/2020/si/586/made/en/print> [accessed 21-02-2023]

⁸² Higher Education Authority (HEA): <https://hea.ie/about-us/overview/> [accessed 23-02-2023]

Authority Act 1971.⁸³ As of 2022, this act has been repealed and replaced by the Higher Education Authority Act 2022.⁸⁴

The HEA leads in developing the evidence-base which underpins strategic planning and strategy implementation at institutional, regional and national level and has wide advisory powers across the third-level education sector. Its objectives span the enhancement of teaching and learning, the promotion of equity of access to higher education, the enhancement of HEI's responsiveness to the needs of wider society, research capacity-building, and the internationalisation of Irish higher education.⁸⁵ In addition, it is responsible for the allocation of exchequer funding to the HEIs.⁸⁶ The HEA is also the Irish contact point for a number of EU programmes, such as Erasmus+.⁸⁷

Quality and Qualifications Ireland (QQI) is the state agency responsible for promoting the quality, integrity and reputation of the further and higher education system in Ireland. It is responsible for the external quality assurance of higher education, validating educational programmes and making awards to learners.⁸⁸ QQI also oversees the promotion, development, maintenance, and review of the **National Framework of Qualifications (NFQ)**.⁸⁹ NFQ is an awards framework of ten levels for relating different qualifications or awards to one another, and is aligned to the European Framework of Qualifications.⁹⁰ It lists the main qualifications awarded at each level and pathways from one NFQ level to the next. All qualifications included on the NFQ are listed in the Irish Register of Qualifications.⁹¹

An tSeirbhís Oideachais Leanúnaigh agus Scileanna (SOLAS) is the State agency that oversees the building of the further education and training (FET) sector in Ireland. Working closely with partners in Education and Training Boards (ETB) nationally, SOLAS manages a range of Further Education and Training programmes which enable learners to succeed in the labour market and thrive in society.⁹²

The **Irish Research Council (IRC)** provides competitive research funding to support excellent frontiers research across all disciplines and career stages. Although it operates under the aegis of the HEA, it is independent in its funding decisions. The IRC is the key national funder of basic research across all disciplines, and the only funder that supports basic research in the arts,

⁸³ Higher Education Authority Act, 1971 (Number 22 of 1971): <https://www.irishstatutebook.ie/eli/1971/act/22/enacted/en/html> [accessed 27-02-2023]

⁸⁴ Higher Education Authority Act 2022 (Number 31 of 2022), available: <https://www.irishstatutebook.ie/eli/2022/act/31/enacted/en/html> [accessed 27-02-2023]

⁸⁵ Higher Education Authority (HEA): <https://hea.ie/about-us/overview/> [accessed 23-02-2023]

⁸⁶ Higher Education Authority (HEA), Funding, Governance and Performance: <https://hea.ie/funding-governance-performance/funding/> [accessed 23-02-2023]

⁸⁷ Erasmus+ National Agency for Higher Education: <https://eurireland.ie/about-us/higher-education-authority/> [accessed 23-02-2023]

⁸⁸ Government of Ireland, Policy information – Higher education: <https://www.gov.ie/en/policy-information/175f3-further-education/> [accessed 14-02-2023]

⁸⁹ Quality and Qualifications Ireland (QQI), National Framework of Qualifications: <https://www.qqi.ie/what-we-do/the-qualifications-system/national-framework-of-qualifications> [accessed 14-02-2023]

⁹⁰ Government of Ireland, Policy information – Higher education: <https://www.gov.ie/en/policy-information/175f3-further-education/> [accessed 14-02-2023]

⁹¹ Quality and Qualifications Ireland (QQI), National Framework of Qualifications: <https://www.qqi.ie/what-we-do/the-qualifications-system/national-framework-of-qualifications> [accessed 21-02-2023]

⁹² SOLAS, About: <https://www.solas.ie/about/> [accessed 28-04-2023]

humanities and social sciences.⁹³ It promotes diverse career opportunities for researchers, with an emphasis on early-stage career researchers.⁹⁴

Science Foundation Ireland (SFI) is the national foundation for investment in scientific and engineering research in the areas of science, technology, engineering, and mathematics (STEM). Science Foundation Ireland offers a range of funding schemes which support scientists and engineers across the career spectrum from early-stage researchers to mid-stage career researchers to emerging research stars and up to established, highly esteemed research leaders, through individual and collaborative awards. The Foundation also promotes and supports STEM education and engagement and creates awareness and understanding of the value of STEM to society and to the growth of the economy.⁹⁵

Skillnet Ireland is a business support agency of the Government of Ireland, responsible for advancing the competitiveness, productivity and innovation of businesses operating in Ireland through enterprise-led workforce development. Skillnet Ireland was established in 1999 and is funded from the National Training Fund through the Department of Further and Higher Education, Research, Innovation and Science. The primary objective of Skillnet Ireland is to increase participation in enterprise training by businesses. Through 70+ Skillnet Business Networks, Skillnet Ireland allocates funding to groups of businesses in the same industry sector (or region) and with similar training needs, so they can deliver subsidised training for their teams.⁹⁶

The **Central Applications Office (CAO)** processes most applications for entry to undergraduate courses in Irish HEIs. Decisions on admissions to undergraduate courses are made by the HEIs who instruct CAO to make offers to successful candidates.⁹⁷ The aim of the system is to process applications centrally and in a fair and efficient manner with participating institutions retaining the function of making decisions on admissions.⁹⁸

E.2 Headline national policy priorities and initiatives

The policy direction of the Irish higher education and research system is grounded on the **National Strategy for Higher Education to 2030**,⁹⁹ which was published in 2011. The strategy sets out a long-term vision for higher education as having a central role in the future development of Ireland, both socially and economically, as well as several high-level system objectives that underpins the realisation of this vision.

The strategy emphasised a need for a more coherent system comprised of a smaller number of larger HEIs with complementary and diverse missions that can exploit synergies through the pooling of expertise, knowledge and resources. One identified policy priority was therefore the development of a clear and comprehensive framework in which the different HEIs of the Irish

⁹³ Irish Research Council, Fund excellent research across all disciplines: <https://research.ie/what-we-do/fund-excellent-research/> [accessed 06-04-2023]

⁹⁴ Irish Research Council, Support early-stage researchers: <https://research.ie/what-we-do/fund-excellent-research/> [accessed 06-04-2023]

⁹⁵ Science Foundation Ireland (SFI), About Us: <https://www.sfi.ie/about-us/> [accessed 28-04-2023]

⁹⁶ Skillnet Ireland, About Skillnet Ireland: <https://www.skillnetireland.ie/about/about-skillnet/> [accessed 28-04-2023]

⁹⁷ The Central Applications Office (CAO): <https://www.cao.ie/> [accessed 14-02-2023]

⁹⁸ Government of Ireland, Policy information – Higher education: <https://www.gov.ie/en/policy-information/175f3-further-education/> [accessed 14-02-2023]

⁹⁹ National Strategy for Higher Education to 2030 - Report of the Strategy Group, January 2011, available: <https://hea.ie/resources/publications/national-strategy-for-higher-education-2030/> [accessed 23-02-2023]

higher education system have distinct and well-defined roles, responsibilities and inter-relationships so that they collectively meet the needs of individuals, enterprise and society.

To promote coherence as well as HEIs of sufficient strength, scale and capacity to enable overall quality and efficiency objectives to be met, the strategy identified a need for a framework to facilitate institutional mergers and consolidations. Smaller publicly funded institutions were to be encouraged to align with or incorporated into HEIs of appropriate scale. In particular, the evolution and consolidation of institutes of technology into a smaller number of stronger amalgamated institutes was to be promoted to advance system capacity and performance.

Furthermore, the National Strategy for Higher Education to 2030 made recommendations for the creation of technological universities. A process was to be put in place that would allow consolidated institutes of technology that had reached an appropriate scale and capacity against stated performance criteria to apply for designation as technological universities. These technological universities are to focus on science and technology programmes that are vocationally and professionally oriented and engage in industry-focused research with a particular regard to the social and economic needs of the region in which the university is located.¹⁰⁰

Another key measure in delivering on the overarching objective of a more coherent, higher quality and efficient higher education system was the creation and strengthening of regional clusters of collaborating institutions to serve regional level needs. The strategy emphasised the following benefits of building regional clusters:

- Differentiated offerings and greater flexibility in student pathways and opportunities for progression by better coordination, planning and organisation of teaching and learning programmes.
- Greater impact and efficient use of resources through pooling of effort and development of shared services.
- A more coordinated approach to better serve needs of students, enterprise and other regional stakeholders.

The clusters were to be characterised by close coordination and cooperation between various types of independent HEIs. This would require joint programme planning, collaborative research and outreach initiatives, agreements on mutual recognition and progression, and joint strategies for advancing regional economic and social development. The HEA was to promote regional clusters by providing incentives and by requiring institutions to build regional collaboration into their strategic plans.

The National Strategy for Higher Education to 2030 also identified a need to balance institutional funding and operational autonomy with a corresponding level of accountability for performance. It was recommended that an accountability framework for ongoing review and evaluation of performance at system and institutional levels should be established, consisting of service level agreements between the State and the HEIs establishing the key outputs, outcomes and levels of service to be delivered and the resources allocated to achieve them. This would require well-developed structures to enable national priorities to be identified and communicated, as well as a process of strategic dialogue between the State and the HEIs through which institutional strategies could be defined and aligned with national

¹⁰⁰ Higher Education Authority (HEA), HE Reform, Technological Universities: <https://hea.ie/policy/he-reform/technological-universities/> [accessed 14-03-2023]

priorities. The strategy also recommended that public funding for higher education in Ireland should be based on institutional performance in achieving agreed outcomes. Future funding would be agreed as part of the process of strategic dialogue between the State and the institutions.

Despite being published in January 2011, the National Strategy for Higher Education to 2030 has retained its relevance and provided the impetus for many important developments in Ireland to this date. It has been followed by a suite of national strategies and initiatives focusing on different aspects of relevance to the higher education system.

E.2.1 *The establishment of technological universities*

One of the most significant changes of the Irish higher education landscape in recent years is the development of multi-campus technological universities.¹⁰¹ The technological universities are envisioned to play a key role in delivering significant advantages in relation to current national priorities for higher education access, research-informed teaching and learning, skills and employment creation and retention, as well as supporting regional growth and development.¹⁰²

Several measures have been put in place to support the development of technological universities. In February 2019, the Technological Universities Research Network (TURN) was established to examine and report on how emerging technological universities could achieve their sectoral and national strategic objectives and the support that would be required for them to do so most effectively and efficiently.¹⁰³ There were three main thematic areas that TURN identified as the essential building blocks for technological universities to be successful:

- **Realigning and reforming the policy and funding framework** to accommodate this new type of university, including accelerated reform of funding models and the establishment of university career frameworks to build capacity and scope for research and enhanced academic performance.
- **Investing in digital infrastructure** so that technological universities can connect with learners and other organisations effectively and consistently across their regions, prepare their learners for the changing digital economy, and collaborate seamlessly across the spectrum with regional, national and international research and training partners.
- **Building and strengthening research capacity** to secure the transformation of research performance required for technological universities to function as major engines of innovation and economic growth.¹⁰⁴

As part of the budget for 2020, the Government announced the Technological Universities Transformation Fund (TUFT). TUFT is a 3-year fund totalling €90 million and running from 1 September 2020 to 31 August 2023. The purpose of the TUFT is to support institutes of technology

¹⁰¹ Government of Ireland, National Development Plan 2021-2030, available: <https://www.gov.ie/en/publication/774e2-national-development-plan-2021-2030/> [accessed 26-04-2023]

¹⁰² Government of Ireland, Programme for Government: Our Shared Future, available: <https://www.gov.ie/en/publication/7e05d-programme-for-government-our-shared-future/> [accessed 26-04-2023]

¹⁰³ Higher Education Authority (HEA), TU Research Network (TURN): https://hea.ie/technological_universities/tu-research-network-turn/ [accessed 26-04-2023]

¹⁰⁴ Technological Universities Research Network (TURN), Technological Universities - CONNECTEDNESS & COLLABORATION through CONNECTIVITY, Report of the Technological Universities Research Network to the Department of Education and Skills, October 2019, <https://hea.ie/assets/uploads/2019/12/Report-of-the-TU-Research-Network-2019.pdf> [accessed 26-04-2023]

to achieve designation as technological universities and to support the progression of established technological universities. Responsibility for the design and development of the TUTF, and for its administration and management, was delegated to the HEA. An important principle of the policy framework for the TUTF is that funding is allocated based on assessed capacity and progress towards technological university designation and in meeting the objectives and ambitions set out by TURN.¹⁰⁵

One distinctive feature of the Irish technological university concept is its rootedness in regional and local communities and economies. The envisioned symbiotic relationship between a technological university and its region strongly resonates with the priority under the National Strategy to create regional clusters.¹⁰⁶

Under Project Ireland 2040¹⁰⁷, the Irish Government identified an ambition to build sectoral clusters of Small Medium Enterprises (SMEs) at regional level. As one of the Government initiatives in this area, the Regional Technology Clustering fund (RTCF) was launched by Enterprise Ireland¹⁰⁸ in 2019. The RTCF is focused on enhancing the capacity of the technological universities as well as remaining institutes of technology as drivers of regional enterprise-academic collaboration and clustering. Through the RTCF, twelve Educational Outreach Managers have been appointed at various technological universities and institutes of technology to support them in their engagement and connectivity with SMEs and develop enterprise clustering that fosters SME productivity, competitiveness and internationalisation.¹⁰⁹

To further strengthen geographical involvement, engagement and collaboration, research funding has been provided to SFI to support partnerships between technological universities and the university sector through the SFI Frontiers for Partnership Awards. The key goal of these partnerships is to support excellent, impactful research which benefits from the unique strengths of both sectors.¹¹⁰

E.2.2 *Supporting skills supply and development*

The National Strategy for Higher Education to 2030 recognised the importance of the higher education system in addressing current and future skills needs. It also expressed a clear demand for the higher education system to support lifelong learning and upskilling opportunities in response to changing patterns of work and the adaptability of the Irish workforce to technological and social change.

¹⁰⁵ Higher Education Authority (HEA), Technological University Transformation Fund: <https://hea.ie/policy/hea-reform/technological-university-transformation-fund/> [accessed 27-04-2023]

¹⁰⁶ Technological Universities Research Network (TURN), Technological Universities - CONNECTEDNESS & COLLABORATION through CONNECTIVITY, Report of the Technological Universities Research Network to the Department of Education and Skills, October 2019, <https://hea.ie/assets/uploads/2019/12/Report-of-the-TU-Research-Network-2019.pdf> [accessed 26-04-2023]

¹⁰⁷ Project Ireland 2040 is the government's long-term overarching strategy to make Ireland a better country for all and to build a more resilient and sustainable future: <https://www.gov.ie/en/campaigns/09022006-project-ireland-2040/> [accessed 02-05-2023]

¹⁰⁸ Enterprise Ireland is a government agency responsible for the development and growth of Irish enterprises in world markets: <https://www.enterprise-ireland.com/en/About-Us/> [accessed 29-04-2023]

¹⁰⁹ Enterprise Ireland, Regional Technology Cluster Fund (RTCF): <https://www.enterprise-ireland.com/en/funding-supports/regional-technology-cluster-fund/rtcf/> [accessed 27-04-2023]

¹¹⁰ Science Foundation Ireland, SFI Frontiers for Partnership Awards: <https://www.sfi.ie/funding/funding-calls/frontiers-for-partnership/> [accessed 27-04-2023]

In January 2016, the Government published the National Skills Strategy 2025¹¹¹. A key objective of the National Skills Strategy is that education and training providers should focus on providing skills development opportunities that are relevant to society and the economy. Emphasis is being placed on ICT skills, language proficiency and entrepreneurship considering their importance to employability, personal development and civic participation. As enterprise policy in Ireland is strongly oriented towards knowledge-intensive industries there is also a focus on STEM related skills and qualifications. A wide range of actions were identified to implement the National Skills Strategy, including maintaining and increasing participation rates in higher education. Other targets of relevance to the higher education system include the development of programmes in response to identified skills needs and greater engagement of employers in programme development, an expansion of part-time or flexible provision, and the promotion of regional clusters.

To support the implementation of the National Skills Strategy, the National Skills Council was established in 2017. The National Skills Council is a high-level platform for partnership between the education and training system and industry representatives. It oversees research, advises on prioritisation of identified skills needs and how to secure delivery of identified needs. It has a key role in promoting and reporting on the delivery of responses by education and training providers to those priorities.¹¹² In addition, nine Regional Skills Fora was created to provide an opportunity for employers and the education and training system to work together to meet the emerging skills needs of their respective regions. These fora provide:

- A single contact point in each region to help employers connect with the range of services and supports available across the education and training system.
- More robust labour market information and analysis of employer needs to inform programme development.
- Greater collaboration and utilisation of resources across the education and training system and enhancement of progression routes for learners.
- A structure for employers to become more involved in promoting employment and opportunities for career progression in their sectors.¹¹³

In addition to their core courses, HEIs offer upskilling and reskilling programmes through Springboard+ and the Human Capital Initiative, as well as various modular skills courses. The Springboard+ initiative is managed by the HEA and provides free and heavily subsidised upskilling and reskilling higher education opportunities in areas of identified skills needs. The primary objective is to provide upskilling and reskilling courses to develop the talent base in Ireland in key growth sectors of the economy. Springboard+ courses are at Level 6 (Certificate) to Level 9 (Masters) on the NFQ and are delivered by public and private higher education providers around the country. Courses are not all a full award at each level, they may also be minor awards or special purposes awards. All courses provide job-readiness training and most offer the opportunity for work placement, project-based learning or industry site visits where appropriate. All courses approved for funding under Springboard+ are selected by an

¹¹¹ Government of Ireland, National Skills Strategy 2025 - Ireland's Future, available: <https://www.gov.ie/en/publication/69fd2-irelands-national-skills-strategy-2025-irelands-future/> [accessed 27-04-2023]

¹¹² Regional Skills, National Skills Council: <https://www.regionalskills.ie/national-skills-council/> [accessed 27-04-2023]

¹¹³ Regional Skills: <https://www.regionalskills.ie/> [accessed 27-04-2023]

independent panel with experts from industry and education following a competitive tendering process.¹¹⁴

The Human Capital Initiative (HCI) was launched by the Government in late 2019 and aims to increase the capacity in higher education in skills-focused programmes designed to meet priority skills needs and to enable the higher education system to respond rapidly to changes in both skills requirements and technology. These needs are identified through a detailed and comprehensive framework under the National Skills Council, which includes publications from the Regional Skills Fora as well as direct involvement of employers.¹¹⁵ HCI offers incentivised places for graduates to reskill in areas of skills shortage and emerging technologies, including ICT, High End Manufacturing, Data Analytics, Robotics, Artificial Intelligence, via full-time graduate conversion courses.¹¹⁶

E.2.3 Ensuring accountability through System Performance Frameworks and performance-based funding

In response to the recommendations made in the National Strategy for Higher Education to 2030, the first Higher Education System Performance Framework was developed by the HEA in 2014, covering the period 2014-2017. The second covered the period 2018-2020.¹¹⁷ The HEA is currently developing the next System Performance Framework, which will come into effect in 2023 and run for four years (2023-2027).¹¹⁸

The Higher Education System Performance Frameworks set out national priorities and key objectives of government for higher education. A set of high-level targets are also proposed for each of the objectives, which are complemented by more detailed metrics and indicators. These objectives and targets, taken together, indicate the key priorities of the Government for the higher education system over each of the periods and serve as the foundation for developing the system, performance management, and for making investment decisions. They also provide the basis on which to build greater transparency and accountability and enables the HEA to manage system risks.¹¹⁹

The Strategy and Performance Dialogue process that the HEA facilitates with the HEIs is the key implementation process for the System Performance Framework. The process involves agreeing individual and, where appropriate, collective targets to meet key system objectives via strategic compacts with each HEI. As part of the Strategy and Performance Dialogue review process, HEIs are required to make two annual submissions:

¹¹⁴ Higher Education Authority (HEA), Springboard+ 2022: <https://hea.ie/skills-engagement/springboard/> [accessed 27-04-2023]

¹¹⁵ Higher Education Authority (HEA), The Human Capital Initiative (HCI): <https://hea.ie/skills-engagement/what-is-human-capital-initiative-hci/> [accessed 27-04-2023]

¹¹⁶ EU Funds Ireland, The Human Capital Initiative: <https://eufunds.ie/home/our-funds/the-human-capital-initiative/> [accessed 27-04-2023]

¹¹⁷ Higher Education Authority (HEA), System Performance Framework: <https://hea.ie/funding-governance-performance/managing-performance/system-performance-framework/> [accessed 03-03-2023]

¹¹⁸ Higher Education Authority (HEA), News – System Performance Framework (2023-2027): <https://hea.ie/2022/11/10/system-performance-framework-2023-2027-written-consultation-process-open/> [accessed 18-04-2023]

¹¹⁹ Higher Education System Performance Framework 2018 – 2020, available: <https://hea.ie/resources/publications/higher-education-system-performance-framework-2018-2020/> [accessed 01-05-2023]

- Impact Assessment Case Studies setting out exemplars of their progress in implementing performance compacts and the strategic initiatives identified within these, as well as evolving national policy objectives.
- Self-Evaluation Reports of progress against interim targets set out within the compacts, relevant to the reporting period.¹²⁰

In 2013, a performance funding component was established which allows for the withholding of up to 10% of HEI funding in line with unsatisfactory performance. In response to recommendations in reports such as the Review of the Allocation Model for Funding Higher Education Institutions in 2018¹²¹, a process for recognising the positive performance of HEIs was introduced in 2019. In 2019, 2021, and 2022, €5 million in performance funding was allocated to HEIs to reward positive performance based on an external expert review of the impact assessment case studies aligned with national priorities and targets and evolving national policy objectives.¹²²

E.3 Funding and governance of higher education

E.3.1 HE ownership and income profile

Public HEIs in Ireland derive their income from a diversified set of public and private funding streams. The main categories of income are a core block grant from the HEA; tuition fee subsidies for Irish and EU undergraduate students paid by the HEA; academic fees and contributions paid by students; income from public and private external research funders and HEA capital grants. In addition, HEIs obtain a growing share of their income from other sources such as philanthropic donations, consulting activities, revenue from commercial activities and provision of campus amenities.¹²³

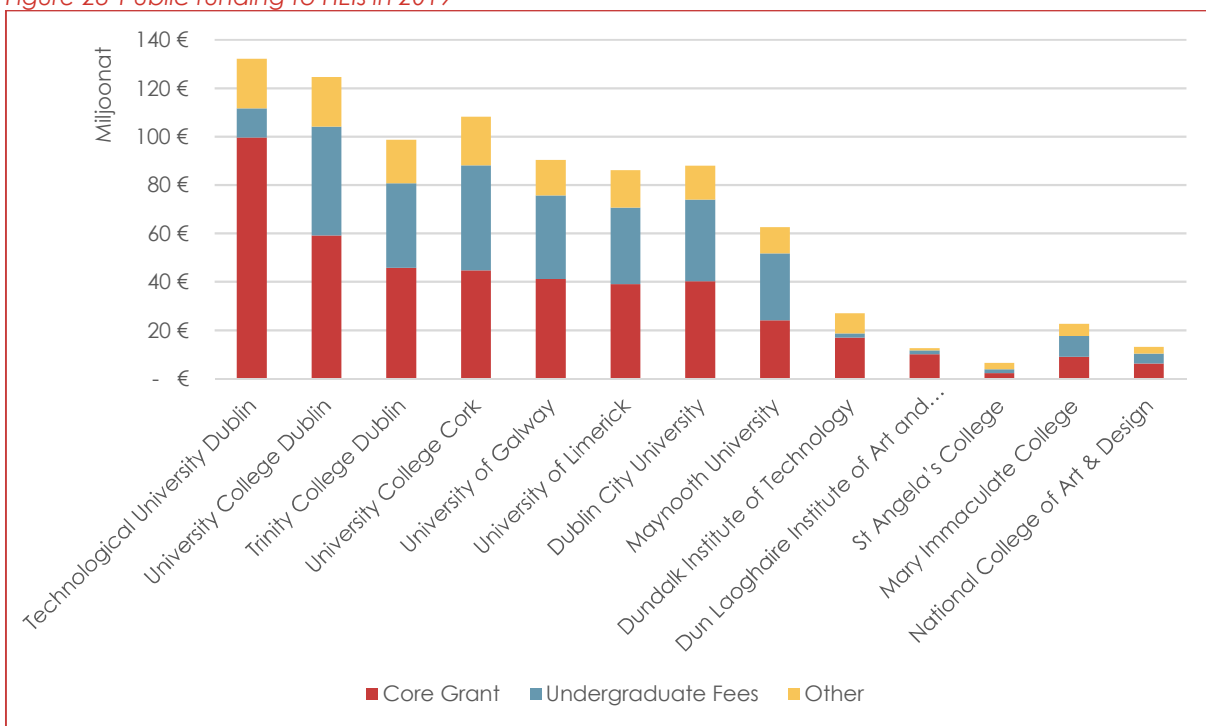
¹²⁰ Higher Education Authority (HEA), Performance Funding: <https://hea.ie/funding-governance-performance/managing-performance/performance-funding/> [accessed 02-05-2023]

¹²¹ Review of the Allocation Model for Funding Higher Education Institutions: Final Report by the Independent Expert Panel for the Higher Education Authority - December 2017, available: <https://www.gov.ie/en/publication/3f572c-review-of-the-allocation-model-for-funding-higher-education-institut/> [accessed 02-05-2023]

¹²² Higher Education Authority (HEA), Performance Funding: <https://hea.ie/funding-governance-performance/managing-performance/performance-funding/> [accessed 02-05-2023]

¹²³ OECD, Resourcing higher education in Ireland – Funding higher education institutions, 2022, available: <https://www.oecd.org/ireland/resourcing-higher-education-in-ireland-67dd76e0-en.htm> [accessed 02-05-2023]

Figure 28 Public funding to HEIs in 2019



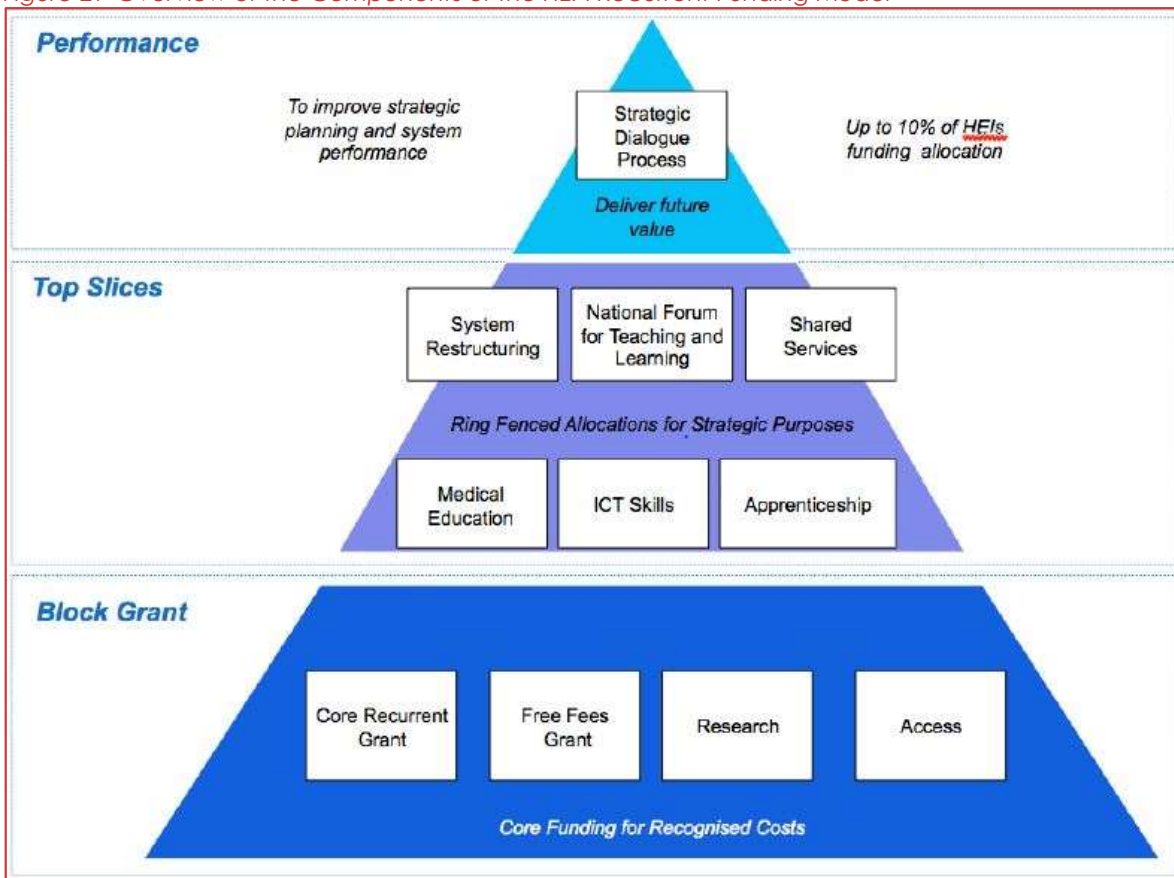
Source: Data extracted by Technopolis Group from the Higher Education Authority (HEA), available through <https://hea.ie/higher-education-institutions/?intro=funding> [accessed 02-05-2023]

E.3.2 Funding model

Ireland's funding model consists of a combination of funding types. The present funding allocation model consists of three separate elements:

- Block grant, which includes support for research and access
- Top-sliced allocations, i.e., funding that is ring-fenced for specified purposes, typically for limited periods of time
- A performance-based component

Figure 29 Overview of the Components of the HEA Recurrent Funding Model



Source: Higher Education Authority (HEA), How we fund: <https://hea.ie/funding-governance-performance/funding/how-we-fund/>

The Block Grant is funding allocated as a single grant allocation to the HEIs. Internal budgeting for this funding is determined by the HEIs themselves but is subject to review by the HEA. The block grant allocation is comprised of:

- A core recurrent grant, allocated through a funding formula driven by audited prior-year student numbers, which are weighted for the relative costs of providing education in different disciplines. There are additional weightings for research and for access.
- A 'free fees grant', which has been provided since the abolition of student-paid tuition fees.

Block grant funding is divided between universities and colleges (60%) and Institutes of Technology (40%). Requirement for each of these sub-sectors is top-sliced from each pot and the remaining grant funding for each sector is allocated through the funding model.

The free fees grant (also known as the Exchequer fees component of funding) is based on certified student numbers in each undergraduate programme, which are then multiplied by the fee associated with each programme. The student contribution (currently €3,000 per annum) is then deducted from the grant allocation. This covers the cost of fees for Irish and EU students who are eligible for free third-level education.

In recognition of the need to provide a 'foundation investment' in research excellence across the system, core grant support for research is provided as part of the block grant. The HEIs have the final say on the distribution of their budgets between teaching and research in accordance with their mission and objectives. The major portion of core grant support for research is

provided through the research student numbers that are included in each HEI's overall student numbers and in the allocation formula.

In addition to the grant funding that is based on research student numbers, there is a research top-slice of 10% in the universities' 'pot', and there is an allocation of a €5 million Research and Innovation Grant provided to the technological sector. This is allocated to each HEI based on research metrics to recognise research success which includes:

- Competitively earned research income per academic staff member
- Output of research degrees over the last three years
- Knowledge Transfer Metrics

In Ireland, the review of the funding model in 2017¹²⁴ led to a change in the funding formula to include core funding for access performance through higher weighting for disadvantaged students and students from under-represented backgrounds.¹²⁵ This is to take account of the additional costs of recruiting and retaining students from under-represented backgrounds. Thus, a student from a target socioeconomic group, or with a disability, attracts a weighting of 1.7 for discipline plus 0.33 for access.¹²⁶ The weighing is applicable for the first two years of the course duration, to reflect the higher support needs during this period for under-represented groups and mature students. For students with disabilities, the weight is applicable to the entire length of the course.¹²⁷

Top-sliced, ring-fenced allocations for specific strategic or important purposes are earmarked from time to time by either the Department of Further and Higher Education, Research, Innovation and Science or by the HEA.

Top-sliced funding is provided to support some institutional restructuring arising from the National Strategy. It is also used to grow new or expanded programmes, discipline restructuring arising from reviews of provision, strategic innovation funding, and new or expanded programmes to meet identified skills' gaps. Other existing top-slices include funding for pension obligations, funding for shared service initiatives, and protected funding to reflect additional cost components related to important but vulnerable areas.

A general principle of funding that is top-sliced and earmarked for new developments is that funding should progress through stages of being ring-fenced, then reviewed, and finally being either mainstreamed or discontinued. Typically, there is an up-front agreement on the duration of ring-fencing.¹²⁸

In 2013, a **performance-based funding** component was established which allows for the withholding of up to 10% of the allocated block grant based on verified performance against

¹²⁴ Review of the Allocation Model for Funding Higher Education Institutions: Final Report by the Independent Expert Panel for the Higher Education Authority - December 2017, available: <https://www.gov.ie/en/publication/3f572c-review-of-the-allocation-model-for-funding-higher-education-institut/> [accessed 02-05-2023]

¹²⁵ European Commission (DG EAC), Final Report of the Study on the state and effectiveness of national funding systems of higher education to support the European Universities Initiative (Volume I), 2022

¹²⁶ Higher Education Authority (HEA), How we fund: <https://hea.ie/funding-governance-performance/funding/how-we-fund/> [accessed 27-02-2023]

¹²⁷ European Commission (DG EAC), Final Report of the Study on the state and effectiveness of national funding systems of higher education to support the European Universities Initiative (Volume I), 2022

¹²⁸ Higher Education Authority (HEA), How we fund: <https://hea.ie/funding-governance-performance/funding/how-we-fund/> [accessed 27-02-2023]

agreed targets for the preceding year. The share of core funds tied to performance is thus relatively small compared to many other European countries.¹²⁹

This approach centres around the system of agreed three-year mission-based performance compacts. In these compacts, HEIs propose their own targets relevant to their agreed mission and profile in line with objectives set by the Department of Further and Higher Education, Research, Innovation and Science as part of the System Performance Framework.¹³⁰ The HEA then monitors and assesses individual institutional performance against these compacts and uses the information to verify the overall contribution of HEIs at a system level to meeting national priorities and objectives set out in the System Performance Framework.¹³¹

E.3.3 Performance agreements between HEIs and Ministry

The mission-based performance compacts are formally agreed in the process of strategy and performance dialogue between the HEA and the HEIs. In this process, each HEI provide a description of its proposed approach to deliver on the regional, national and system objectives set out in the System Performance Framework, with reference to the individual mission, capacities, strengths and priorities of the HEI. Proposed targets are subject to challenge by an external expert panel. The main aims of this process are to improve system and institutional performance, enhance system accountability and enable the HEA to manage system risks.¹³²

Each HEIs mission-based performance compact consists of two parts:

- Qualitative and strategic submission
- Quantitative data submission

As part of their **qualitative and strategic submission**, HEIs are required to set out a description of their proposed approach to deliver on each of the six key system framework objectives. They are to detail a maximum of two institutional strategic priorities under each of the six key system objectives. Each strategic priority should provide a description of the strategic initiatives that are to be implemented over the three-year timespan of the compact. The strategic initiatives should be described with reference to the high-level targets set out in the System Performance Framework.¹³³

The strategic initiatives provide a summary of the mechanisms to deliver on the outcome and include key performance indicators and measurable outputs. The HEA works with HEIs in the framing of priorities and initiatives to ensure that the compact demonstrates the HEI's priorities, is sufficiently outcomes-focussed and lends itself to annual evaluation exercises.¹³⁴

¹²⁹ European Commission (DG EAC), Final Report of the Study on the state and effectiveness of national funding systems of higher education to support the European Universities Initiative (Volume I), 2022

¹³⁰ Higher Education Authority (HEA), How we fund: <https://hea.ie/funding-governance-performance/funding/how-we-fund/> [accessed 27-02-2023]

¹³¹ Higher Education Authority (HEA), Strategy and Performance Dialogue: <https://hea.ie/funding-governance-performance/managing-performance/strategy-and-performance-dialogue/> [accessed 03-03-2023]

¹³² Higher Education Authority (HEA), Strategy and Performance Dialogue: <https://hea.ie/funding-governance-performance/managing-performance/strategy-and-performance-dialogue/> [accessed 03-03-2023]

¹³³ Higher Education Authority (HEA), Draft Mission-based Performance Compact Template 2018-2021 between Higher Education Institution and The Higher Education Authority: <https://hea.ie/assets/uploads/2017/04/Mission-Based-Performance-Compact-Template-2020-2021.pdf> [accessed 08-03-2023]

¹³⁴ Higher Education Authority (HEA), Strategy and Performance Dialogue Process: <https://hea.ie/funding-governance-performance/process/> [accessed 08-03-2023]

Regarding the **quantitative data submission**, the System Performance Framework sets out a range of metrics and indicators to which the higher education system is required to respond. The HEIs work with the HEA to set out individual and national baselines for these indicators with reference to most recent available data so that progress can be tracked at national and regional level.¹³⁵

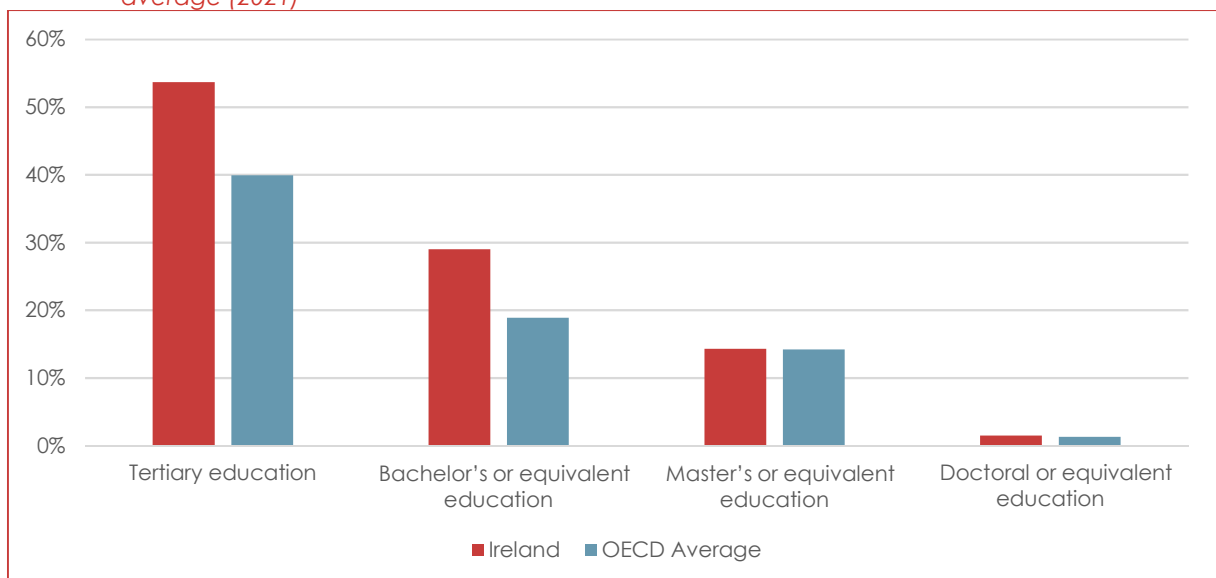
Performance against the mission-based performance compacts is monitored via a system of annual reporting and the strategic dialogue process, whereby the HEA meets with each individual HEI to review performance and confirm good ongoing governance and accountability of the public funding distributed in each case.¹³⁶

E.4 System performance based on standard indicators

E.4.1 Higher education attainment of the Irish population

Figure 30 below depicts the higher education attainment level of the Irish population aged 25-64 compared to the OECD average in 2021. More than half (53.7%) of the Irish population aged 25-64 have attained a tertiary education, one of the largest shares across the OECD. The tertiary attainment rate is even higher for the younger generation, reaching 62.9% among the population aged 25-34.¹³⁷ Ireland's strong position in terms of overall tertiary attainment is boosted by a strong output of qualifications at bachelor's and lower levels of tertiary education. The country's performance is closer to the OECD average in terms of attainment of qualifications at master's and doctoral level.

Figure 30 Higher education attainment level of the Irish population aged 25-64 compared to the OECD average (2021)



Source: Data extracted on 09 Mar 2023 from OECD.Stat

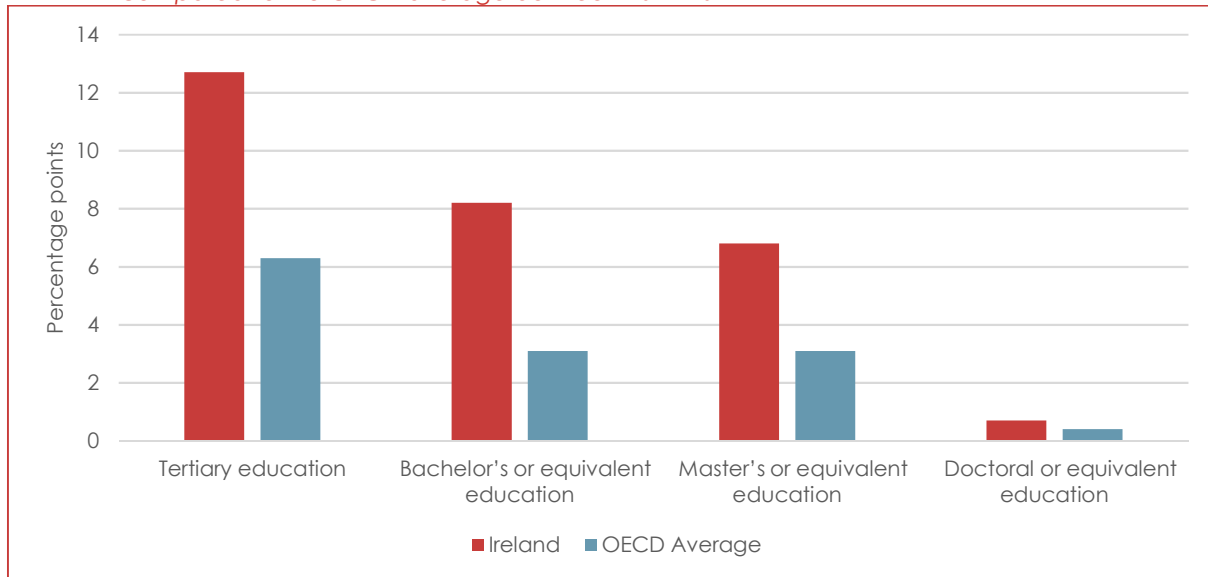
¹³⁵ Higher Education Authority (HEA), Strategy and Performance Dialogue Process: <https://hea.ie/funding-governance-performance/process/> [accessed 08-03-2023]

¹³⁶ Higher Education Authority (HEA), Governance Framework for the Higher Education System (Published May 2017): https://hea.ie/assets/uploads/2017/05/governance_framework-15.5.17-revised.pdf [accessed 08-03-2023]

¹³⁷ OECD Education at a Glance Indicators: <https://stats.oecd.org> [accessed 10-03-2023]

Ireland has achieved a remarkable expansion of higher education opportunities in recent years. This has resulted in a steady improvement in the educational profile of the Irish population relative to international benchmarks. Figure 31 below depicts increases in percentage points in higher education attainment of the Irish population compared to the OECD average between 2014-2021.

Figure 31 Increases in percentage points in higher education attainment of the Irish population compared to the OECD average between 2014-2021



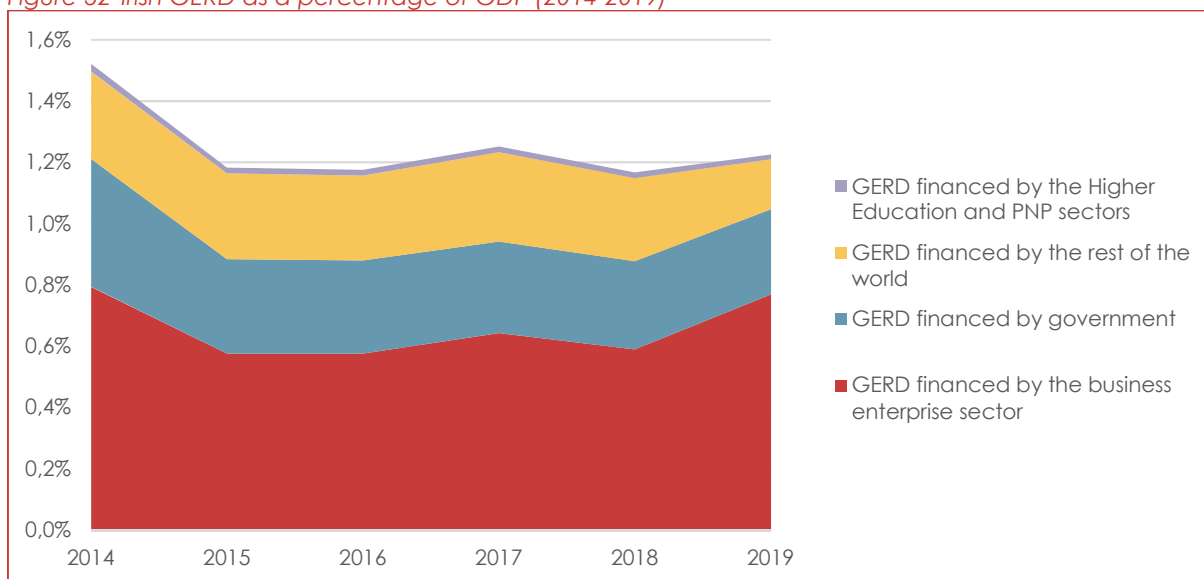
Source: Data extracted on 14 Mar 2023 from OECD.Stat

E.4.2 Research intensity

In Ireland, gross domestic expenditure on research and development (GERD) as a share of GDP was 1.1% in 2020.¹³⁸ GERD as a share of GDP has been consistent over the previous five years, as indicated in Figure 32 below.

¹³⁸ OECD Main Science and Technology Indicators (MSTI database): <https://stats.oecd.org> [accessed 10-03-2023]

Figure 32 Irish GERD as a percentage of GDP (2014-2019)

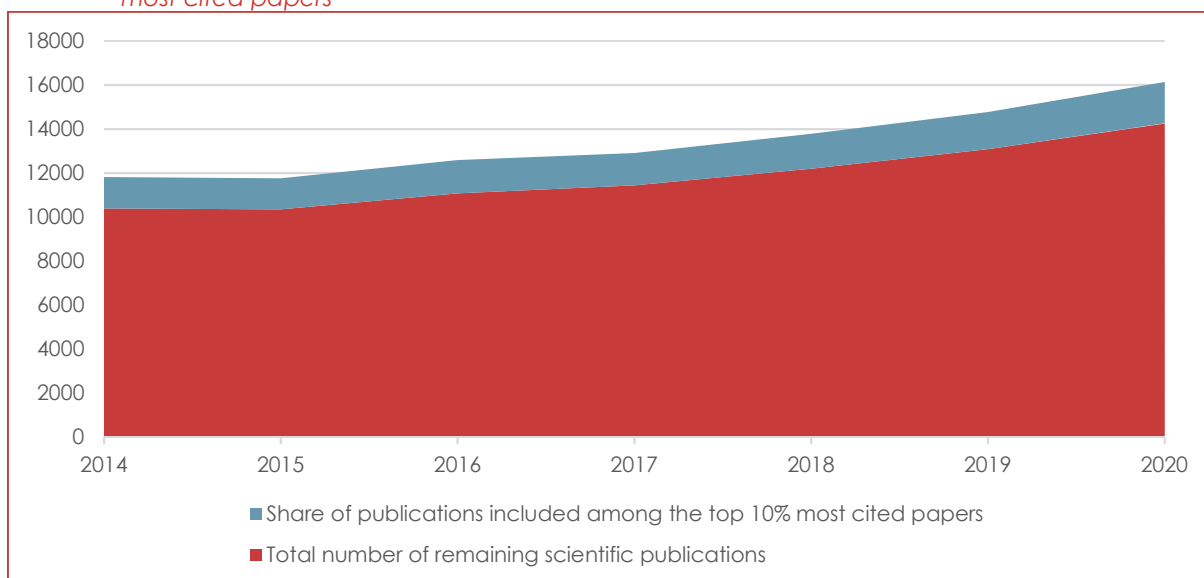


Source: Data extracted on 10 Mar 2023 from OECD.Stat

E.4.3 Research publications

Ireland's scientific output in terms of research publications has increased over the past decade, as illustrated in Figure 33 below. In 2014, Ireland produced almost 12 000 scientific publications, whereas in 2020 the total number of scientific publications was over 16 000. The share of Ireland's scientific publications that is included among the top 10% most cited papers worldwide in their respective scientific fields has remained around 12% which is about the same as the OECD average.¹³⁹

Figure 33 Total number of scientific publications and share of publications included among the top 10% most cited papers



¹³⁹ OECD Science, Technology and Innovation Scoreboard: <https://www.oecd.org/sti/scoreboard.htm> [accessed 14-03-2023]

Source: Data extracted on 14 Mar 2023 from the OECD Science, Technology and Innovation Scoreboard

E.5 Evidence of effects of initiatives or policies

There is evidence that the Higher Education System Performance Frameworks has been successful in strengthening dialogue and coordination between HEIs and national level policy makers in Ireland. An analysis of the effects of the first three-year period of implementation (2014-2017) found that the objectives of the System Performance Framework were broadly supported by the Irish HEIs. The system was reported to have contributed to the creation of a constructive relationship building between the HEA and the HEIs and to have had positive impacts on self-reflective institutional learning and strengthening of strategic capacity building, self-reflection and institutional learning. However, the same study found little evidence on any direct effects on institutional behaviour, attributing this to a lack of enabling or incentive funding to trigger change and the fact that the potential funding penalty is insufficient to affect behaviour. Other challenges identified were an excess of key performance indicators (KPIs) within institutional agreements, a tendency of focus on detailed indicators rather than strategic issues and an inherent challenge for HEIs to achieve significant shifts in their profile with a largely fixed workforce and a funding system that rewards student numbers. Employment conditions in Irish higher education are such that it is very difficult to re-allocate staff to other roles if departments are closed or merged, while the funding system creates an incentive to maximise enrolment in established (or related) study fields, rather than innovate.¹⁴⁰

Since the enactment of the Technological Universities Act 2018, which sets out the process whereby consortia may apply for designation as a technological university, five technological universities have been established:

- Technological University Dublin was established in January 2019
- Munster Technological University (MTU) established in January 2021
- Technological University of the Shannon: Midlands Midwest was established in October 2021
- Atlantic Technological University was established in April 2022
- South-East Technological University was established in May 2022¹⁴¹

E.6 Lessons for Finland

All countries in the EU face significant societal transformation challenges including, delivering on the twin digital and green transitions, and tackling socio economic issues such as social inclusion and our aging populations. The Higher Education systems across the EU are playing a significant role in meeting our collective transformational challenges and will require enhanced support in their endeavours. To achieve their ambitions in the context of our targets; reform of HE system policy, financial models and system capacity are required.

With a view to meeting societal transformation challenges Irish HE system development has paid particular attention to the:

1. Development of national policies and collaborative approaches to ensure the successful delivery of ongoing skills requirements necessary to meet societal transformational challenges across all age cohorts which include a focus on enhancing

¹⁴⁰ OECD, Resourcing higher education in Ireland – Funding higher education institutions, 2022, available: <https://www.oecd.org/ireland/resourcing-higher-education-in-ireland-67dd76e0-en.htm> [accessed 02-05-2023]

¹⁴¹ Higher Education Authority (HEA), Technological Universities: <https://hea.ie/policy/he-reform/technological-universities/> [accessed 02-05-2023]

lifelong learning opportunities (e.g., National Skills Strategy, Regional Skills Fora, Springboard+ and HCI)

2. Implementation of system capacity and structural changes focussed on increasing the capacity and capability of HEIs to deliver on regional and national education, research, innovation, and service to society objectives (e.g., Creation of Technological Universities)
3. Adjustment and enhancement of existing financial models to facilitate the delivery of new national policies and enhanced system capacity on an ongoing basis (e.g., Introduction of Technological University Transformation Fund and enhanced use of the National Training Fund)

The evolution and implementation of national policies and their associated objectives and targets will ultimately inform funding requirements and priority areas for investment. To implement national policy, funding choices need to be considered and in particular whether to (i) significantly adjust existing funding models or (ii) provide additional investment or (iii) to utilise a combination of model adjustment and additional investment to achieve policy objectives. Ireland have avoided making significant changes to existing funding models to affect the implementation of new national policies such as the National Skills Strategy and the creation of Technological Universities. The Irish approach has seen them provide either:

- Additional funding on top of existing core funding as in the case of the development of Technological Universities through the provision of the Technological University Transformation Fund, or
- An enhanced level of funding from other national funding sources such as the National Training Fund (<https://www.irishstatutebook.ie/eli/2000/act/41/enacted/en/html>) to support the implementation of additional skills initiatives such as Springboard+ and the Human Capital Initiative

Given Ireland's current positive demographic profile in terms of HE registrations; adjusting the current financial model to accommodate additional policy objectives was considered a risky strategy given other additional sources of funding were readily available.

Capacity expansion within HEIs, such as facilitating the provision of PhD awarding powers for Finnish UAS; requires (i) a clearly defined process to ensure standards and quality can be achieved and maintained (ii) an initial dedicated investment be provided to HEIs to enable their capacity expansion. Currently several other jurisdictions in Europe, including Portugal, Germany and Austria are actively considering how their UAS could be allowed to award PhDs with a view to increasing their capacity to deliver on regional RDI requirements. It should be noted most Irish Institutes of Technology could already award PhDs in defined areas prior to their evolution to Technological Universities which required a merger of a minimum of two Institutes of Technology, hence, the Technological University development process does not provide any significant lessons on the introduction of PhD awarding powers to the UAS sector.

However, to achieve overall RDI capacity expansion objectives for their UAS system; outside of just PhD awarding powers; Finland could learn from the methodology applied in Ireland in the creation of technological universities. This methodology placed a clear focus on the enhancement of the research capacity of merging institutes of technology which utilised (i) a clear legislative process to facilitate the creation of the Technological Universities (Technological Universities Act 2018) and (ii) which also provided additional funding outside of existing core funding (through the Technological University Transformation Fund), to support consortia of Institutes of Technology in meeting the criteria required to achieve University designation including specific criteria related to research capacity.

Appendix F Profile of the higher education system in the Netherlands

F.1 Structure of the HE system and their ecosystem

F.1.1 Number and types of institutions

The Netherlands has 14 publicly funded research universities (including the Open University and eight university medical centres attached to the universities) and 36 universities of applied sciences (UAS). In addition, there are four small denominational universities (mostly theological universities) that also receive public funding. These are the main higher education institutions in the Netherlands, although there are also a number privately funded higher (say, post-secondary) vocational institutions and one private university.

Table 16 Number and types of HEIs in the Netherlands

Type of HEI	Number
Universities - public	14
Universities – private	1
Universities of Applied Sciences	36
Theological universities	4

Various sources

Data for 2021 shows that universities hosted some 340,346 students, of which 213,616 were bachelor students and 126,730 were master students. This number represents an increase of 4% compared to 2020¹⁴². There has been a steady increase in student numbers for several years.

Universities of applied science in turn provide numbers of 2022 to 2023 and indicate 489,300 registered students¹⁴³. UMCs had 33,000 registered students in 2021¹⁴⁴. The Open University, a publicly funded organisation, offers flexible learning at a distance using online means. Its mission is to offer open, accessible, and innovative academic education in the Netherlands. As of 2020, the Open University had 6,504 new students enrolled, an increase of 18,8% compared to 2019; a total number of 18,344 students were enrolled by the end of 2020¹⁴⁵.

¹⁴² <https://universiteitenvannederland.nl/feiten-en-cijfers-onderwijs.html>

¹⁴³ <https://www.ocwincijfers.nl/sectoren/hoger-onderwijs/kengetallen-hoger-beroepsonderwijs/studenten/prognose-aantal-studenten-hbo#:~:text=Het%20geraamde%20totale%20aantal%20studenten,hbo%20de%20komende%20jaren%20daalt.>

¹⁴⁴ [https://www.rathenau.nl/nl/wetenschap-cijfers/geld/inkomsten-uitgaven-van-universiteiten-umcs-en-hogescholen/inkomsten#:~:text=In%202021%20volgen%20ruim%2033.000,promoties%20in%20Nederland%20\(CBS\).](https://www.rathenau.nl/nl/wetenschap-cijfers/geld/inkomsten-uitgaven-van-universiteiten-umcs-en-hogescholen/inkomsten#:~:text=In%202021%20volgen%20ruim%2033.000,promoties%20in%20Nederland%20(CBS).)

¹⁴⁵ https://www.ou.nl/-/forse-stijging-nieuwe-studenten-in-2020?p_l_back_url=%2Fweb%2Fopen-universiteit%2Fzoekresultaten%3Fa%3Daantal%2Bstudenten

The graduate numbers during the past five academic years are summarised in the table below.

Table 17 Development of number of tertiary education graduates, 2019 - 2021

Type of tertiary degree	2017/'18	2018/'19	2019/'20	2020/'21*
UAS Bachelor	70,255	68,035	67,459	71,307
University Bachelor	3,5106	36,401	38,226	43,038
University Master	39,958	41,843	42,635	47,753

Statistics Netherlands, 2022¹⁴⁶

F.1.2 Legal framework

Missions of HEIs

The mission of universities and UASs have been enshrined in the Dutch Law on Higher Education and Scientific Research since the law's inception in 1993.¹⁴⁷ The missions are complementary to one another. **Universities** focus on providing scientific education and conducting scientific research. Universities provide initial courses in university education, conduct scientific research, provide training to become a scientific researcher or technological designer and transfer knowledge for the benefit of society.¹⁴⁸

UASs in turn, provide higher professional education, often with a more applied focus. The law states that UASs "carry out design and development activities or research aimed at professional practice" and provide bachelor's programs in higher professional education, associate degree programs and master's programs in higher professional education where appropriate. Dutch UASs also aim to transfer knowledge for the benefit of society and contribute to the development of professions on which education is aimed.¹⁴⁹ In practice, as in Finland and other regions under study. Universities have a more theoretical educational focus and conduct fundamental scientific research, while UASs engage in more practical, applied education and applied research, focused on transferring research to practice. However, the increasing focus on the research role of Dutch UASs is making the distinction between fundamental and applied research ever blurrier.

Relevant laws and decrees

Higher education in the Netherlands is organised by the **Law on Higher Education and Research**, (Wet op het hoger onderwijs en wetenschappelijk onderzoek or WHW), implemented in 1992. The law has been adjusted and updated many times since then and continues to form the main legal basis for regulating higher education and research.¹⁵⁰ The law is implemented through a separate regulatory act, the **Implementing Decree for the Law on**

¹⁴⁶ Statistics Netherlands, (2023), Gediplomeerden en afgestudeerden; onderwijssoort, vanaf 1900, <https://opendata.cbs.nl/statline/#/CBS/nl/dataset/80384ned/table?fromstatweb>

¹⁴⁷ <https://zoek.officielebekendmakingen.nl/stb-1992-593.pdf> .

¹⁴⁸ Law on Higher Education (1993, adapted most recently on January 1st 2023), Article 1.3, <https://wetten.overheid.nl/BWBR0005682/2023-01-01>

¹⁴⁹ Law on Higher Education (1993, adapted most recently on January 1st 2023), Article 1.3, <https://wetten.overheid.nl/BWBR0005682/2023-01-01>

¹⁵⁰Wet op het hoger onderwijs en wetenschappelijk onderzoek, <https://wetten.overheid.nl/BWBR0005682/2023-01-01/0/informatie>

Higher Education and Research (“Uitvoeringsbesluit WHW”)¹⁵¹. The financing of higher education and research is organised by the **Regulation for Financing Higher Education**¹⁵², which is based on the main WHW law.

As part of the financing of higher education, a further law is also relevant, namely the *Wet op de Studiefinanciering (WSF)*, the **Law on Student Financing**, introduced in 1986. This law included provisions on a basic scholarship (*basisbeurs*), a supplementary scholarship (*aanvullende beurs*), and a voluntary student loan (*vrijwillige lening*). This law was introduced to make education affordable and accessible to all Dutch citizens who wished to study. Students living independently and away from home receive a different amount compared to those living with their parent, with amounts adjusted annually. At its inception, the law provided fl.605 (approx. €275 and fl.292 (approx. €132) per month to students living independently or at home, respectively.

Reforms in student financing laws

In recent years there have been reforms to the student financing laws and this has had an impact on the financing and governance of higher education. As such these reforms are described briefly in the following paragraphs.

In 2000 the WSF was replaced with a new law on student financing, the WSF 2000. This law transformed the scholarships into provisional loans (*initiele lening*), meaning that students who graduated within 10 years saw their loan turned into a grant. This was known as the *prestatiebeurs* or performance scholarship. The performance scholarship became the overarching term covering both the basic scholarship and the supplementary scholarship already enshrined¹⁵³. There have been further discussions on the topic of student financing, and these are discussed in section 2.1 of this case.

Beyond smaller shifts in the conditions for studying and fines for study delay, a large shift came in 2015 after years of discussion and it transformed the basic scholarship into a loan along with a reduction of the supplementary scholarship. Students would have up to 35 years to pay back the loan at an interest rate of 0%. Loan repayments are dependent on the level of an individual's income after leaving higher education; if a person has no employment, she or he would not need to start paying back their loan. This legal change to the financing led to budget savings on the part the government of around €1 billion.

Recently however, plans were approved in Parliament to reintroduce the scholarship-based system. After approval by the Senate (in July 2023), the basic scholarship (*basisbeurs*) will be reintroduced for the 2023-2024 academic year. The Ministry of Education, Culture and Science planned a scholarship of €275 for students living independently and €110 for students living at home. The policy rationale for this decision is to reduce financial stress (aversion to loans) among students and to reduce some of the financial obstacles for students in higher education as well as tertiary vocational (VET) programmes.¹⁵⁴

¹⁵¹ Uitvoeringsbesluit WHW 2008, <https://wetten.overheid.nl/BWBR0006152/2021-09-01/0>

¹⁵² Regeling financiën hoger onderwijs, <https://wetten.overheid.nl/BWBR0024005/2023-01-01>

¹⁵³ CHEPS, (Vossensteyn, de Boer en Jongbloed), (2017), Chronologisch overzicht ontwikkelingen besostigingsystematiek, https://ris.utwente.nl/ws/portalfiles/portaal/21793778/Vossensteyn_de_Boer_Jongbloed_2017_Chronologisch_overzicht_Ontwikkelingen_bekostigingssystematiek.pdf

¹⁵⁴ Rijksoverheid, (March 2022), Invoering basisbeurs voor alle studenten in hoger onderwijs, <https://www.rijksoverheid.nl/actueel/nieuws/2022/03/25/invoering-basisbeurs-voor-alle-studenten-in-hoger-onderwijs>

F.1.3 Stakeholder mapping (including the ecosystem) with roles and responsibilities

The **Ministry of Education, Culture and Science** (*ministerie van onderwijs, cultuur en wetenschap*, or OCW), is the main public authority overseeing higher education. The Ministry works with a series of agencies and independent public bodies to implement its policies.

Regarding higher education, important agencies involved in financing include **DUO** (*Dienst Uitvoering Onderwijs*). This organisation registers and coordinates student registrations and diploma receipt and registration, as well as the calculation and monitoring of study financing by students, implements student financing, and the repayment of student loans. It also monitors the finances of educational institutions in terms of financial accountability and the annual reporting by the institutions.

The Netherlands has a strong cultural history of consensus building and this is evident in **a robust social dialogue approach** where social partners are habitually consulted and involved in policymaking. This is no different for the higher education sector, where several social partners represent the interests of universities, universities of applied science (*hogerberoepsonderwijs* or HBO), and university hospitals (*universitaire medische centra* or UMCs):

- UNL (Universiteiten van Nederland), the representative body for Dutch universities
- VH (Vereniging Hogescholen), the representative body for UASs
- NFU (Nederlandse Federatie Universitair Medische Centra), the representative body for university hospitals

Other relevant stakeholders have been presented in the table below.

Table 18 Main stakeholders involved in financing higher education and research

Type of stakeholder	Name of the organisation	Roles and responsibility in the system	Website
Policy maker	Ministry of Education, Culture and Science (<i>Ministerie Onderwijs, Cultuur en Wetenschap</i> , or OCW)	National public authority responsible for education, culture and science.	https://www.rijksoverheid.nl/ministeries/ministerie-van-onderwijs-cultuur-en-wetenschap
Policy maker	Ministry of Economic Affairs and Climate Policy, Ministry of Health, Welfare and Sports	Sectoral ministries, roles include funding, encouraging innovation and health-related education respectively	https://www.government.nl/ministries/ministry-of-economic-affairs-and-climate-policy https://www.government.nl/ministries/ministry-of-health-welfare-and-sport
Public agency	DUO (<i>Dienst Uitvoering onderwijs</i>)	Education agency. Core tasks include providing financing to students, allocating financing to education institutions, monitoring diploma acquisition by students, diploma accreditation, amongst others.	https://duo.nl/organisatie/
Public agency	NVAO	national accreditor for bachelor and master's degrees	https://www.nvaonet.nl
Research financing organisation	NWO	National research financing organisation (research council). NWO also runs nine national research institutes.	https://www.nwo.nl/en

Type of stakeholder	Name of the organisation	Roles and responsibility in the system	Website
Research financing organisation	ZonMW	National research financing organisation – for medical and life science disciplines	https://www.zonmw.nl/nl/
Research association	KNAW	Royal Netherlands Academy of Arts and Sciences acting as the guardian and interpreter of science in the Netherlands. Also responsible for ten research institutes and two institutes that provide research infrastructure. The KNAW provides formal and informal advice to the government on science and science policy issues, including research quality.	https://www.knaw.nl/over-de-knaw
Research association	Jonge Akademie	Association within the Academy of Sciences representing the interests of young researchers and providing advice on developments and policies affecting researchers in the Netherlands.	https://www.knaw.nl/over-de-knaw
HEI Association	UNL	Representative for Dutch universities,	https://www.universiteitenvannederland.nl/
HEI Association	VH (Vereniging Hogescholen)	sector association for Dutch universities of applied sciences	https://www.vereniginghogescholen.nl/
HEI Association	NFU (Nederlandse Federatie Universitair Medisch Centra)	Sector association for medical universities	https://www.nfu.nl/en
HEI Association	NLU (Netwerk levensbeschouwelijke universiteiten)	Sector association for universities with a theological focus	https://www.uvh.nl/over-de-uvh/organisatie/universitaire-partners
Public organisation	Onderwijsinspectie	National inspectorate and quality assurer for education of all levels	https://www.onderwijsinspectie.nl/over-ons
Public organisation	Onderwijsraad	Provides formal advice on education matters to Parliament and the Senate (tweede kamer and eerste kamer, respectively)	https://www.onderwijsraad.nl/over-ons

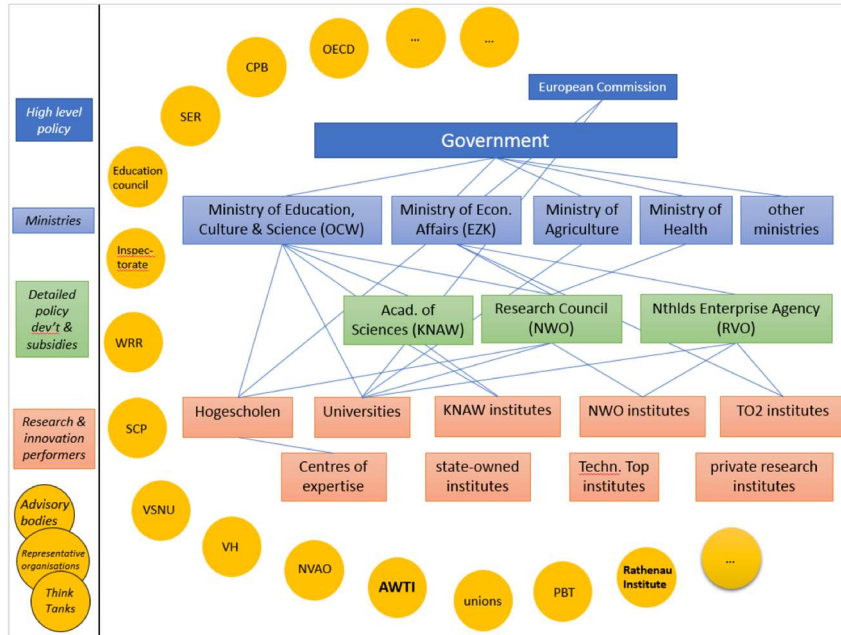
Source: Compiled by the author

The chart below provides a visualisation of a more expansive ecosystem of the actors in the Dutch higher education and research system. The more direct actors are listed in the table above. Key government actors such as ministries for health, agriculture, and economics influence the direction and focus of higher education policy even though they do not directly develop policies for this domain for example. Advisory councils and agencies, such as the KNAW (listed above), but also the enterprise agency can play an indirect role in higher education policy by helping to implement relevant instruments. The enterprise agency, the RVO, helps to implement instruments on skills and lifelong learning amongst entrepreneurs).¹⁵⁵ Furthermore, HEIs cooperate with a variety of different research and innovation performers, including Centres of Expertise (which are affiliated with collections of UASs), Technology Transfer institutes (TO2 institutes in Dutch), and private research institutes.

¹⁵⁵ <https://www.rvo.nl/onderwerpen/kennis-en-onderwijs>

As also indicated above, the Netherlands has a history of developing policy in consultation with sectoral and knowledge institutes. A more expansive range of actors is described in the visualisation (yellow spheres); these do not have a direct impact on higher education policy, but their insights do indirectly inform decisions by policymakers. These include for instance the OECD, the Social and Economic Advisory Council (the SER), the Central Planning Bureau (CPB, a governmental agency), and the Social Cultural Planning Bureau (SCP). The planning bureaus run calculations, develop reports and offer advice to policymakers on a range of domains and issues.

Figure 34 Main actors in the Dutch higher education and research system



Source: University of Twente, Cheps, accessible at: <https://research.utwente.nl/en/publications/overview-of-the-dutch-science-system-2>

F.2 Headline national policy priorities and initiatives

A series of higher education policy developments have taken place during the last five years. Since 2018, important developments include:

- The Sector Accord for higher education, 2018
- Quality agreements for higher education, 2019
- Government coalition agreement (when a new government came into office), December 2021
- Establishment of the Dutch Growth Fund in 2021
- Governance Agreement Higher Education and Research, 2022

These various policies have governance and funding implications for the Dutch higher education and will be described in turn before examining the main trends from the past five years.

F.2.1 Policy priorities as expressed in government policy and guidance

The Sector Accord for higher education, 2018: the government established a sectoral accord (i.e. agreement) with the higher education sector. The agreement stipulates how the extra

resources resulting from the 2015 student financing reform would be injected back into the HE system. The accord established joint agreements on the following aspects for HEIs:

- The spending and allocation of the new financing resources,
- Transparency: specifically on the developments in research, education and impact generated by universities and UASs,
- Strengthening impact: social and research impact, through for instance establishing knowledge transfer offices or start-ups,
- Lowering work pressure: notably by lowering the administrative burden amongst university teachers and staff,
- Internationalisation: to promote an effective internationalisation in research and education, both UASs and universities agree to seek optimal solutions with respect to non-Dutch language tracks in degree programmes, student housing, and international student intake.
- Accessibility: HEIs agree to review and improve the selection criteria for incoming students.¹⁵⁶

These priorities guided the policy actions for higher education and are still reflected in current policy priorities. The Sector Accord also gave rise to agreements on how financing (generated from the 2015 tuition fee changes) was to be distributed (see below and section F.3 for further detail on how this impacted the funding of higher education).

Quality agreements for higher education, 2019: In 2019 HEIs and the government entered into an agreement to commit to raising the quality of Dutch higher education. In part due to the extra financing made available by the 2015 student financing reforms and in response to growing student numbers and the pressure this put on staff workload and the quality of higher education.¹⁵⁷ (This agreement is described in further detail in section 1.3).

Government coalition agreement (when a new government came into office), December 2021: The current government coalition, Rutte IV, arrived at a coalition agreement on December 15th of 2021. This agreement contains an overview of the main government priorities for 2021 – 2025, including priorities for higher education¹⁵⁸:

- Plans to (re)introduce a basic grant and a supplementary, income-dependent grant in 2023 to 2024.
- Reducing the student loans for those students for whom grants were not available (1 billion euro was to be allocated for this instrument),
- Reflecting on how to navigate the increasing numbers in (international) students,
- Investing in free, non-mission focused scientific research (through a 5-billion-euro research fund),
- Adapting selection procedures for entry into study programmes so that these better align with the requirements of the study programme and so that these promote equal opportunities,
- Adapting the Binding Study Advice (BSA) rules,

¹⁵⁶ VSNU (UNL), (2018), Sectorakkoord, <https://www.universiteitenvannederland.nl/sectorakkoord.html>

¹⁵⁷ VH, (no date), Kwaliteitsafspraken, <https://www.vereniginghogescholen.nl/kwaliteitsafspraken>

¹⁵⁸ Coalitieakkoord 2021 – 2025, VVD, D66, CDA en ChristenUnie, (2021), Omzien naar elkaar, vooruitkijken naar de toekomst, <https://open.overheid.nl/documenten/ronl-f3cb0d9c-878b-4608-9f6a-8a2f6e24a410/pdf>

- And protecting academic freedom.

Beyond this, the agreement also cites aims to protect social safety (sociale veiligheid) within HEIs and promoting equal opportunities and access to higher education for all.

The coalition agreement has given rise to a series of further policy strategies for Dutch Higher Education. In 2022, the new minister of Education, Culture and Science announced three new overarching priority areas, described in the Governance Agreement for Higher Education and Research.

It is also worth noting that the ministry of Education, Culture and Science also established a broader, overarching goal of improving the appreciation and policy attention for VET programmes (*middelbaar beroepsonderwijs* or mbo). VET programmes and technical professions are seen as a crucial way for meeting the digital and green transitions and both the societal and policy appreciation for VET programmes as tertiary education options should be improved.

Establishment of the Dutch Growth Fund in 2021: though this policy instrument is not specifically aimed at higher education, this national fund has had an impact on higher education and notably, on digitisation in higher education. A further important policy development for the Netherlands as a whole, including for the Dutch higher education sector, was the establishment of a National Growth Fund in 2021. This national fund is in essence a financing allocation mechanisms whereby consortia of public authorities, enterprises, knowledge institutions, sector organisations and HEIs can apply for the financing of large-scale initiatives across policy domains. The rationale is that the financed projects should contribute to strengthening of the Dutch economic growth. The National Growth Fund encompasses €20 billion and will provide investments to winning consortia between 2021 and 2025. Projects can receive financing from €30,000,000 onwards.¹⁵⁹ So far, three calls for applications have taken place. The applications for the third and most recent call were submitted in January and February 2023 and are still being assessed.¹⁶⁰

During the second round of the Growth Fund the education sector as a whole was accorded funding for several projects. For the higher education sector, one particular large-scale initiative was awarded financing during the second round of calls for the Growth Fund. This was the **Digitalisation Impulse for Education NL** (*Digitaliseringsimpuls Onderwijs NL*). This initiative received €560 million in 2022 and aims to support VET institutions, universities and UASs to combine their resources and strengths to better capitalise on the opportunities offered by digitisation. The initiative has the goals to: 1) increase the quality of education, 2) make education more flexible and adaptable so that it aligns better with labour market needs, 3) to help learners and teachers to improve their practical and critical digital skills.¹⁶¹

To achieve these goals the initiative will invest in collective ICT-infrastructure and a broader knowledge infrastructure for the sector. In the first stage of the project HEIs and VET institutions will establish their own Centre for Teaching and Learning where teachers from these institutions can obtain advice or training to apply to their education activities. The initiative sets the target of establishing such centres in each of 113 institutions involved with the initiative during the next eight years. Furthermore, the initiative foresees the establishment of two national transformation

¹⁵⁹ RVO, Subsidieregeling Nationaal Groeifonds, <https://www.rvo.nl/subsidies-financiering/subsidieregeling-nationaal-groeifonds>

¹⁶⁰ <https://www.nationaalgroefonds.nl/indienen-ronde-3>

¹⁶¹ Nationaal Groeifonds, (2022), Digitaliseringsimpuls onderwijs NL, <https://www.nationaalgroefonds.nl/projecten-ronde-2/digitaliseringsimpuls-onderwijs-nl> .

hubs to facilitate the exchange of knowledge and innovation between higher education and research organisations and public and private organisations.

Governance Agreement Higher Education and Research, 2022: Building on the priorities laid out in the coalition agreement, in 2022 the Ministry for Education, Culture and Science established governance agreement for higher education and research. The ministry and the three main HEI associations, the UNL, VH and NFU (who was represented via the UNL) were signatories to this agreement.

The Governance Agreement for Higher Education and Research in 2022 (*Bestuursakkoord 2022 Hoger Onderwijs en Onderzoek*) provides more concrete objectives which the government and sector agree to work towards. The current government has allocated an extra budget of around €650 million annually to universities and UAS for the upcoming ten-year period to achieve these ambitions¹⁶².

The Ministry and the representative associations defined three main priority areas for both education and research:

- Strengthening the foundation for education and research
- Providing space for diverse talents
- Increasing the societal impact of research¹⁶³

The emphasis was placed on research, because the research funds were felt to have fallen behind compared to the education funds, as the latter increased due to rising student numbers.

Specifically, the parties agree to focus their efforts on topics such as increasing access opportunities for students and improving student well-being, maintaining and enhancing the quality of education, improving institutional accreditation procedures, increasing societal relevance and impact of education, promoting social safety and inclusion within HEIs, optimising the use and application of knowledge generated, increasing the safety and protection of knowledge generated, exploring future trends, and more systematic monitoring of investments made by HEIs and the achievements of HEIs. As Dutch HEIs have a strong degree of autonomy, institutional approaches to addressing these priorities vary, though sectoral organisations such as UNL and the VH try to provide sectoral coordination where possible (or welcome).

Universities of applied sciences specifically agree to address structural labour market gaps in areas like education, care and engineering, revitalising specific regions in the Netherlands (notably those regions where populations and labour pools are shrinking), and to strengthen applied practice-oriented research in UAS, which currently is underdeveloped. Universities in turn agree to reducing the work pressure for staff, to strike a good balance for internationalising education and research, supporting curiosity-driven research, mission-driven research (focusing on the SDGs), enhancing strategic cooperation between HEIs and societal partners,

¹⁶² Bestuursakkoord Hoger Onderwijs en Onderzoek 2022 – 2030, <https://open.overheid.nl/documenten/ronl-fcd6dcb389dae70bfc3f39317ee1cf2672b302ba/pdf>

¹⁶³ Bestuursakkoord 2022 hoger onderwijs en wetenschap., <https://open.overheid.nl/documenten/ronl-fcd6dcb389dae70bfc3f39317ee1cf2672b302ba/pdf>

and providing better career opportunities and working conditions for young researchers in universities.¹⁶⁴

Related to the latter, recent discussions in higher education touch on the competitive pressures experienced by **researchers in universities**. New priorities for both the government and HEIs in this area include reducing competition for research funds and giving more space and stability for talented researchers, thus reducing their work pressure. In addition, there is attention for topics like space for mission-based and fundamental research, diversity and social inclusion, safety on the work floor, human resources policies.

F.2.2 Trends from the past five years affecting the system

Several policy trends have been affecting Dutch policy discussions on the funding and governance of Dutch higher education.

Reflecting on the financing model for higher education: the issue of higher education financing has become more prominent in policy discussions during the last five years. In 2018 an advisory committee was assembled and tasked with investigating the financing of higher education and research in the Netherlands, known as the Van Rijn Commission (*Van Rijn Commissie*).¹⁶⁵ The committee concluded that the incentives implied by the financing model used for distributing core funds to HEIs were encouraging HEIs to compete for students. The committee advised reducing the emphasis on student numbers in order to increase financial stability in the higher education system. The system was felt to create an unhealthy competition for students, risking a decline in the quality of education provided by HEIs. The government at the time adopted the majority of the Van Rijn Commission recommendations,¹⁶⁶ including finding a renewed balance in variable and fixed financing for HEIs (this is explained in further detail in section 3.3).

Rising student numbers, the financing model and quality of education: Given the conclusions of the 2018 Van Rijn Commission a revision of the financing model was implemented in 2020. This meant an increase in the student-independent allocation per institution and a reduction of the emphasis placed on student intake.¹⁶⁷ Despite this, the number of students enrolling in research universities continued to increase. A record number of students (817.000) enrolled in Dutch HEIs in the year 2021, twice as many as twenty years before¹⁶⁸. The UAS, however, experience a decline in enrolments, a trend that is expected to continue. This has prompted further discussions on how to stabilise their budget, given that many UAS play a vital role in their regional education and labour market and innovation ecosystem. This will keep feeding the discussion on the higher education financing system for the years to come. Dealing with volatile student numbers and managing the intake of international students (see below) have

¹⁶⁴ Idem.

¹⁶⁵ Rapport Advies Commissie Bekostiging Hoger Onderwijs en Onderzoek (2019), , Wissels Om - Naar een transparante en evenwichtige bekostiging, en meer samenwerking in hoger onderwijs en onderzoek, <https://open.overheid.nl/documenten/ronl-97d77dbb-0c58-410f-8aa5-f80e1412b88a/pdf>

¹⁶⁶ ScienceGuide, (2019), OCW neemt aanbevelingen Van Rijn grotendeels over, <https://www.scienceguide.nl/2019/06/ocw-neemt-aanbevelingen-van-rijn-grotendeels-over/>

¹⁶⁷ <https://www.berenschot.nl/media/i0kk5fgd/berenschot-rapport-vast-variabele-onderwijsfinanciering.pdf>

¹⁶⁸ NOS, (2021), Recordaantal studenten aan Nederlandse universiteiten en hogescholen, <https://nos.nl/artikel/2367263-recordaantal-studenten-aan-nederlandse-universiteiten-en-hogescholen> .

contributed to a rising pressure on HEIs and on how to preserve their (still well-recognised) education quality.

Rising student numbers put pressure on cities and regions: Reflecting on how to deal with scarcity in student housing in student cities that are home to particularly large universities (such as the universities in Amsterdam, Utrecht, or Groningen): student and international students numbers continue to grow, which has been putting pressure on both the quality of education which universities can provide as well as the regional infrastructure. The Netherlands faces a housing shortage due to demographic changes, immigration and environmental reasons, and this shortage has reached acute levels in student cities. The rise in students is also driven by large influxes of international students. In 2018, a National Monitor for Housing was established, bringing together social partners, local and regional authorities, and the representatives from the national ministries to design policy solutions to this issue.

The limits of internationalisation: the Netherlands has been very successful in attracting international students, so much so that policy debates and discussions are currently taking place on what the ideal degree of internationalisation is for the country. Of the total number of students in the Netherlands some 115,000 were international students and 40% of first-year students at universities came from abroad in the academic year of 2021/22.¹⁶⁹ This increase has given rise to a related policy trend in 2022 of reflecting carefully on how to proceed with international student recruitment and internationalisation policies. Reasons for this rise in international students include the high quality of the education compared to the level of tuition fees, even for non-EEA students who must pay the full price of college tuition fees. Beyond the financing conditions, the relatively high number of English-spoken degree programmes and the open access character of Dutch higher education is attractive to students from abroad. To illustrate this, from 2018 to 2019, 76% of Master programmes were in English, while this was 28% for Bachelor programmes¹⁷⁰. Furthermore, from a societal perspective, the Dutch system is characterised by safety, security and open-mindedness¹⁷¹.

Internationalisation has several positive aspects, such as a more competitive research climate and a diverse scientific talent pool within HEIs, which in turn helps to raise the international standing of a university. Students from outside the EEA also bring more financing (in terms of tuition fees) with them. On the other hand, the challenges listed in the previous point have led HEIs and policymakers to reflect on the extent to which internationalisation efforts by universities can be managed better in future (targeting specific countries or students for specific disciplines).

Human resource policies in higher education: Even though overall funding for HEIs increased, still the budget per student did not keep pace with rising student numbers. This meant that there were less teachers per student. The minister therefore committed extra financing to HEIs to create more stability and financial security. At the same time, the Ministry tried to encourage HEIs to use their financial reserves for extra investments on infrastructure, student support and offering their lecturers and researchers more long-term employment contracts.¹⁷² To this day

¹⁶⁹ Retrieved from <https://www.cbs.nl/en-gb/news/2022/11/40-percent-international-first-year-students-at-dutch-universities>

¹⁷⁰ Ministry of Finance, (2019), IBO – internationalisering van het (hoger) onderwijs (IBO - internationalisation of (higher) education).

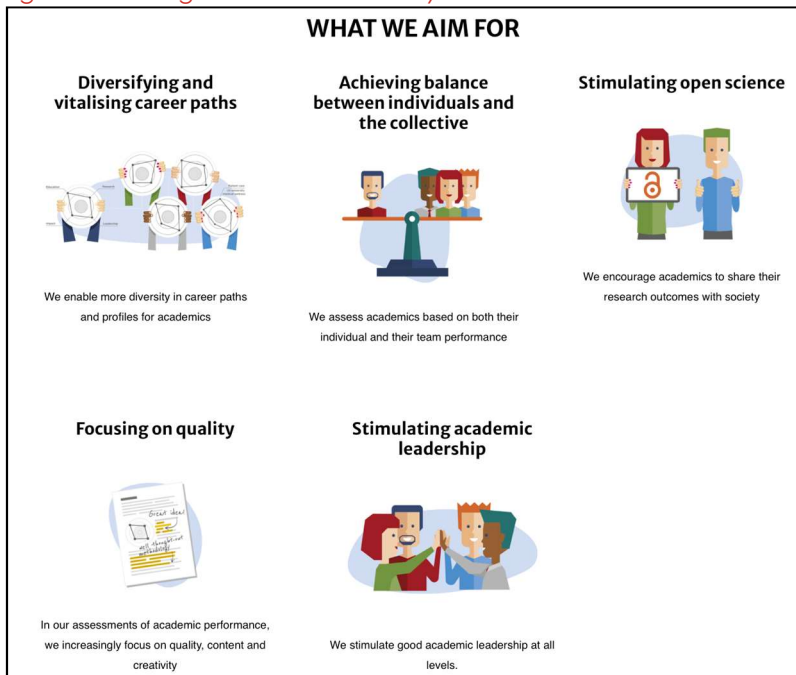
¹⁷¹ Finnish Ministry of Education and Culture (2023), Dutch case study on attracting international students, (by Technopolis NL on behalf of Innolink Finland), not public.

¹⁷² BRIEF VAN DE MINISTER VAN ONDERWIJS, CULTUUR EN WETENSCHAP (Letter to Parliament from Minister of Education, Culture and Science), (2019), Bekostiging Hoger Onderwijs en Onderzoek, Vergaderjaar 2018–2019,

policy discussions continue between the Ministry of Education, Culture and Science on creating more job security for academics and reducing their work pressure. The extra investments resulting from the Sectoral Accord are to be used for this. However, HEIs, and universities in particular, indicate that they do not have the budgets to offer better employment contracts or hire more teacher staff. Despite this, competition in academia – in particular for prestigious research funds from (national and international) research councils - remains high.

In recent years, this has led to a rethinking of the universities' human resources policies and resulted in a policy known as Recognition and Reward (Erkennen & Waarderen), that evaluates academics on a broader set of criteria than just quantitative indicators such as publications and citations.

Figure 35 Recognition and rewards system



Source: <https://recognitionrewards.nl>

While this issue of researcher assessment and the recognition and rewards system does not directly impact higher education governance and funding, this topic contributes to issues such as the work pressure faced by researchers and teachers in HEIs and consequently, policy and sector discussion on remuneration and employment contracts for these individuals. In this way the rewards and recognition of teachers and researchers in HEIs also drive policy debates on how HEIs are financed in the Netherlands.

F.3 Funding and governance of higher education

F.3.1 HE ownership and income profile

In terms of the HE income profile, government funding forms the largest source of income for Dutch HEIs. Beyond that, tuition fees, research financed by third parties as well as more sporadic government financing and miscellaneous forms of income constitute the main

Kamerstuk 31, 288, nummer 744, https://www.tweedekamer.nl/kamerstukken/brieven_regering/detail?id=2019Z12982&did=2019D26753 .

financing sources for Dutch HEIs. While there are differences between universities and UASs, with some being smaller and larger, the overarching income profile for the sector is presented below in Table 19.

Table 19 Financing sources for HEIs, 2020

in million €	Universities	UASs
Government funding	4.756	3.396
Tuition fees	781	880
Other government financing	369	63
Research financed by third parties	1.924	197
Miscellaneous	522	124
Total	8.352	4.660

UNL¹⁷³ and VH¹⁷⁴

The tuition fees in the Netherlands, though not the core part of this case, do play a role in the financing and governance of HEIs. The level of the fee and whether it is covering the cost of education is part of the current policy discussions on tuition fees and (international) student numbers. The levels of tuition vary between EU and Dutch students on the one hand, and for non-EU students on the other, leading to an incentive for HEIs to attract international students. In the context of pressures on the current financing model, international students can form an important source of income.

Tuition fees in the Netherlands

In the Netherlands most, students pay the government-regulated tuition fee. This is a standard fee, adjusted slightly each year. The fee for 2022-2023 is €2,209 per year for a full-time student with new entrants paying half that amount. The fee for non-EU or non-EEA students and students who already completed an academic degree is set by the HEI itself and is supposed to reflect the actual costs of the degree programme, as the government does not fund these student categories. This fee is referred to as the institution fee (*instellingscollegegeld*), and it can vary per HEI and per study programme. Tuition fees for such international students can range from EUR6,000 to 10,000 for Bachelor programmes, and from EUR 8,000 to 20,000 for Master programmes¹⁷⁵. Students from the EU/EEA and those with special permit statuses (e.g., refugees) pay the stipulated fee. Dedicated scholarships for international students are relatively rare.¹⁷⁶

F.3.2 Funding mode (e.g. degree of performance-orientation)

Overall funding model: the Dutch higher education system is financed predominantly by the Ministry of Education, Culture and Science. This is done by means of a funding formula. The funding is dedicated to the research and the education offered by HEIs and both the education and the research component in the formula have variable and fixed parts. The

¹⁷³ https://www.universiteitenvannederland.nl/f_c_baten_en_lasten.html

¹⁷⁴

https://www.vereniginghogescholen.nl/system/knowledge_base/attachments/files/000/001/383/original/Factsheet_financi%C3%A4le_positie_hogescholen_2017-2021.pdf?1682940252

¹⁷⁵ <https://www.umultirank.org/study-in/the-netherlands/>

¹⁷⁶ Finnish Ministry of Education and Culture (2023), Dutch case study on attracting international students, (by Technopolis NL on behalf of Innolink Finland), not public.

balance between fixed and variable parts has come under much scrutiny in recent years due to the aforementioned trends of increasing student numbers and increased competition for students and research funds.

The Ministry provides the largest share of revenues (about 62%), while tuition fees represent some 13%, third party funds (e.g., research financing via the Dutch research council NWO and the EU) forming the remaining 25% of revenues for universities and UASs.

Government expenditure for higher education was distributed as follows between universities and UASs (Table 20).

Table 20 Government expenditure on HEIs, 2010 and 2020

Government expenditure to HEIs	Tertiary education		Universities		UASs	
	2010	2020	2010	2020	2010	2020
Total government expenditure to HEIs (in million €)	7164	9618	4517	6003	2647	3615
Expenditure to HEIs: lumpsums	6339	8656	3782	5159	2557	3497
Expenditure to HEIs: contract research	704	827	688	789	16	38
Expenditure to HEIs: research and other apparatus	121	135	47	55	75	80
Expenditure to HEIs as % of GDP	1,1%	1,2%	0,7%	0,7%	0,4%	0,5%

Statistics Netherlands, 2023¹⁷⁷

Government funding of HEIs: the national government finances both education and research conducted by HEIs. For universities the government finances an education and a scientific research component, as well as a medical education and medical research component¹⁷⁸. For UASs the government finances an education component and a design and development component for practice-oriented research.

For all HEIs, both the education and research components each have a **variable** and a **fixed** portion:

1. a fixed amount which all public universities receive, but which differs between HEIs
2. a variable amount - this variable amount depends on a) the number of students registered in an accredited Bachelor and Master programmes (within the officially allotted time for attaining a diploma without study delays), and b) the number of completed Bachelor and Master programmes (based on the number of diplomas granted).¹⁷⁹

This system is based on a by-law from the year 2008 (*Uitvoeringsbesluit Wet Hoger Onderwijs*).

The fixed component of higher education and research financing was established to pay for fixed costs which HEIs might incur. These include staff, research infrastructure and housing costs for instance.

¹⁷⁷ Statistics Netherlands, <https://opendata.cbs.nl/statline/#/CBS/nl/dataset/80393ned/table?ts=1685532066096>

¹⁷⁸ UNL, Rijksbijdrage universiteiten, https://www.universiteitenvannederland.nl/nl_NL/bekostiging-universiteiten.html

¹⁷⁹ Rijksoverheid, (no date), Financiering hoger onderwijs, <https://www.rijksoverheid.nl/onderwerpen/financiering-onderwijs/financiering-hoger-onderwijs>

However, as the Van Rijn Commission demonstrated, the variable component of education financing has been subject to fluctuations during the previous decade. The fixed component of financing has not grown at the same pace as the variable, student-based portion of financing. The relative importance of the variable, student-based portion of the budget has grown compared to the fixed portion and this has led to increased incentives amongst HEIs to attract more and more students so as to attract more government financing. The way in which the balance between variable and fixed government financing has evolved is presented below as an illustration. Table 21 shows how the proportion has shifted between 2011 and 2018 while Table 22 shows how the variable portion of education funding has fluctuated between 2013 and 2021. This table also shows the effects of trying to adopt the Van Rijn Commission recommendations and reducing the comparative weight of the variable education funding compared to the fixed funding.

Table 21 Proportion of fixed and variable education financing in Dutch HEIs, 2011 - 2018

Year	2011		2018	
	Universities	UAS	Universities	UAS
Fixed	40%	20%	28%	13%
Variable	60%	80%	72%	87%

Berenschot, 2021.

Table 22 Evolution in variable funding proportion for education in Dutch HEIs, 2013 - 2021

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021
Universities	67%	67%	69%	68%	70%	74%	74%	59%	60%
UASs	90%	88%	89%	89%	89%	89%	89%	80%	80%

Berenschot, 2021.

As indicated above, the funding mechanism is under pressure as the variable portion of government financing is tied to the number of students registered in the Master or Bachelor programmes (within the stipulated time to degree) and the number of graduates (i.e. the number of Bachelor's and Master's degrees). The incentive to attract increasing numbers of students has put led to threats to the quality of education, housing issues (in student cities), increasing pressure on teachers and researchers as well as students (see the section 1.2.2 on trends). The reasons for the increase of student numbers are varied, from the individual - signalling more individual motive at work: a degree makes individuals stand out in the competition for jobs¹⁸⁰ - to societal desires to have young people attain the highest possible qualifications. This is also tied to the fact that employers continue to desire more highly qualified workers - whether this aligns with the specific tasks of a profession or not -, and the fact that education has historically been financially accessible and of good quality by international standards¹⁸¹. Interview partners emphasise that the growing number of students is one of the larger problems which universities face today, more so than UASs where the increase has not been as strong.

¹⁸⁰ <https://researchcage.org/perch/resources/events/cage-webinar-20-april-2023-1.pdf>

¹⁸¹ Interview input.

Given the trend of increasing student numbers, the current system of financing higher education has been **creating various adverse effects**. These effects have become increasingly salient in public policy discussions in the last several years. In combination with sharp increases in the number of students in recent years has meant that HEIs - and universities in particular - have seen their total financial resources per student declining.

F.3.3 *Performance agreements between HEIs and ministry (content, scope, level of detail)*

Beyond financing HEIs based on their student numbers and numbers of diploma's attained by enrolled students, Dutch HEIs also receive financing based on other performance metrics. As a result of the 2018 Sector Accord (described in section 1.2), a series of quality agreements were established between the Ministry for Education, Culture and Science and the higher education sector.

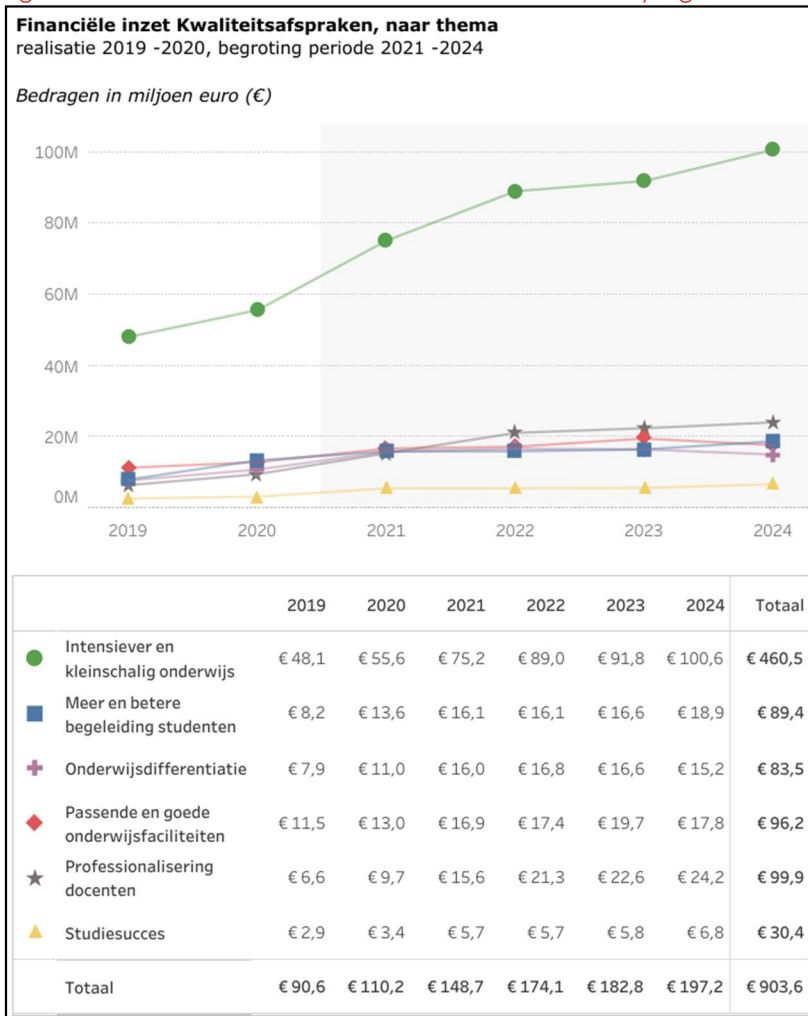
Quality Agreements Higher Education, 2019 – 2024 outlined six main areas in which HEIs were expected to invest in raising the quality of teaching and learning:

1. More intensive, smaller scale education,
2. More and better support to students,
3. Raising the study performance of students,
4. More differentiation in education,
5. Suitable and sound educational facilities,
6. Further professionalisation of teachers,

HEIs were to establish their own plans and approaches to pursuing these six priorities, together with factions of students, teachers, and researchers from their institutions. The plans which HEIs developed were to be examined and approved by the Dutch accreditation agency (NVAO), which formally offers its advice to the Ministry of Education, Culture and Science who then approves the plans (or not). Plans are assessed along three main criteria: 1) the plan feasibly contributes to the quality of education, 2) internal stakeholders have been properly involved in the decision making, and 3) the proposed plans are realistic considering the planned investments.

Universities each have their own quality agreements and plans and agree to monitor these and account their activities in their annual reports. The overall allocation of financing in the HE sector, across the six main areas for 2019 – 2024 looks as follows (Figure 1 below). The figure shows that the majority of investments have been dedicated to stimulating more intensive and small-scale education. For the other priorities, including as training and professionalisation of teachers and improved guidance for students, the dedicated financial allocation is much lower.

Figure 36 Financial allocation of resources under Quality Agreement for HE, 2019 – 2024



UNL (no date)¹⁸²

F.3.4 Other non-funding governance tools

Other non-funding governance tools include:

- Quality Assurance - the move towards institutional accreditation, partly replacing programme accreditation
- The regulation surrounding the introduction of new degree programmes by HEIs
- The (relatively new) quality assurance for research (the SEP protocol)
- The new HR policy in universities (Recognition & Rewards)
- The regulation of student intake (only in some study programmes) and the debate on student selection
- The National Research Agenda (from November 2015) that included a total of 140 broad scientific questions that had been identified in a wide consultative process. It is intended as a leading instrument in the award of funds for science, acting as an instrument supporting scientific breakthroughs

¹⁸² https://www.universiteitenvannederland.nl/nl_NL/kwaliteitsafspraken.html

F.4 Notable initiatives or policy reforms of interest

Regarding **digitisation of higher education**, it should first be noted that experts in digitisation do not necessarily agree that the Netherlands is a front runner in this area, nor in fact on fundamental research into digital technology. Experts indicate that the Netherlands often looks to Finland and Estonia for examples on digitisation and society for instance.

Looking at the broader context of digitisation in Dutch higher education, there is no one single policy framework which guides this process. Experts indicate that digitisation in higher education as in all levels of Dutch education, takes place at different paces amongst specific schools and institutions, leading to a heterogeneous level of digital uptake and a fragmented progression of digitisation across education as a whole^{183,184}. Some schools and HEIs are therefore further ahead in using digital technologies to provide and facilitate classes, to govern and administrate schools and degree programmes, or to track and monitor student progress.

The University of Utrecht for instance has established a research support department for designing and setting up data management infrastructures in HEIs and research institutes. The centre supports different institutes looking to establish or expand their research data infrastructures. The Free University of Amsterdam (the VU), in turn is a frontrunner on the secure use of student data and their approach has been adopted by other universities, such as the Erasmus University of Rotterdam. While useful developments, these examples illustrate how the pace of development and uptake of digital applications in higher education varies across HEIs.

Value-based assessment framework for digitisation: In recent years, since 2017, policy discussions on digitisation and (higher) education started to grow more alarmed at the lack of insight into how digital technologies were being used in education and what the effects of these applications are on learning outcomes¹⁸⁵. Due to this mounting concerns as well as the breadth and complexity of digital applications, SURF, together with a number of institutions from the education sector (including Kennisnet¹⁸⁶), developed a value-based assessment framework to help assess the effects of digital technologies in education.

Main policy topics digitisation of higher education: Currently, policy and more operational discussions by HEIs and knowledge institutes on digitising higher education centre on the following types of topics:

- Using student data effectively and responsibly by setting up suitable data management infrastructures within and between institutions
- Using student data to monitor their performance across different metrics
- Using student data as part of testing, flexibilization of education by offering it through different, digitally supported modes (to help inclusion)
- Flexibilisation of education by offering more specialised programmes or modules

¹⁸³ Rathenau Instituut (2017)

¹⁸⁴ Input from experts

¹⁸⁵ Interview input, Rathenau Instituut (2022), Naar Hoogwaardig Digitaal Onderwijs, https://www.rathenau.nl/sites/default/files/2022-02/Rathenau%20Instituut_Rapport_Naar_hoogwaardig_digitaal_onderwijs-24feb2022.pdf

¹⁸⁶ SURFs counterpart for the primary, tertiary, and secondary school sectors.

- Keeping knowledge of graduates relevant to the labour market (*modularisation*)
- Establishing secure data management infrastructures for research,
- Measuring learning outcomes through digital approaches.

These discussions are taking place at a high, abstract level in many cases. However, these are the trends in topics which experts and policymakers are currently starting to consider more seriously.¹⁸⁷

SURF sectoral cooperation for digitisation in higher education and research and the Acceleration Plan

SURF is a cooperative association of Dutch educational and research institutions which aims at pulling together its members expertise for the advancement of digital technologies for the higher education sector. The organisation was established by the representative bodies of universities, UAS, university medical centres, VET and research institutes (in total of 126 institutions are represented), the owners of SURF. SURF is financed by the individual members, where larger HEIs contribute with €250,000 per year and the financing from smaller HEIs is tailored to their size and resources. The Ministry of Education, Culture and Science is also a stakeholder, although it does not contribute to the governance of the organisation.

SURF delineates 9 "innovation zones" which guide its activities. These innovation zones are broad topics on which formal collaborations between member organisations are established. They are:

1. State of the Art for cybersecurity and knowledge safety
2. Facilitating flexible and efficient education
3. Stimulating the development of digital learning materials
4. Using student and degree data responsibly
5. Providing online education and digital testing
6. Responsible handling of data
7. Optimising the use of digital infrastructure
8. Developing skills and capacities within disciplines
9. Strengthening open science¹⁸⁸

In practice SURF members cooperate to research, share expertise, and develop technical knowledge on the various themes. Cooperation takes place through designated communities and there are over 30 of such thematic communities with over 4,000 active members.¹⁸⁹ SURF, as a sectoral cooperation, is considered an important partner in policymaking and has close ties with the Ministry of Education, Culture, and Science. The organisation is consulted in policymaking on digitisation and related themes, including knowledge safety and cybersecurity. Consulting sectoral organisations, formally and informally, is an important element, an institutional habit of Dutch policymaking. As such, though this kind of relationship

¹⁸⁷ Interview input, Rathenau Instituut (2022), Naar Hoogwaardig Digitaal Onderwijs, https://www.rathenau.nl/sites/default/files/2022-02/Rathenau%20Instituut_Rapport_Naar_hoogwaardig_digitaal_onderwijs-24feb2022.pdf

¹⁸⁸ www.surf.nl

¹⁸⁹ <https://communities.surf.nl/about-surf-communities>

with SURF is by no means irregular, the organisation is considered a particularly important partner in the aforementioned policy domains by the Ministry¹⁹⁰.

Acceleration plan for digitisation of higher education: One of the recent, more important policy initiatives on digitising higher education was the **Acceleration Plan**¹⁹¹, (*Versnellingsplan*). This plan was designed at the initiative of SURF. One of the rationales for this plan was the belief among HEIs and policymakers that the Netherlands, although as a society is quite digitally inclined, was lagging behind in the digitisation of (higher) education. The Plan ran from 2019 to 2022 and was carried out by 39 universities and UASs. The aim of this plan was to capitalise on the opportunities offered by digital technologies for raising the quality of education. The mission was to help HEIs to take individual as well as collective, sectoral steps in this area. The plan had three main ambitions:

1. To improve the connection between educational degrees and labour market needs
2. To stimulate more flexible education,
3. To use technology better and in smarter ways to improve the learning process

In line with the SURF innovation zones, implementing the plan took place through seven innovation zones and three working groups. The financing of the SURF programme was also dedicated to the implementation of the Acceleration Plan.¹⁹² The Acceleration Plan helped to stimulate collective action in the HE sector along the aforementioned three priority areas. These priority areas remain relevant, even now the Plan ended in 2023. The Plan has since been renewed under a new plan named I h. The goal of this eight-year plan is to bring together VET, UAS and research universities to enable system transformation in education that enables meet changing needs in the society and education.¹⁹³

It is difficult to provide an assessment of results of the digitisation initiatives. However, the SURF cooperation is considered an effective organisation which is taking a key coordinating and driving role in the digitisation of higher education.

F.5 Lessons learnt

The following table provides an overview of the main strengths and current weaknesses in the Dutch system.

Strengths	Weaknesses
<ul style="list-style-type: none"> • Strong cultural history of consensus building, and this is evident in a robust social dialogue approach where social partners are habitually consulted and involved in policymaking • Use of sectoral accords i.e. agreements with the sector to achieve targets for the whole higher education system • High levels of institutional autonomy • UAS play a vital role in their regional labour market and innovation ecosystem 	<ul style="list-style-type: none"> • Less good access opportunities for students from disadvantaged backgrounds • Image & Position of vocational education (our Minister is advocating a re-valuation of VET and vocational education) • Participation in Lifelong Learning is less than desirable • High workloads for academic staff & high competitive pressures in research • Mental health issues among students

¹⁹⁰ Interview input, author expertise

¹⁹¹ www.versnellingsplan.nl

¹⁹² <https://www.versnellingsplan.nl/over-versnellingsplan/>

¹⁹³ <https://npuls.nl/english/>

Strengths

- Open access in education (open to international collaboration)
- High quality education - as internationally recognised
- Diversity of programme supply
- Attractive to international students & staff
- Good research (& IT) infrastructure, high productivity; great scores in ERC grants
- Strong evaluation culture in education & research
- Teacher professionalisation
- Success in EU research programmes
- Some Hi-tech regional clusters & hotspots (such as Brainport in Eindhoven)

Weaknesses

- Transfer & educational pathways of students are very cumbersome and there are strict boundaries between VET - UAS - University sectors
- Employer and learner satisfaction with VET raises concerns about graduate skills & competencies
- Shorter degrees (Associate degrees) underdeveloped
- Professional PhDs (in UAS) underdeveloped (there are initiatives) and so is practice-oriented research in UAS
- Training placements in enterprises are too few – need for work-based learning and more involvement of industry in education
- competition in academia – in particular for prestigious research funds from (national and international) research councils increased to the point that cooperation between academic universities is becoming overshadowed

Appendix G Profile of the higher education system in Sweden

G.1 Structure of the HE system and their ecosystem

G.1.1 Number and types of institutions

Table 23 illustrates the different categories of higher education institutions in Sweden. Currently, there are in total 50 HEIs in Sweden, out of these are 18 universities, 12 university colleges, five art, design and music academies, and 15 “other” independent HEIs¹⁹⁴. Out of the 50 HEIs, 31 are public and 19 are independent (non-public), mainly run as foundations.

Table 23. Categories of Swedish higher education institutions and their frequency

HEI category	Public	Independent	Total
University	16	2	18
University college	11	1	12
Art, design and music academy	4	1	5
Other (independent HEIs)	0	15	15
Total	31	19	50

Source: The Swedish Higher Education Authority, “Higher education institutions”, 2023a.

G.1.2 Legal framework

The Swedish Parliament enacts the legal framework that regulates the Swedish higher education sector, as well as the allocation of funding for higher education and research and the annual funding of each HEI. In addition, the Parliament decides if a new HEI should be given HEI status. The Swedish Government, on the other hand, regulates the operations of HEIs through its annual letter of appropriation. Furthermore, it appoints the vice-chancellor and a majority of the board members of each public HEI.¹⁹⁵

The current legal framework of the Swedish higher education sector consists of The Swedish Higher Education Act (1992:1434) and The Higher Education Ordinance (1993:100). The Higher Education Act (HEA), enacted by the Swedish Parliament, regulates all public HEIs, including their operations, profile, organisation, and governance. The Higher Education Ordinance (HEO) complements the HEA by detailing for example students' rights, rules for admissions and rules concerning disciplinary measures.¹⁹⁶

In addition, the Swedish Council for Higher Education issues complementary regulation, on behalf of the Swedish Government, with the purpose of clarifying the regulations that are stipulated in the HEA and the HEO.¹⁹⁷

¹⁹⁴ These include smaller, niche university colleges and institutes with profiles within theology, forestry, art or psychology.

¹⁹⁵ SOU 2019:6, “En långsiktig, samordnad och dialogbaserad styrning av högskolan”, 2019.

¹⁹⁶ The Swedish Higher Education Authority, “Governance of higher education”, 2023b.

¹⁹⁷ The Swedish Council for Higher Education, “Lagar och regler som styr den högre utbildningen”, 2019.

Another complementary law that regulates public HEIs is The Administrative Procedure Act (2017:900)¹⁹⁸. This law specifies the legal principles and framework for Swedish government agencies, for instance The Principle of Public Access to Official Documents, and since Swedish public HEIs are government agencies, these are regulated by this act.¹⁹⁹

Independent (non-public) HEIs, are governed by the Act Concerning Authority to Award Certain Qualifications (1993:792)²⁰⁰. The act stipulates that non-public HEIs must get government approval to be able to award certain qualifications to students of first-, second- and third-cycle education in accordance with the qualifications specified in the HEA.²⁰¹ Furthermore, the education programmes at non-public HEIs “shall be based on scholarship or artistic practice and on proven experience and be provided so that in other respects it fulfils the requirements made of courses and programmes in Chapter 1 of the HEA’s general provisions” regarding the overall governance of HEIs.²⁰² Other than this, the HEA does not apply to non-public HEIs.

Moreover, the HEA was implemented as a result of the Swedish Government’s “Freedom Reform” issued in 1993. The overarching aim of the Freedom Reform was to increase the autonomy of HEIs and to implement a performance-based governance to increase the general quality of higher education in Sweden.²⁰³ In addition, the reform introduced a new funding system of HEIs based on the performance results of students at each HEI. The funding of first- and second-cycle education was determined based on three aspects: i) the quality of education programmes provided, ii) the number of admitted students, and iii) the efficiency of resource use. Each admitted student granted the HEI in question a certain amount of funding, which differed depending on which area of education the student was admitted to, see also section G.3.2. By increasing the incentives for HEIs to attract as many students as possible (and thus increasing their funding) by competing with other HEIs, decision-makers expected that this would increase the general quality of the HEIs.²⁰⁴

Since 2021, the HEA has specified that HEIs shall actively promote life-long learning by for example offering courses designed for upskilling and reskilling of the workforce. The HEA stipulates that HEIs shall also integrate sustainability perspectives (environmental, economic, and social sustainability) within their operations, including education. Furthermore, HEIs shall also systematically work with promoting gender-equality, including gender mainstreaming, as well as try to increase the diversity of the student population, see also section 0.²⁰⁵

G.1.3 *Inter-ministerial coordination*

In general, the Swedish Government decides collectively on policy matters, which means that all ministers, or ministries, need to approve different policy matters or action before further steps can be taken.²⁰⁶

¹⁹⁸ English translation of Förvaltningslag (2017:900).

¹⁹⁹ The Swedish Parliament, Förvaltningslag (2017:900).

²⁰⁰ English translation of Lag (1993:792) om tillstånd att utfärda vissa examina.

²⁰¹ The Swedish Council for Higher Education, 2019.

²⁰² The Swedish Council for Higher Education, Act Concerning Authority to Award Certain Qualifications (1993:792).

²⁰³ SOU 2019:6.

²⁰⁴ SOU 2019:6.

²⁰⁵ The Swedish Parliament, Högskolelag (1992:1434).

²⁰⁶ The Ordinance with Directive for the Government Offices (1996:1515)

When it comes to matters that affect more than one policy area, for instance education and social policy, the staff of different ministries are expected to collaborate. In such situations, the Government usually sets up inter-ministerial working groups in accordance with an overarching agreement which the government coalition parties usually set up.²⁰⁷ Another related phenomenon is "consultative sharing"²⁰⁸, which is when a matter from a specific minister is shared to other affected ministers and certain officials inside the Government Offices for consultation and review.²⁰⁹

In addition, the degree of coordination of research and innovation policy between ministries differs depending on the incumbent government. For example, in one of the former governments, the Ministry of Enterprise was deeply involved in higher education and innovation policy and contributed to half of that government's Government Bill on research policy. Generally, HEIs benefit the most when research and innovation (R&I) is prioritised by several ministries, since this usually means that more public resources are allocated to R&I.²¹⁰

However, there is overall a fair degree of fragmentation in the Swedish state apparatus. Specifically, officials from different ministries and government agencies tend to work in silos rather than cooperate with each other on various policy matters. Since government agencies have a high degree of autonomy, the Swedish Government tend to not directly determine their operations in specific matters.²¹¹ This fragmentation was documented in the Swedish Government Official Report "A sustainable state organisation with development opportunities"²¹² from 2007. According to this report, there is a relatively strong fragmentation in the Swedish state organisation, particularly when policy responsibilities are shared between different ministries. The report concludes that the strict division of different ministries' responsibility areas can hinder or delay the implementation of certain policies or reforms pertaining to more than one policy area since all affected ministers must agree on the ways forward before actions are taken.

G.1.4 Governance and organisation on HEI level

In accordance with the HEA Section 4 of Chapter 2, the Swedish Government appoints the majority of public HEIs' board members, including their chairman. The vice-chancellor (who is not the same person as the chairman) at public HEIs is also appointed by the Government after deliberations with the HEI's board, in accordance with the HEO Section 8 Chapter 2.²¹³ In addition, Section 4 of Chapter 2 stipulates that students and teachers at HEIs have the right to appoint a few board members that represent their interests.²¹⁴

Moreover, the HEA stipulates that the boards and the vice-chancellor of public HEIs oversee the HEI's internal organisation and operations, in accordance with the regulatory framework. The HEA specifies that if decisions regarding the "organisation, execution or the quality of an education programme, or the organisation or quality of conducted research" of a HEI should be made, such decisions should be taken by employees with a professional background within

²⁰⁷ Interview with a Government Official, March 24th, 2023.

²⁰⁸ Our translation of the Swedish concept "Delning".

²⁰⁹ The Swedish Government, "Ordförklaringar", n.d.

²¹⁰ Interview with the Secretary General of SUHF, April 5th, 2023.

²¹¹ Interview with a Government Official, March 24th, 2023.

²¹² SOU 2007:10, Hållbar samhällsorganisation med utvecklingskraft.

²¹³ The Swedish Parliament, Högskoleförordning (1993:100).

²¹⁴ The Swedish Parliament, Högskolelag (1992:1434).

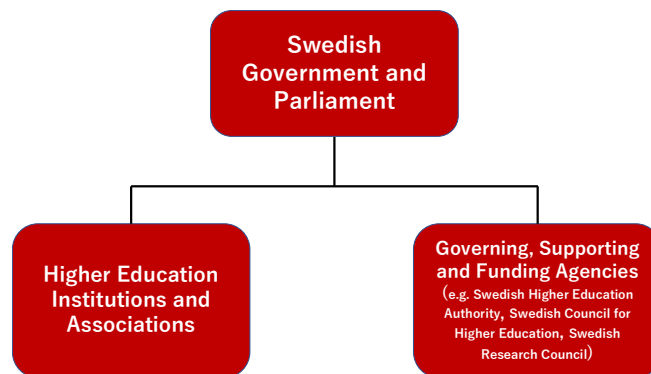
the sciences or arts. In addition, student representatives have the right to be present when decisions affecting students, or their education programme(s), are taken.²¹⁵

The appointment procedure of board members and vice-chancellors are different for non-public HEIs and varies between HEIs. Jönköping University (JU), Stockholm School of Economics (SSE) and Chalmers University of Technology (CTH) are three of Sweden's 19 non-public HEIs and they all have different appointment procedures. At JU, all board members (except the vice-chancellor and student representatives) are appointed by the Government.²¹⁶ The board members of SSE are, however, appointed jointly by the SSE association, the Swedish Government, the City of Stockholm, the SSE Faculty Forum and SSE's student associations.²¹⁷ All CTH's board members (except for student and trade union representatives) are appointed by the board of CTH's parent foundation.²¹⁸ However, the vice-chancellors of all three HEIs are appointed by the respective HEI boards.²¹⁹

G.1.5 Key stakeholders in the higher education ecosystem

Figure 37 shows the organisational relationship among different stakeholders in the higher education system in Sweden. As previously mentioned, the Swedish Parliament and Government oversee the regulatory framework, the HEI's annual letter of appropriation and their annual budget. Additionally, they oversee governing and funding agencies related to higher education and research.

Figure 37. Governance of the higher education sector in Sweden



Source: Association of Swedish Higher Education Institutions, "Staten och kapitalet – Högskolans roll och uppgift i det statliga systemet", 2019.

The major stakeholders are presented in detail below.

The Ministry of Education and Research is responsible for matters concerning HEIs, research and higher education. It determines the budget allocation for HEIs and their specific assignments in

²¹⁵ The Swedish Parliament, Högskolelag (1992:1434).

²¹⁶ Jönköping University, "Foundation Governing Board", 2022.

²¹⁷ Stockholm School of Economics, "Board of Directors and International Advisory Council", n.d. <https://www.hhs.se/en/about-us/organization/strategic-and-advisory-boards/> [2023-04-18].

²¹⁸ Chalmers University of Technology, "Årsberättelse – Hållbarhetsrapport – Årsredovisning", 2023.

²¹⁹ Stockholm School of Economics Executive Education, "New President of SSE", n.d., Jönköping University, "President and Management", 2023, and Chalmers University of Technology, "How Chalmers is run", 2023.

its annual letter of appropriation.²²⁰ All public HEIs are government agencies sorted under the Ministry of Education and Research, except for the Swedish University of Agricultural Sciences, which is placed under the Ministry of Climate and Enterprise.²²¹

The Swedish Higher Education Authority is the government agency responsible for quality assurance and legal supervision of higher education in Sweden²²². The agency's three main areas of responsibility are:

7. Quality assurance of both public and independent HEI providers, by performing evaluations of first-, second- and third-cycle education as well as research conducted at HEIs.²²³
8. Monitoring how efficient the universities and university colleges are in their daily operations.
9. Legal supervision of HEIs. This has a specific focus on students' rights, where the Swedish Higher Education Authority for instance reviews courses, programme syllabuses and student influence in education. Furthermore, students can submit complaints of misconduct to the Swedish Higher Education Authority, which the latter then reviews.

The agency is also responsible for publishing official statistics on higher education in Sweden. In addition, the Government assigns the Swedish Higher Education Authority on-going "government assignments" on various topics pertaining to higher education.

The Swedish Council for Higher Education is a government agency that provides support to the education sector in Sweden in various ways.²²⁴ The Council has five core areas of responsibility, as detailed in its government instruction:

1. Provide information about higher education; organise the Swedish Scholastic Aptitude Test and coordinate the admission process to higher education.
10. Develop and manage IT systems and digital services for the Swedish education sector.
11. Facilitate international exchange(s) and skills development in every aspect of education.
12. Assess foreign qualifications.
13. Provide analysis and support within the higher education sector.

The Association of Swedish Higher Education Institutions (SUHF) is the main member organisation for Swedish HEIs. It aims to strengthen institutional cooperation between HEIs and external actors and promotes the interests of HEIs to external actors. It provides a platform to its member institutions for the exchange of knowledge and cooperation.²²⁵ Additionally, it co-develops the national framework for quality assurance of research and evaluates research policy and research related matters.

²²⁰ Lundh, Anna (ed.), "An Overview of Swedish Higher Education and Research 2022", 2022.

²²¹ SOU 2019:6.

²²² The Swedish Higher Education Authority, "What we do", n.d. <https://www.uka.se/swedish-higher-education-authority/about-us/what-we-do> [last viewed 2023-04-18].

²²³ Lundh, Anna (ed.), 2022.

²²⁴ The Swedish Council for Higher Education, "UHR's areas of responsibility", n.d., <https://www.uhr.se/en/start/about-the-council/> [last viewed 2023-04-18].

²²⁵ The Association of Swedish Higher Education Institutions, "The Association of Swedish Higher Education Institutions", n.d. available at <https://suhf.se/in-english/> [last viewed 2023-04-18].

The Swedish Board of Student Finance is the government agency that provides Swedish students of upper-secondary and tertiary education with financial aid (grants and loans). All students, up to the age of 61, are eligible for financial aid during a maximum of 240 weeks.²²⁶

The Swedish Institute (SI) is a government agency with the main objective of promoting Sweden abroad. In terms of higher education, SI works with the Swedish Council for Higher Education together with HEIs to promote Sweden as a “knowledge nation” to attract students, researchers, and skilled labour from abroad. Internationalisation is seen as a key tool to sustain high quality in Swedish research and education. The agency annually provides roughly MSEK 505 in funding to international cooperation, foreign aid, research, and business projects.²²⁷

The main Swedish government agencies that fund R&I are the Swedish Research Council, Vinnova, the Swedish Energy Agency, Forte, the Swedish National Space Agency, SIDA, the Swedish Armed Forces, Formas, the Swedish Agency for Economic and Regional Growth, and the Swedish Transport Administration.²²⁸ Of these, the Swedish Research Council²²⁹, Forte²³⁰, Formas²³¹, the Swedish Energy Agency²³² and the Swedish National Space Agency²³³ awarded a majority of their funding to HEIs. The funding was usually distributed in the form of different kinds of grants, such as research project grants, innovation grants and career grants for researchers.

G.2 National policy priorities and initiatives

G.2.1 Policy priorities in government policy and guidance

In the research bill for 2021–2024 presented by the Swedish Government in 2020, some of the main policy priorities were to establish new national research programmes as well as strengthen current programmes in certain fields that are important for combatting large current and future social challenges. The newly introduced fields are open science, intellectual property, gender equality and the improvement of conditions for researchers at HEIs.

In addition, the Government increased the HEIs' base funding to strengthen their ability to conduct high-quality research and education. The Government also emphasised that the Swedish innovation ecosystem shall be further developed, with new Strategic Innovation Programmes, strengthened research institutes and by removing barriers for the usage and commercialisation of new research findings. The Government also enacted changes to the HEA, which further stressed the HEIs' responsibilities in terms of cooperation, internationalisation, life-long learning, and to encourage and protect academic freedom.²³⁴

Opportunities for life-long learning, digitisation, digital skills, social inclusion, international student attraction and retention of skilled workers are examples of trends in the Swedish higher education system, which are described in the subsequent chapters.

²²⁶ Swedish Board of Student Finance, “Studiemedel”, 2023.

²²⁷ Swedish Institute, “Our mission”, n.d., available at <https://si.se/en/about-si/our-mission/> [last viewed 2023-04-18].

²²⁸ Statistics Sweden, “Forskning och utveckling inom den offentliga sektorn 2021”, 2022.

²²⁹ The Swedish Research Council, “Årsredovisning Vetenskapsrådet 2021”, 2022.

²³⁰ Forte, “Forte Årsredovisning 2021”, 2022.

²³¹ Formas, “Årsredovisning 2021”, 2022.

²³² The Swedish Energy Agency, “Energimyndighetens årsredovisning 2021”, 2022.

²³³ The Swedish National Space Agency, “Rymdstyrelsens årsredovisning 2022”, 2023.

²³⁴ The Swedish Government, Prop. 2020/21:60 Forskning, frihet, framtid – kunskap och innovation för Sverige.

Opportunities for life-long learning, digitisation, and digital skills provision

A recent trend in the Swedish higher education system, which has been accelerated by the pandemic, caused a new amendment of the HEA in 2021. The amendment states that HEIs shall promote life-long learning and facilitate labour market transitions, meaning that these shall provide Swedes with opportunities for retraining and upskilling to adapt to changes in the labour market.²³⁵

In the 2022 budget bill, the Swedish Government enacted a new form of financial aid called "student finance for transition and retraining"²³⁶. It aims to strengthen the opportunities for transition and retraining in Sweden and is put in place to counteract recent alleviations in the Swedish Employment Protection Act, which makes it easier for employers to lay off employees than before, and promote life-long learning, see section 0. As a consequence of this, the Government issued an instruction in 2022 to HEIs that these shall analyse their current supply of education programmes to make sure that these are adapted to the requirements of life-long learning, including employees who need to further enhance existing skills or acquire new skills essential for their employer. In the meantime, the Swedish Higher Education Authority investigated the preconditions for HEIs to meet future needs in regard to life-long learning and concluded that the Swedish system is well equipped when it comes to providing shorter courses, but that the overall course offering of individual HEIs might have to be reviewed more closely to ensure that these meet labour market needs.²³⁷

Furthermore, the Swedish Government implemented a national digitalisation strategy in 2017 that encompasses several critical areas of society, such as education, innovation, public administration, and infrastructure. The Government also implemented a separate digitalisation strategy for the education system, primarily for primary and secondary school, with the aim of teaching pupils the necessary skills for them to be able to use digital tools in their education.

Concerning the higher education sector, the strategy mentions that the contents of the different educational programmes offered by HEIs need to adequately include teaching students digital skills required by today's labour market. Additionally, digital technologies enable a more diverse supply of education programmes for students in parts of Sweden that are lacking a university or university college, which causes the need for HEIs to re-evaluate the means of how knowledge is provided to students.²³⁸

According to the 2020 follow-up of the digitalisation strategy in the Swedish higher education system conducted by the Expert Group on Public Economics (ESO), HEIs' usage of digital tools has steadily increased during recent years. In addition, a majority of HEIs have created separate strategies for promoting digitalisation.²³⁹ Furthermore, the Swedish higher education system was to a large degree digitalised before the Covid-19 pandemic, and the pandemic accelerated this even further. It, for instance, caused an increased number of online courses and education programmes offered by HEIs, which includes online lectures and submission of examinations via digital platforms.

²³⁵ Bengtsson, Anna et al., "Universitet och Högskolor – Årsrapport 2022", 2022.

²³⁶ English translation of "omställningsstudiestödet"

²³⁷ The Swedish Government, "Uppdrag att genomlys utbildningsutbudet för livslångt lärande och omställning", 2022.

²³⁸ The Swedish Government, "För ett hållbart digitaliserat Sverige – en digitaliseringsstrategi", 2017.

²³⁹ Nyman, Kjell, "Uppkopplad utbildning – en ESO-rapport om högskolans digitalisering", 2020.

On a related note, the Swedish Higher Education Authority has been working on a government assignment called "Digital Excellence" together with the Swedish Agency for Economic and Regional Growth. The aim of the assignment is to present suggestions for how the Swedish Government should tackle the issue of a shortage of skilled labour in the field of digital skills. The suggestions of the joint assignment are to:

- Further develop the ability of higher education and research institutions to promote digital excellence, as well as facilitate career change and skills development initiatives;
- Implement structures that facilitate cooperation between relevant actors, by implementing a "collaborative council";
- Develop statistics and prognoses of the supply and demand of digital excellence based on different kinds of forecasts.²⁴⁰

The assignment was finished in October 2022 and the suggestions of the assignment might be implemented in 2023.

Social inclusion and diversity

Another trend in the Swedish higher education system is the emphasis on social inclusion and diversity, as previously mentioned. Between 2019 and 2020, the Swedish Higher Education Authority conducted a thematic evaluation of HEIs with the aim of presenting suggestions regarding how to improve social inclusion in student recruitment to Swedish HEIs. The evaluation is one of the agency's recurring thematic evaluations, which we will refer to later in this report concerning HEIs' integration of sustainability in their operations.²⁴¹

The authority has, for instance, suggested several solutions for combatting gender-stereotypical selections of higher education programmes. Examples of such gender biases in higher education programmes are that in 2019, 93 percent of admitted students to the Programme for Preschool Teacher Education were female, while the share of female students in the Bachelor of Engineering Programme was only 25 percent in 2020. One solution, that was presented in the report, is to provide financial aid to HEIs and compulsory and secondary schools to facilitate cooperation between these two, and to expose pupils at an early age to different education programmes.²⁴²

In addition, the authority suggested that HEIs shall actively try to recruit foreign-born students who immigrated to Sweden after the age of 7, since this group is under-represented in comparison to students born in Sweden.²⁴³ Suggested methods for increasing this recruitment were that upper-secondary schools should try to increase the share of foreign-born students that finishes upper secondary school with good grades, and thus fulfils the general entry requirements for tertiary education.²⁴⁴

Furthermore, even though the HEA sets up requirements for gender equality, sustainability and increased diversity within the student population, the Government does not allocate resources

²⁴⁰ The Swedish Higher Education Authority & Swedish Agency for Economic and Regional Growth, "Förbättrad kompetensförsörjning av digital spetskompetens", 2022.

²⁴¹ Fröborg, Helen et al., "Universitets och högskolors arbete med att främja och bredda rekryteringen till högre utbildning - Tematisk utvärdering, del 1", 2022.

²⁴² Fröborg, Helen et al., 2022.

²⁴³ Ibid.

²⁴⁴ Ellfolk Kenttä, Ellen, "Högskolepotentialen – förutsättningar för högskolan att bredda rekryteringen", 2023.

to HEIs to work with such tasks. As a result, the HEIs are for the most part unable to achieve the stipulated requirements.²⁴⁵

Regarding increased diversity, HEIs are additionally struggling to achieve this goal on behalf of the fact that they are not in charge of their own application process, since it is the Swedish Council for Higher Education that ultimately admits students to education programmes. Moreover, HEIs are not able to sufficiently follow up these goals since Sweden do not keep statistics on applicants' or students' heritage.

Internationalisation, student attraction and retainment of skilled workers

Internationalisation of education and research is seen as a quality mechanism in the Swedish higher education sector. As a result, Swedish HEIs are inclined to work with internationalisation both in terms of HEI collaborations as well as student mobility and attraction.²⁴⁶

In terms of student attraction, the main idea is that the Swedish high-quality education will attract students from across the world to Swedish HEIs. Swedish HEIs have a fairly large number of international students (both free movers and exchange students), and these students have over the last five years made up about 25 percent of the entire student population (of first entrance students). For instance, during the academic year (AY) of 2021/22, 93 721 new students were registered at Swedish HEIs and 25 percent of these were exchange and free mover students (11 412 and 12 470 students, respectively).²⁴⁷

In 2011, the Swedish Government introduced tuition fees for students from outside the EU, the EEA and Switzerland. The fees were introduced as a quality measure with the purpose of increasing the overall quality in the Swedish higher education system. The decision to introduce the fees was based on a survey that had been answered by international students. The survey had shown that the tuition fee-free education was a larger incentive for international students to study at Swedish HEIs than the quality of Swedish education. While acknowledging the importance of free and available higher education for all, the Government stated that there were not enough reasons for this to apply to all international students. The intended outcome of the introduction of the tuition fees was also to increase the financial means available in the system, since the tuition fees can be spent on increasing the quality of education and research.²⁴⁸

The tuition fees are set by the HEIs themselves and vary therefore between different HEIs, but also between branches of study, courses, and programmes. In general, the tuition fees are higher for courses and programmes within design and architecture – they differ between SEK 190 000 and SEK 295 000 per AY. For programmes in social sciences, the tuition fees for one AY are usually between SEK 80 000 and SEK 110 000, and within technical and natural sciences, the tuition fees are from SEK 120 000 and SEK 145 000 per AY.²⁴⁹

Because of the introduction of tuition fees, the number of students from outside the EU, the EEA and Switzerland has decreased since 2011.²⁵⁰ Before the introduction, quite a large share of

²⁴⁵ Interview with the former Inquiry Chair of the Government Inquiry on the Governance and Funding of Higher Education (SOU 2019:6), March 23rd, 2023.

²⁴⁶ Innolink & Technopolis, "Benchmarking study on attracting international students", 2022.

²⁴⁷ Ibid.

²⁴⁸ The Swedish Government, Prop. 2009/10:65 Konkurrera med kvalitet – studieavgifter för utländska studenter.

²⁴⁹ Study in Sweden, "Plan your studies. Fees & costs", n.d, available at <https://studyinsweden.se/plan-your-studies/fees-costs/> [last viewed 2023-04-18].

²⁵⁰ Bengtsson, Anna et al., "Universitet och Högskolor Årsrapport 2022".

the international students at for instance KTH Royal Institute of Technology came from Africa, and in particular from Sub-Saharan countries. However, this is not the case anymore. Many of these students had previously attained scholarships for living costs, and due to the cost increase caused by the tuition fees, students from these regions now face difficulties in terms of financing their studies at Swedish HEIs.²⁵¹

A study conducted by the Swedish Agency for Growth Policy Analysis in 2018 showed that of all international students (first-, second- and third-cycle), only 20 percent stay and work in Sweden after their degree, which is lower than in comparable countries. According to the study, which is partly based on interviews with representatives from Swedish HEIs, international students generate high value for Sweden not only concerning quality in education but also in terms of contributing to economic growth if they remain and work in Sweden. Since the need for international competence, especially within science, technology, engineering, and mathematics, is expected to increase during the next few years, due to a forecasted shortage of competence nationally, more must be done to retain international students. According to the analysis, Sweden falls behind when it comes to attracting and retaining international students, and the agency argued for governmental measures that would enable HEIs to attract and retain international students to a larger extent. Such measures, based on successful examples from other countries, could include strongly encouraging and supporting HEIs in developing strategies for this, prolong the time a student may remain in Sweden on the same residence permit after graduation, and economic incentives.²⁵²

Only recently, to improve conditions for retaining former students, SI was in 2022 assigned the task of attracting international competence, i.e., skilled workers, to Sweden. The government assignment should be an integrated part of the agency's task to attract international students to Sweden. Therefore, the work towards fulfilling this task began with encouraging students already studying at Swedish HEIs to stay and work in Sweden. A pilot project was carried out during 2022, which focused on ways to retain international students already in Sweden. SI continues this work during 2023 and is likely to develop a strategy or tools for the demand for skilled employees and potential employment to be an incentive or pull factor in efforts to attract international students. So far, SI has organised live broadcasts with international alumni that have stayed in Sweden. Such broadcasts have included advice on how to find employment in Sweden and what not to say or do during a job interview.²⁵³

G.3 Funding and governance of higher education

G.3.1 HE ownership and income profile

Table 1 shows that 31 of 50 HEIs in Sweden are public-sector HEIs.²⁵⁴ These are government agencies sorted under the responsibility of the Ministry of Education and Research, and to a large extent funded via this ministry.²⁵⁵ Even though the Government appoints the majority of board members and the vice-chancellor of Swedish HEIs, the decision-making power at HEIs is largely decentralised to professors and the different faculties and departments when it comes

²⁵¹ Innolink and Technopolis, 2022.

²⁵² Tillväxtanalys, "Svenska lärosäten som verktyg för att attrahera utländsk högkvalificerad arbetskraft", 2018.

²⁵³ Innolink and Technopolis, 2022.

²⁵⁴ The Swedish Higher Education Authority, 2023a.

²⁵⁵ Lundh, Anna (ed.), 2022.

to the governance of research and education programmes. Thus, the “principle of governance at arm's length” is vital in the Swedish higher education system.²⁵⁶

Furthermore, there are a few independent HEIs, such as CTH and JU, as previously mentioned. These two receive extensive public funding detailed in specific annual letters of appropriation, while several other independent education providers are funded by a mix of tuition fees and state grants.²⁵⁷

In 2021, the total state expenditure on higher education was SEK 93,5 billion, of which 80,3 billion (or 86 percent), was allocated to funding HEIs; 12,7 percent to the funding of student finance, and 1,2 percent to the central public agencies responsible for the higher education sector.²⁵⁸

When it comes to total HEI funding, around 84 percent comes from the Government and other public organisations. 10 percent comes from Swedish private funding organisations, while the remaining 6 percent comes from sources abroad.

The total funding for first- and second-cycle education amounted to SEK 34,5 billion in 2021, of which SEK 29,7 billion was direct government funding. The total funding to research and third-cycle education was SEK 47,6 billion in 2021. A breakdown of the different funding sources for research and third-cycle education is presented in the table below. As seen, the vast majority of funding comes from public grants, mainly as direct government or external state funding, but also from public research foundations, municipalities and regions. Meanwhile private funding (from non-profit organisations and companies) accounted for a small share of the total funding.²⁵⁹

²⁵⁶ SOU 2019:6.

²⁵⁷ Ibid.

²⁵⁸ Lundh, Anna (ed.), 2022.

²⁵⁹ Ibid.

Table 24. Funding of research and third-cycle education in Sweden, 2020–2021, by funding type, SEK million (current prices).²⁶⁰

Funding source	2020	2021	Change
State	31 951	33 593	1 642
Direct government funding	20 289	21 607	1 318
External state funding	11 662	11 986	324
Private in Sweden	6 986	7 364	379
Non-profit organisations	5 740	6 073	334
Companies	1 246	1 291	45
EU and other foreign	3 325	3 433	109
Other public	2 710	2 730	20
Public research foundations	1 350	1 423	73
Municipalities and regions	1 359	1 307	-52
Miscellaneous	291	284	-7
Financial revenue	127	162	35
Total	45 389	47 568	2 179

Source: Lundh, Anna (ed.) "An Overview of Swedish Higher Education and Research", 2022.

G.3.2 Funding mode, degree of performance-orientation and performance agreements between HEIs and ministry

The Swedish Government, through the Swedish Parliament, allocates funding for education and research to each HEI via annual letters of appropriation, or similar performance agreements, directed to each HEI. The funding is different for first- and second-cycle education (bachelor's and master's programmes), than research and third-cycle education (doctoral studies and research). The funding for the former is performance-based and is determined partly by the number of enrolled students in an HEI (measured in full-time equivalents, FTE), and partly by the credits earned by students (measured in annual performance equivalents, APE).²⁶¹ Some scientific disciplines receive more funding per student than others. For example, for the fiscal year of 2022, HEIs received SEK 68 493 for one full-year student in medicine, while each student in design generated SEK 1 63 373 in funding.²⁶²

Table 25 displays the annual government funding to both first-, second- and third-cycle education to each Swedish HEI in 2022. The number of registered students at each HEI for the autumn semester of 2022 is also shown. Furthermore, Table 27 in G.8 shows the breakdown of the data depicted in Table 25.

²⁶⁰ Direct government funding includes grants awarded by the Legal, Financial and Administrative Services Agency.

²⁶¹ The Swedish Higher Education Authority, 2023b.

²⁶² Bengtsson, Anna et al., 2022.

Table 25 Data on HEI category, annual government funding and number of registered students

Type of institution (number of HEIs)	Annual government funding (First- and second-cycle education), SEK thousand, 2022.	Annual government funding (Third-cycle education and research), SEK thousand, 2022.	Number of registered annual students (full-time equivalents), first- and second-cycle education, 2021/2022.	Number of registered doctoral students (full-time equivalents), third-cycle education, 2021/2022.
University (18)	22 723 486	20 027 506	256 683	12 101
University college (12)	5 034 437	1 183 395	59 629	493
Art, design and music academy (5)	682 223	114 035	2 142	15*
Other, independent HEI (15)	390 210	31 524	2 652	39*
Total: 50	28 830 356	21 356 460	321 106	12 648

Note: *Even though five HEIs in these two categories received government funding for third-cycle education in 2022, their number of registered doctoral students were 0. This is likely caused by a delay in the registration of doctoral students. Source: The Swedish Higher Education Authority, "Statistics", 2023.

Concerning the funding to research and third-cycle education, HEIs receive basic funding that can be used freely in any field of research. This grant is determined by the annual, government-issued letter of appropriation. A small share of this funding is performance-based, which is determined by scholarly production, collaboration with the surrounding society and the amount of external funding received. In addition, a minimum level of research funding is also guaranteed to HEIs, which is based on the number of registered students in first- and second-cycle education.

In addition to the annual basic government funding of HEIs' research activities, external funding of research also plays a vital role in terms of research governance by the Government. The external funding makes up a significant and rising share of HEIs' total research funding, 60 percent on average (where the other 40 percent is provided by the state as basic funding). Such funds are provided to the HEIs via R&I calls (in competition) run by state-run and private funding agencies and are usually given on a project or short-term basis. The external funding accounts for most of the Swedish research funding, and as such, the purpose of the annual basic funding is to provide a stable base of funding that is supposed to be complemented by the large amount of external funding. As a consequence of the large share of funding that external funding accounts for, the Government can select which scientific disciplines it wishes to prioritise by instructing the government-run funding agencies to grant funding to specific disciplines or types of HEIs. Thus, the Government can indirectly influence which research fields are prioritised by Swedish HEIs.²⁶³

G.3.3 HEIs' ability to allocate funding for long term projects or strategic investments

As previously mentioned, Swedish HEIs are allocated a yearly, performance-based funding amount based on for instance the number of admitted students and the students' scholarly performance. There is, however, a maximum amount of funding that each HEI can receive ("*takbelopp*"). If Swedish HEIs do not utilise their entire allocated funding for a specific business

²⁶³ Interview with the former Inquiry Chair of the Government Inquiry on the Governance and Funding of Higher Education (SOU 2019:6), March 23rd, 2023, and with a Government Official, March 24th, 2023.

year, they can save up to ten percent of the maximum funding amount for the upcoming business year. Even though Swedish public HEIs are government agencies, who normally are allowed to save up to three percent of their annual funding, public HEIs are exempted from this rule. Instead, these can allocate up to ten percent of their annual funding to their total agency capital, which can be used to either compensate for potential future budget cuts or to initiate specific large-scale research projects, or for other strategic investments.²⁶⁴

In addition, if HEIs produce more students with passing grades than they were allocated funding for during a business year, they can use this “margin of overproduction” as compensation if they “underproduce” students during one of the upcoming business years. “Underproduction” of students refers to when HEIs produce fewer students with passing grades than the HEI received annual funding for. Until recently, the “margin of overproduction” had to be no more than ten percent of the maximum funding amount. However, due to the increase in admitted students to HEIs caused by the pandemic, the Government raised this limit to 15 percent in 2021 (this still applies in 2023).²⁶⁵

HEIs frequently use these two tools to even out budgetary differences between the allocated annual funding and the performance-based funding the HEIs ultimately receive based on student admission and student performance; these two modes of funding are rarely in complete sync with each other.²⁶⁶

Is government funding to Swedish HEIs restricted to specific areas?

The annual funding to HEIs allocated from the Government is split between funding to first- and second-cycle education and third-cycle education. The HEIs are not allowed to independently determine the budget allocations. Instead, the funding allocated to one of the areas must be used for that specific area. Moreover, the amount of funding to different research disciplines differs between each discipline. For example, humanities research receives a larger portion of its total funding from the Government than e.g., technology and medicine research. The latter receive most of their funding from external financiers instead. However, if researchers from a specific discipline at an HEI are not able to receive sufficient external funding, that discipline usually becomes down prioritised in terms of state funding as well.²⁶⁷

G.4 Other non-funding governance tools

In addition to the base funding of Swedish HEIs, the Ministry of Education and Research, as previously mentioned, instructs HEIs in their annual letter of appropriation. The main purpose of the annual letter of appropriation is to inform the HEIs of the Government's priorities for the upcoming fiscal year. The letters convey both the funding priorities of each HEI and the individual HEI's goals, assignments, and reporting requirements to the ministry. The previously mentioned HEA and the HEO are non-funding governance tools since they provide the main legal framework for the governance of Swedish HEIs.

Moreover, several Swedish Regions' regional development strategies mention the importance of collaboration between regional HEIs and other regional actors in terms of regional businesses development, regional competitiveness, and skills supply. Two such examples are the Mid

²⁶⁴ SOU 2019:6, 2019.

²⁶⁵ The Swedish Higher Education Authority, “Lärosätenas årsredovisningar 2022 – färre studenter och ökade kostnader”, 2023.

²⁶⁶ Ibid.

²⁶⁷ Interview with a Government Official, March 24th, 2023.

Sweden University in Region Jämtland Härjedalen and Karlstad University in Region Värmland.²⁶⁸

Another non-funding governance tool is the Government's Dialogue with HEIs. The Swedish Government is frequently in dialogue with representatives of each HEI in matters concerning the HEI in question. This includes discussing the specialised research fields for each HEI, how these can be developed and potentially setting up specific goals for the concerned HEI in relation to a new Government's priorities.

In addition, the Government invites the HEI representatives to presentations of the prioritised policy areas for the upcoming term of office, since this deepens the HEI representatives' understanding of these policy areas and how they are expected to integrate these into their activities. These representatives tend to appreciate such activities and the dialogue format in general. In other words, HEIs prefer this trust- and dialogue-based, soft power governance with continuous dialogue instead of more "hard steering", where new legislation and regulation is presented top-down with minimal dialogue. The core notion is that the board and the vice-chancellor at the HEI have the best understanding of which type of governance or strategies works best for their HEI and the system as a whole.²⁶⁹

Furthermore, a common non-financial governance tool is when government agencies assign tasks to HEIs that are not in fact a part of their core activities. For example, the Swedish Council for Higher Education proposed that HEIs should be assigned the task of arranging citizenship examinations due to their established organisation for arranging the Swedish Scholastic Aptitude Test, even though citizenship matters normally fall under the responsibility of the Swedish Migration Agency.²⁷⁰

Moreover, the establishment of national goals for the number of graduated students from certain education programmes can also be seen as a non-financial governance tool. Because of the establishment of these goals, multiple Swedish Governments have instructed HEIs to expand the capacity of these specific education programmes, to try to decrease the shortage of labour that exists in certain occupations, such as teachers, pre-school teachers and nurses. Between 2021–2024, the goals for the number of graduated students from education programmes for the three above-mentioned professions are specified by the Government in the annual letter of appropriation for each HEI.²⁷¹

On the other hand, follow-up and evaluation of policy on higher education-related matters can also be considered a non-financial governance tool. Based on the goals set up by the Government, for example concerning the goals of certain education programmes and the skills that students shall have acquired. The Swedish Higher Education Authority evaluates whether such goals have been fulfilled, and then present their results to the Government and to the affected HEIs. The latter are then given the opportunity and guidance to improve within

²⁶⁸ Region Jämtland Härjedalen, "Digitala Jämtland Härjedalen - Regional digital agenda 2015–2025", 2015, and Region Värmland, "Värmlandsstrategin 2040", 2021.

²⁶⁹ Interview with the former Inquiry Chair of the Government Inquiry on the Governance and Funding of Higher Education (SOU 2019:6), March 23rd, 2023; with the Secretary General of SUHF, April 5th, 2023; and with a Government Official, March 24th, 2023.

²⁷⁰ Interview with the Secretary General of SUHF, April 5th, 2023.

²⁷¹ Interview with a Government Official, March 24th, 2023, and Elenäs, Julia et al., "Uppföljning av mål för antal examina - Delredovisning 1", 2022.

the evaluated areas. The evaluative framework decided by the Government is the same for every HEI. Thus, it does not fully consider the specific characteristics of each HEI.²⁷²

The Swedish Higher Education Authority and the Swedish Research Council also conduct follow-ups of the activities of HEIs by for instance producing statistics of students' accomplishments, the financial situation of HEIs and staffing of research teams. As a consequence, when the Government then instructs HEIs to enact changes based on the results of these evaluations and follow-ups, these can also be viewed as indirect tools used for the governance of higher education and research.²⁷³

In conclusion, a strength in the Swedish HE system is that it is generally straight forward with an inclusive type of governance. Even though the government communicates its policy priorities to HEIs, the latter have in general a high degree of autonomy concerning implementing these policies in their own operations. This also connects to the previously mentioned dialogue-based governance, which HEIs appreciate and is one of the core strengths that characterises the Swedish HE system.²⁷⁴

G.4.1 *Prevalence of a goal regarding the share of Swedes with completed tertiary education*

In 2009, the EU presented its *Europa 2020* strategy that set up goals in different policy areas, for instance higher education, which EU countries should have reached in 2020. One of these goals was that the share of 30–34-year-olds that have obtained a two-year tertiary education degree should have reached 40–45 percent by 2020. In the government budget bill for 2011, it was mentioned that Sweden had already passed this goal, since 42 percent of 30–34-year-old Swedes had already obtained such a degree in 2010.²⁷⁵ However, in the spring budget bill for 2011, the Swedish Government nonetheless pointed out that this goal would be one of the goals for higher education in Sweden until 2020.²⁷⁶ In the budget bill for 2019, it was mentioned that the goal was once again reached (in 2017).²⁷⁷

In 2021, the EU set up new targets for tertiary education attainment for 2030. The new goal states that in 2030, the share of 25–34-year-olds that have obtained a tertiary education degree shall be 45 percent.²⁷⁸ However, neither the proposed government budget bill for 2022 nor for 2023 mentioned this goal.²⁷⁹ The budget bill for 2023 only mentioned that the share of Swedish 25–34-year-old students with a tertiary education degree was 58 percent for women, and 40 percent for men in 2020.²⁸⁰

When looking at a larger share of Swedes, specifically those aged 25–64, 30 percent of these had a tertiary education degree (i.e., three or more years after post-secondary school) in 2021.

²⁷² Interview with an official from the Swedish Higher Education Authority, March 23rd, 2023, and Faugert & Co "Utvärdering av nationellt system för kvalitetssäkring av högre utbildning - Analys av pågående cykel 2017–2022", 2020.

²⁷³ Interview with a Government Official, March 24th, 2023.

²⁷⁴ Interview with a Government Official, March 24th, 2023, and with the Secretary General of SUHF, April 5th, 2023.

²⁷⁵ The Swedish Government, Prop. 2010/11:1 Utgiftsområde 16 - Utbildning och universitetsforskning.

²⁷⁶ The Swedish Government, Prop. 2010/11:100 2011 års ekonomiska vårproposition.

²⁷⁷ The Swedish Government, Prop. 2018/19:1 Utgiftsområde 16 - Utbildning och universitetsforskning.

²⁷⁸ Fournier, Yann & Rakocevic, Robert, "The European Union has set new education and training targets for 2030", 2021.

²⁷⁹ The Swedish Government, Prop. 2021/22:1 Utgiftsområde 16 - Utbildning och universitetsforskning.

²⁸⁰ Ibid.

While 52 percent of women in this age group had attained a degree requiring three or more years of tertiary education, only 39 percent of men had done the same, signifying a significant gender gap in higher education rates among Swedes.²⁸¹

On a related note, previous governments, mostly liberal and conservative ones, have criticised the existence of a goal that specifies that a certain share of Swedes in a certain age group shall have obtained a tertiary education degree. This is because such a goal might cause a decrease in the overall quality of education programmes offered, according to these governments. The teacher education programme has, for instance, been criticised for having decreased in quality when the number of admitted students was increased. Despite this criticism, both right- and left-leaning governments, have expanded the capacity of such programmes with the purpose of increasing the number of teachers with a teaching degree in on the labour market. Furthermore, national politicians will face criticism from regional politicians if the former propose to decrease the capacity of education programmes at regional HEIs. This is because regional HEIs are part of regional development and skills supply.²⁸²

G.4.2 *Prevalence of a goal on the Swedish gross domestic expenditure on research and development level*

While Finland has set a political commitment to increase its gross domestic expenditure on research and development (GERD) expenditure to 4 percent of gross domestic product (GDP) to 2030,²⁸³ the Swedish GERD target simply should exceed the EU target, which is that the GERD level should be at 3 percent of GDP. In 2021, Sweden's level of GERD was 3,36 percent of GDP, indicating that Swedish GERD level is in line with the goal.²⁸⁴

In addition, there have been similar targets during the last 10–15 years set up by the Swedish Government for Sweden's total R&D expenditure. In its 2011 spring budget bill, the Government set up a goal stating that GERD as a share of GDP would be four percent in 2020. This goal was set up in accordance with the EU's *Europa 2020* strategy,²⁸⁵ which specified that the average GERD level among EU countries needed to be three percent of GDP in 2020.

Furthermore, in the government bill for research and innovation policy from 2016, the Government set up three goals for R&D for 2017–2026. The first was that Sweden's GERD level as share of GDP shall continue to exceed the EU goal. This goal was not changed in the latest government bill for research and innovation policy from 2020, which covers 2021–2024.²⁸⁶ This indicates that the Government wishes to continue to keep the GERD level above the EU goal.

In comparison to other industrialised countries, Sweden has a high GERD level as share of GDP. Table 26 shows that Sweden's GERD was at 3,35 percent in 2021, which was higher than Finland's GERD value as well as the OECD and EU averages.

Table 26. Gross domestic expenditure on R&D (GERD) as percentage of GDP, 2014–2021

Country	2014	2015	2016	2017	2018	2019	2020	2021
Sweden	3,1	3,22	3,25	3,36	3,32	3,39	3,49	3,35

²⁸¹ Statistics Sweden, "Utbildningsnivån i Sverige", 2022.

²⁸² Interview with a Government Official, March 24th, 2023.

²⁸³ State Treasury of Finland, "The national plan to raise R&D funding", 2023.

²⁸⁴ The Swedish Government, Prop. 2022/23:1 Utgiftsområde 16 - Utbildning och universitetsforskning.

²⁸⁵ Eurostat, "Smarter, greener, more inclusive? Indicators to support the Europe 2020 Strategy", 2019.

²⁸⁶ The Swedish Government, Prop. 2020/21:60 Forskning, frihet, framtid – kunskap och innovation för Sverige.

Country	2014	2015	2016	2017	2018	2019	2020	2021
Finland	3,15	2,87	2,72	2,73	2,76	2,8	2,91	2,99
OECD average	2,32	2,33	2,33	2,37	2,44	2,52	2,67	2,71
EU average – 27 countries (from 01/02/2020)	2	2	1,99	2,03	2,07	2,11	2,19	2,15

Source: OECD, "Main Science and Technology Indicators", 2023.

G.5 Notable initiatives or policy reforms of interest

In 2010, the "Autonomy Reform" was implemented to increase the autonomy of Swedish HEIs. The reform led to a deregulation of the internal organisation of HEIs, which limited the Swedish Government's right to appoint members of the management at HEIs to only the vice-chancellor and specific board members. However, the HEA still requires that members of the management appointed by the HEIs themselves "shall possess research or artistic competence".²⁸⁷ Furthermore, the Government at the time determined that the governmental steering of HEIs should henceforth be limited to areas such as quality assurance of education programmes, accountability, and the protection of students' legal rights.²⁸⁸

Furthermore, as mentioned previously, the Swedish Government implemented the new subsidy "student finance for transition and retraining" in 2023. The overall purpose of the subsidy is to increase the flexibility on the labour market by offering a catch-all type of financial aid to include workers who are not connected to a collective agreement through which unionised workers have access to similar subsidies. The subsidy is granted to employees who need to acquire new skills to become more attractive on the labour market, or who decide to switch careers and need a new education.²⁸⁹ Grants started to be approved in the beginning of 2023, and when the reform is planned to be fully implemented in 2026, 44,000 applicants are on average planned to receive the subsidy annually.²⁹⁰

The "student finance for transition and retraining" subsidy consists of both a grant of up to 80 percent of the grantee's current salary, and an optional loan. The subsidy can be granted to employees between the ages of 27–62 during a maximum of 44 weeks for full-time studies, and twice as long for part-time studies. The applicant needs to have had an employment during eight out of the last 14 years of their life, and he/she must have worked for at least 16 hours per week each month to be eligible for the subsidy.²⁹¹

Overall, the Swedish higher education system is well-adapted to facilitating life-long learning. An important explanation to this is the flexibility of the system as a whole, where Swedish HEIs offer education programmes, freestanding courses, and distance studies. Students in Sweden are admitted either to free-standing or programme-based courses. Programmes at bachelor's and master's level largely consist of modules of compulsory courses in combination with several optional courses, offering students the opportunity to shape their education to fit their needs. Swedish HEIs offer a significant number of free-standing courses, which provides good

²⁸⁷ The Swedish Council for Higher Education, "The Swedish Higher Education Act (1992:1434)".

²⁸⁸ SOU 2019:6.

²⁸⁹ The Swedish Government, "Omställnings- och kompetensstöd", 2022.

²⁹⁰ Bengtsson, Anna et al., "Lärosätenas utbildningsutbud relaterat till omställningsstudiestödet. Sammanställning och analys", 2023.

²⁹¹ Swedish Board of Student Finance, "Omställningsstudiestöd", 2023.

preconditions for employees who wish to return to higher education and either acquire new skills or improve existing skills, free of charge.²⁹²

Furthermore, one of the most crucial aspects of successful life-long learning in Sweden is tuition-free education.²⁹³ In fact, Sweden has one of the highest level of adults pursuing tertiary studies among EU countries; 40 percent of students who have acquired a tertiary education degree return to higher education later in life by pursuing free-standing courses.²⁹⁴

G.6 Evidence of effects of initiatives or policies

During the last five years, several evaluations of the effects of government initiatives on higher education policy have been conducted. Firstly, in 2017, the Swedish Higher Education Authority evaluated the reform from 2006 that required Swedish HEIs to integrate an environmental, economic, and social sustainability perspective in their activities, as specified in the HEA. The Swedish Higher Education Authority found that most HEIs had started to integrate the different aspects of sustainability in their courses and education programmes. However, half of surveyed HEIs had not implemented general objectives for their work with sustainability, and even fewer performed systematic evaluations of these objectives. The Swedish Higher Education Authority concluded that one effect of its evaluation was that more HEIs started to actively work with integrating the themes of sustainability in their education programmes.²⁹⁵

As previously presented, several Swedish governments have set up general goals to stimulate the needs of the labour.²⁹⁶ Consequently, between 2015–2019, different governments implemented policies instructing HEIs to increase the capacity of education programmes in fields where there is currently a supply shortage of qualified labour, such as the nurse and pre-school teacher and teacher programmes.²⁹⁷ In 2021, the Swedish National Audit Office (SNAO) evaluated actions and concluded that increasing the number of students admitted to these education programmes did not increase the output of students. This was mainly because the education programmes already had structural problems of for example low admission rates and a lack of qualified teachers. This issue is still present in 2023. Instead, the SNAO concluded, HEIs should focus on supporting admitted students to finish their education programmes, which, in turn, would increase the student output more sufficiently.²⁹⁸

In 2020, Technopolis Sweden evaluated the national quality assurance system for Swedish higher education. The purpose of the evaluation was to see the effects of the national quality assurance system and to investigate how the system could be improved. The evaluation was based on the four main components of the quality assurance system (institutional reviews; programme evaluations; thematic reviews; appraisal of applications for degree-awarding powers) of which Technopolis Sweden found that “institutional reviews” and “appraisal of

²⁹² Interview with the former Inquiry Chair of the Government Inquiry on the Governance and Funding of Higher Education (SOU 2019:6), March 23rd, 2023; with the Secretary General of SUHF, April 5th, 2023; with a Government Official, March 24th, 2023; and with an official from the Swedish Higher Education Authority, March 23rd, 2023.

²⁹³ Interview with the former Inquiry Chair of the Government Inquiry on the Governance and Funding of Higher Education (SOU 2019:6), March 23rd, 2023; with the Secretary General of SUHF, April 5th, 2023; with a Government Official, March 24th, 2023; and with an official from the Swedish Higher Education Authority, March 23rd, 2023.

²⁹⁴ Interview with the Secretary General of SUHF, April 5th, 2023.

²⁹⁵ Fors, Yvonne et al., 2017.

²⁹⁶ Interview with a Government Official, March 24th, 2023.

²⁹⁷ Swedish National Audit Office, “Riktade utbyggnadsuppdrag till universitet och högskolor – regeringens styrning genom utformning och uppföljning”, 2021.

²⁹⁸ Swedish National Audit Office, 2021.

applications for degree-awarding powers" had contributed the most to maintaining or enhancing the overall quality of Swedish HEIs.²⁹⁹

G.7 Future Challenges and horizon scanning

One way of determining the future challenges of the Swedish higher education system is to look at the ongoing Government Official Reports issued by the previous and current governments. The aim of these investigations is to propose appropriate legislation in different areas related to higher education. Two examples are the investigation on Higher Vocational Education of the Future – Stable, Effective and Sustainable³⁰⁰ and An Effective Organisation for Public Funding of Research^{301,302}. The former partly aims to suggest appropriate regulatory changes for higher vocational education institutions to ensure that these maintain high quality education programmes. The latter partly aims to suggest improvements to the external R&I funding system, thus ensuring that the public funding system meets the needs of today and the future, and partly that the system supports national and international research collaboration and access to research infrastructure.

Skills Provision and Education's Relevance to Industry Needs

Other major future challenges to the higher education system in Sweden are described in reports by organisations such as the Confederation of Swedish Enterprise (CSE). One of these challenges is the problem of skill shortages. According to the CSE, up to 70 percent of Swedish businesses experience difficulties with recruiting staff with relevant tertiary education. This shortage increases the need for HEIs to offer high quality education programmes of relevance to industry needs.³⁰³

Thus, HEIs and Swedish companies need to increase their collaboration to gain a mutual understanding of each other's needs and opportunities, including matters related to skills provision and the appropriate supply of education programmes adjusted to the needs of the labour market. In addition, CSE argues, the HEA should more clearly state that education programmes offered by HEIs shall *also* be adjusted to the needs of labour market actors, instead of only to students' preferences.³⁰⁴

Another challenge for the Swedish higher education system is the low level of efficiency in terms of the number of years that students are enrolled in higher education and their, relatively, late establishment on the labour market. When compared to other western European countries, Swedish students tend to enter higher education and finish their degrees relatively late in life (around 29 in 2020), which decreases the total number of years they are available to the workforce.³⁰⁵

Also, less than half of students that were admitted to an education programme ultimately acquired their degree. Even though this might depend on many factors, one of them could be

²⁹⁹ Faugert & Co, 2020.

³⁰⁰ Our translation of "Framtidens yrkeshögskola – stabil, effektiv och hållbar".

³⁰¹ Our translation of "En effektiv organisation för statlig forskningsfinansiering"

³⁰² The Swedish Government, Dir. 2021:88 "Framtidens yrkeshögskola – stabil, effektiv och hållbar", 2021 and the Swedish Government, Dir. 2022:85 "En effektiv organisation för statlig forskningsfinansiering", 2022.

³⁰³ Faugert & Co, "Håller svensk högre utbildning måttet när det kommer till kvalitet och relevans?", 2022.

³⁰⁴ Faugert & Co, 2022., and our interview with the former Inquiry Chair of the Government Inquiry on the Governance and Funding of Higher Education (SOU 2019:6), March 23rd, 2023.

³⁰⁵ Statistics Sweden's database RAMS.

the little time students spend with their teachers in class relative to the other measured countries. This might generate lacking test results, which decreases the number of students that are able to finish their degree. Therefore, CSE suggests that the hours students spend in class with their teachers should be increased.³⁰⁶

Division of HEI Funding between First- and Second-cycle Education, and Doctoral Studies and Research

There is an ongoing debate among Swedish stakeholders in the higher education system about the current division of HEI funding between education and research. Some stakeholder argue that HEIs should receive non-divided funding, which they could freely allocate to either first- and second-cycle education or third-cycle education. This is the case for HEIs in for example Denmark, Finland and Norway. According to these stakeholders, this new funding mode would most likely generate higher quality in both the offered education programmes and the conducted research.³⁰⁷ In addition, the division of funding generates unnecessary administration and limits the HEIs' flexibility and ability to integrate education programmes with research. Since this might weaken the quality of both education and research, some actors assert that the Swedish government should remove this division of funding and assign funding to each HEI as cohesive funding, like most European countries already have done. This was also described in the SUHF report from 2014.³⁰⁸

Moreover, several Government Inquiries in the past have suggested that the above-mentioned division of HEI funding should be merged into one single budget allocation. Politicians have, however, argued that if this change was to be made, HEIs might redistribute funds allocated for first- and second-cycle education to research or vice versa, thus draining either category of sufficient funds. Therefore, the commissions' proposals have not been implemented.³⁰⁹

Regarding the rule stating that HEIs can allocate up to 10 percent of the annual funding to their total agency capital, several actors argue that policy makers should increase this annual limit to facilitate costly, long-term strategic research projects, which require more than ten years of funding and which external research funding agencies usually do not fund. Generally, Swedish HEIs also suffer from having a large degree of research funding restricted to specific research areas. Even though the Swedish Government has continuously increased research funding, it has mostly done so in the form of earmarked funding to specific research programmes or areas. Therefore, the degree of unrestricted research funding is low, thus limiting the HEIs' ability to initiate strategic research projects as they find suitable. Therefore, the above-mentioned actors contend that Finnish decision-makers should refrain from implementing these kinds of restrictive funding policies.³¹⁰

As a consequence of the limitation of acquiring capital, as well as other factors, multiple stakeholders in the Swedish HE system argue that public HEIs should not be legally classified as government agencies. They argue that similar to Finland, public HEIs should be assigned a new public law classification that is more adapted to the needs and activities of HEIs. Such a

³⁰⁶ Faugert & Co, 2022.

³⁰⁷ Interview with the former Inquiry Chair of the Government Inquiry on the Governance and Funding of Higher Education (SOU 2019:6), March 23rd, 2023, and interview with the Secretary General of SUHF, April 5th, 2023.

³⁰⁸ Interview with the Secretary General of SUHF, April 5th, 2023, and Eriksson, Lena & Heyman, Ulf, "Resurser för utbildning och forskning", 2014.

³⁰⁹ Interview with a Government Official, March 24th, 2023.

³¹⁰ Interview with the Secretary General of SUHF, April 5th, 2023

classification would give HEIs more autonomy when it comes to, as previously stated, accumulating more capital than what is currently allowed to facilitate costly long-term research projects. Specifically, it would benefit HEIs whose funding for research is currently mostly made up of external funding, e.g., universities of technology, who receive in general 80–85 percent of research funding from external actors. In addition, another argument from these actors is that a more appropriate public law classification that makes HEIs more autonomous from the Government, would make it easier for HEIs to be an independent actor that can scientifically study and criticise both the Government and policies. In connection to this, the actors state that the Swedish constitution should include an amendment that explicitly protects the autonomy of HEIs and researchers.³¹¹

Another aspect of HEI funding is the demands from the Government that HEIs perform “productivity increases” of around one percent annually. In practice, this generates one percent less funding to HEIs annually, forcing them to cut down on their core activities, which might decrease the quality of education programmes and research. Therefore, several stakeholders in the higher education system wish that the Government would remove the “productivity increase” demands of HEIs and restore the annual funding to the level it was on before the productivity demands started around 20 years ago.³¹²

Non-funding Governance Tools

As previously mentioned, one of the non-funding governance tools for higher education in Sweden is the Government’s dialogue with HEIs. However, the Swedish Government’s dialogue with HEIs could be improved. The dialogue is based on the results from the standardised requirements and goals that each HEI needs to fulfil in the recurring evaluations and follow-ups conducted by government agencies. The results of these subsequently form the basis of the Government’s governance of each HEI. However, these evaluations do not fully consider the characteristics and challenges (such as organisational structure, size, geographic location and research profile) of each individual HEI and is therefore not sufficiently targeting each HEI’s needs, challenges and opportunities. Therefore, these tools need to fit each HEI better in the future in order to facilitate a more sufficient dialogue.³¹³

In terms of other non-funding governance tools, a number of HE organisations argue that the current trend of increased demands of administration of HEIs’ activities – set up by the government, government agencies and external actors – needs to be stopped. Increasing bureaucratisation, they argue, leads to a decrease in the time that researchers and HEI staff spend on their core activities, which could generate lower-quality research and education.³¹⁴

Life-long Learning and Student Financing Scheme for Transition and Retraining

Several stakeholders in the Swedish HE system predict that, the trend of life-long learning and the changing needs of the labour market will continue. These actors state that in order to improve the Swedish system of life-long learning in higher education, policy makers could study the system in Norway. This is dominated by committees composed of representatives from

³¹¹ Interview with the Secretary General of SUHF, April 5th, 2023.

³¹² Interview with the Secretary General of SUHF, April 5th, 2023.

³¹³ Interview with the former Inquiry Chair of the Government Inquiry on the Governance and Funding of Higher Education (SOU 2019:6), March 23rd, 2023.

³¹⁴ Interview with the Secretary General of SUHF, April 5th, 2023.

different sectors and interest groups, who develop the supply of higher education programmes and courses together.³¹⁵

Moreover, the HEI funding for courses could be improved in light of the increased life-long learning opportunities. Currently, HEIs receive funding partly based on the number of admitted students, and partly on the number of students who finish the courses. However, since many returning students tend to not finish their courses, HEIs lose a fair share of funding. Consequently, the Government is currently deliberating whether it should allocate special funding for these courses to minimise the risk of HEIs deciding to stop offering courses to these students.³¹⁶

Another potential issue which could occur on behalf of the newly introduced student financing scheme for transition and retraining system is the risk of “crowding out effects” in the education programmes and courses at HEIs. This means that should the number of students who are granted the subsidy for “student finance for transition and retraining” be higher than expected, this might crowd out students who are already admitted to the regular programmes and courses at HEIs. Ultimately, this would force HEIs to prioritise the admittance of students from only one of these groups.³¹⁷

Finally, some stakeholders in the Swedish HE system are emphasising that Swedish politicians should protect the core notion that higher education shall be tuition free. They argue that every student with the desire to pursue tertiary studies should be able to do so, which connects to the notion of social inclusion in the Swedish higher education system. Regarding life-long learning, if higher education continues to be tuition free, this will enable companies to more easily be persuaded to accept that their employees might pursue further studies for a shorter period. In contrast, if students or companies were charged for studies, there would probably be fewer returning students at Swedish HEI.³¹⁸

G.8 Annex: Table of data on each Higher Education Institution in Sweden

Table 27 Breakdown of data on each Swedish Higher Education Institution, 2022

Higher Education Institution (HEI)	Type of HEI	Ownership of HEI (public or independent)	Annual government funding (First- and second-cycle education, SEK thousand)	Annual government funding (third-cycle education and research, SEK thousand)	Number of registered annual students (full-time equivalents), first- and second-cycle education, 2021/2022.	Number of registered doctoral students (full-time equivalents), third-cycle education, 2021/2022.
Beckman's College of Design	Art, design and music academy	Independent	35 456	-	123	-
Blekinge Institute of Technology	University college	Public	270 464	109 825	2 959	56

³¹⁵ Interview with Government Official, March 24th, 2023.

³¹⁶ Interview with Government Official, March 24th, 2023; and Interview with the former Inquiry Chair of the Government Inquiry on the Governance and Funding of Higher Education (SOU 2019:6), March 23rd, 2023.

³¹⁷ Interview with the Secretary General of SUHF, April 5th, 2023.

³¹⁸ Interview with the former Inquiry Chair of the Government Inquiry on the Governance and Funding of Higher Education (SOU 2019:6), March 23rd, 2023.

Higher Education Institution (HEI)	Type of HEI	Ownership of HEI (public or independent)	Annual government funding (First- and second-cycle education, SEK thousand)	Annual government funding (third-cycle education and research, SEK thousand)	Number of registered annual students (full-time equivalents), first- and second-cycle education, 2021/2022.	Number of registered doctoral students (full-time equivalents), third-cycle education, 2021/2022.
Chalmers University of Technology	University	Independent	1 011 238	998 612	10 089	807
Dalarna University	University college	Public	487 510	109 431	6 181	36
Erica Foundation	Other	Independent	8 273	-	26	-
Gammelkroppa School of Forestry	Other	Independent	3 323	-	11	-
Halmstad University	University college	Public	455 415	103 157	5 885	44
Johannelund School of Theology	Other	Independent	7 541	-	104	-
Jönköping University	University college	Independent	633 371	145 757	7 738	97
Karlstad University	University	Public	768 128	284 126	9 752	141
Karolinska Institutet	University	Public	1 049 230	2 253 239	6 671	1 616
Konstfack - University of Arts, Crafts and Design	Art, design and music academy	Public	183 164	22 222	696	-
Kristianstad University	University college	Public	457 453	99 395	5 551	4
KTH Royal Institute of Technology	University	Public	1 243 184	1 417 413	12 882	1 290
Linköping University	University	Public	1 764 305	1 136 527	18 932	721
Linnaeus University	University	Public	1 223 183	390 389	15 959	196
Luleå University of Technology	University	Public	763 515	428 332	8 066	381
Lund University	University	Public	2 479 511	2 752 005	28 770	1 674
Malmö University	University	Public	1 089 389	298 610	12 905	153
Marie Cederschiöld University	Other	Independent	123 124	15 710	446	13
Mid Sweden University	University	Public	637 208	287 390	7 963	100

Higher Education Institution (HEI)	Type of HEI	Ownership of HEI (public or independent)	Annual government funding (First- and second-cycle education, SEK thousand)	Annual government funding (third-cycle education and research, SEK thousand)	Number of registered annual students (full-time equivalents), first- and second-cycle education, 2021/2022.	Number of registered doctoral students (full-time equivalents), third-cycle education, 2021/2022.
Mälardalen University	University	Public	698 992	281 126	3 908	125
Newman Institute	Other	Independent	6 701	-	72	-
Royal College of Music in Stockholm	Art, design and music academy	Public	165 871	22 357	643	-
Royal Institute of Art	Art, design and music academy	Public	73 876	13 037	214	-
Sophiahemmet University College	Other	Independent	95 502	5 550	796	11
Stockholm School of Economics	University	Independent	111 233	-	1 929	133
Stockholm University	University	Public	1 976 835	1 755 534	30 231	977
Stockholm University of the Arts	Art, design and music academy	Public	223 856	56 419	466	15
Swedish Defence University	University college	Public	243 299	72 258	1 052	15
Swedish Red Cross University College	Other	Independent	103 056	4 788	631	-
Swedish University of Agricultural Sciences	University	Public	614 150	1 279 964	4 485	389
Södertörn University	University college	Public	482 400	125 217	7 386	52
The Swedish School of Sport and Health Sciences	University college	Public	123 935	34 895	881	16
Umeå University	University	Public	1 710 250	1 405 081	17 684	542
University College Stockholm	Other	Independent	18 265	3 930	333	15
University College of Music Education in Stockholm	Other	Independent	17 367	-	82	

Higher Education Institution (HEI)	Type of HEI	Ownership of HEI (public or independent)	Annual government funding (First- and second-cycle education, SEK thousand)	Annual government funding (third-cycle education and research, SEK thousand)	Number of registered annual students (full-time equivalents), first- and second-cycle education, 2021/2022.	Number of registered doctoral students (full-time equivalents), third-cycle education, 2021/2022.
University of Borås	University college	Public	571 057	104 282	6 566	55
University of Gothenburg	University	Public	2 563 722	2 174 083	28 589	1 058
University of Gävle	University college	Public	526 822	116 196	6 382	44
University of Skövde	University college	Public	356 679	66 586	4 136	27
University West	University college	Public	426 032	96 396	4 912	47
Uppsala University	University	Public	2 123 736	2 492 501	28 358	1 523
Örebro School of Theology	Other	Independent	7 058	1 546	151	-
Örebro University	University	Public	895 677	392 574	9 510	275
Total	N/A	N/A	28 830 356	21 356 460	321 106	12 648

Note: World Maritime University, Brunnsvik Folk High School, Evidens AB, Scandinavia's Academy for Psychotherapy Development and Swedish Institute for CBT & Schema Therapy are not included in this table since there is no corresponding data available for these HEIs.

Source: The Swedish Higher Education Authority, "Statistik", 2023.

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