



---

# The state of academic careers in OECD countries – an evidence review

---



# Table of contents

The state of academic careers in OECD countries – an evidence review	1
About this evidence review	4
<b>Introduction</b>	<b>5</b>
Background	5
Approach, definitions, and limitations	6
Context	7
Key findings on academic careers in OECD higher education systems	9
<b>1 Contractual status</b>	<b>13</b>
Indicators and data availability	13
Research and evidence on the topic	17
Policy and practice examples	21
<b>2 Responsibilities and workload</b>	<b>23</b>
Indicators and data availability	23
Research and evidence on the topic	24
Policy and practice examples	29
<b>3 Performance appraisal</b>	<b>30</b>
Indicators and data availability	30
Research and evidence on the topic	32
Policy and practice examples	36
<b>4 Professional learning</b>	<b>40</b>
Indicators and data availability	40
Research and evidence on the topic	41
Policy and practice examples	44
<b>5 Flexible career paths</b>	<b>46</b>
Indicators and data availability	47
Research and evidence on the topic	49
Policy and practice examples	51
<b>6 Diversity and gender balance</b>	<b>52</b>
Indicators and data availability	52
Research and evidence on the topic	55
Policy and practice examples	59

<b>7 Internationalisation</b>	<b>61</b>
Indicators and data availability	61
Research and evidence on the topic	65
Policy and practice examples	71
<b>8 Academic freedom</b>	<b>73</b>
Indicators and data availability	75
Research and evidence on the topic	78
Policy and practice examples	80
<b>Policy implications</b>	<b>82</b>
Diversifying incentives – promoting parity of esteem for teaching and research	82
Promoting stability and predictability	83
Manageable workload	84
Academic freedom	84
Observance of existing regulations	84
<b>References</b>	<b>86</b>

## FIGURES

Figure 1. Eight dimensions of academic careers and related policy	5
Figure 2. Distribution of instructional and academic staff by seniority (2020)	14
Figure 3. Academic staff in OECD countries (2020)	15
Figure 4. What does an academic do?	23
Figure 5. Distribution of academic staff by primary function (2020)	24
Figure 6. Share of academics with University Teaching Qualification in the Netherlands (2021)	41
Figure 7. Inter-sectoral mobility of European researchers in higher education (2019)	47
Figure 8. Previous employment of starters among academic staff in the United Kingdom 2021/22	48
Figure 9. Share of women among academic staff (2005, 2015 and 2020)	53
Figure 10. Share of women among senior academic personnel (2019)	54
Figure 11. International mobility of European researchers in higher education (2019)	62
Figure 12. The “onion” of academic freedom	73
Figure 13. Academic Freedom Index in OECD and EU member countries in 2012-22	75

## TABLES

Table 1. Employer and level of authority over academic career framework	7
Table 2. Ireland’s academic staff by contract type (2021)	16
Table 3. Academic staff in the United Kingdom by contract type (2021)	16
Table 4. Academic staff in Dutch universities by contract type (2021)	17
Table 5. Academic staff in Sweden by contract type (2022)	17
Table 6. Overview of academic workload distribution by country and region (2007-08)	25
Table 7. Existing regulation on staff recruitment and appraisal in OECD jurisdictions (2020)	31
Table 8. Norwegian career assessment matrix	38
Table 9. Career trajectories in academia	46
Table 10. Publications with international co-authors by country	63
Table 11. Internationalisation activities in European higher education institutions	65
Table 12. Legal provision of academic freedom in EU member states in 2015	76

## About this evidence review

The evidence review examines the state of academic careers in higher education systems in OECD countries, providing an overview of available data, research evidence and examples of policy and practice. The variety of academic career models in place across OECD countries makes international comparison challenging, but certain prevalent trends nevertheless emerge.

Key concerns for academics and policy makers include the working conditions of academics, an increasing reliance on precarious and casual contracts, high workloads and negative impacts on work-life balance. Career incentives currently tend to focus on – and favour – research output, often sidelining teaching, engagement, and other duties. Initial academic training generally fails to prepare academics comprehensively for their roles, and more continuous professional learning will likely be needed to support academics to exploit the potential of increasingly digitalised learning environments. Although flexibility in academic career paths has been promoted in some higher education systems, academics tend to remain in academia, with limited inter-sectoral mobility. The review highlights the persistent under-representation of – and challenges confronting – women and marginalised groups in academia. Despite the growth of international mobility and collaboration, the participation of academics in internationalisation activities varies considerably within and between institutions and across higher education systems. Furthermore, a troubling decline in academic freedom over the past decade raises substantial concerns.

The review was prepared in the OECD Secretariat by Matej Bílik with support from Nikolaj Broberg and under the guidance of Simon Roy. The authors are grateful for the peer review and support received from Gillian Golden and Paulo Santiago (Directorate for Education and Skills, OECD), Pauline Ravinet and Agnieszka Jelnicka (Directorate-General for Education, Youth, Sport and Culture, European Commission), and for the overall guidance of Andreas Schleicher (Director for Education and Skills, OECD). Editorial support was provided by Marika Prince, Christina Mitrakos and Caio Passos Newman. The work on the evidence review was financially supported by the European Union from the Erasmus+ Programme.

# Introduction

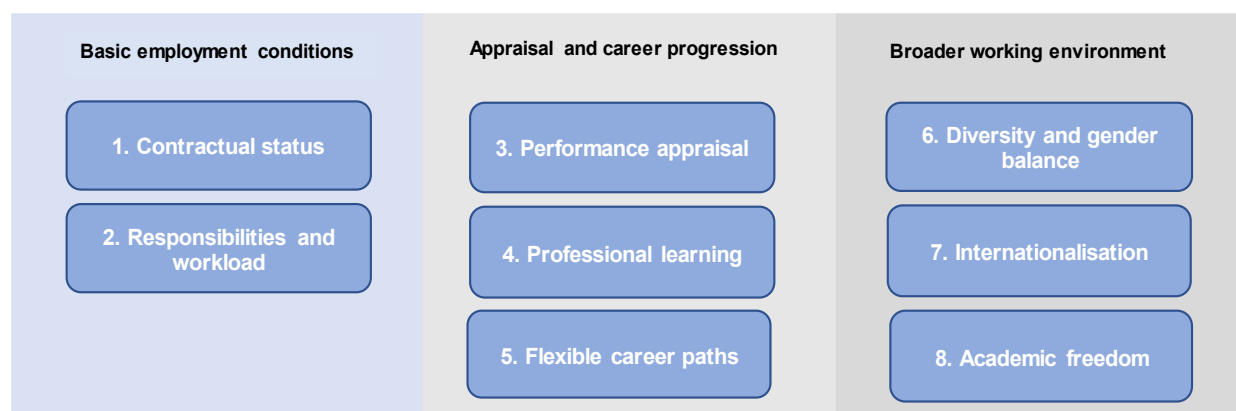
## Background

This evidence review on academic careers and related policies was initiated as part of a broader strand of work undertaken by the OECD Secretariat on resourcing higher education. On average, around two-thirds of the expenditure of higher education institutions is devoted to human resources, making academic careers and staffing an area of inherent interest for policy and decision makers responsible for funding higher education institutions. Moreover, the quality and effectiveness of education, research endeavours and engagement activity are rooted in the ability of the higher education sector to attract, promote and retain talent, which is, in turn, intrinsically bound up with the working conditions of academics (OECD, 2020<sup>[1]</sup>).

In recognition of these factors, in its European Strategy for Universities, the European Commission (EC) identified a need to “tackle in a systemic and comprehensive way academic careers”, promote policies to enhance the working conditions of academics, provide attractive career options, and promote career appraisal models that “take into account the variety of activities of academics such as teaching, research, entrepreneurship, management or leadership” (EC, 2022, p. 7<sup>[2]</sup>). This evidence review sets out to highlight the main sources of information and evidence that provide insights into the current state of academic careers and that can inform further work to promote high-quality academic careers by policy makers and other stakeholders, as well as the OECD Secretariat and the European Commission.

To structure the review of evidence, this report has been organised around the eight aspects of academic careers and staffing set out in Figure 1. These relate to: a) the basic working conditions of academics; b) different dimensions of career progression; and c) three important aspects of the broader working environment for academics: diversity and gender balance, internationalisation, and academic freedom.

**Figure 1. Eight dimensions of academic careers and related policy**



Note: Developed by the OECD Secretariat.

The eight sections of the report follow the same structure, starting with context and theoretical underpinnings, followed by available indicators and data, research and evidence, and policy and practice examples. The last section of the report examines possible policy implications of the evidence reviewed.

## Approach, definitions, and limitations

The review was conducted through a desk-based analysis of indicators and quantitative data both on the international level and within individual OECD countries. The coverage of countries and literature is not systematic, however, the review includes insights from a diverse range of systems in different world regions. Evidence is drawn from policy analysis and reports by various public authorities, international and stakeholder organisations, relevant academic literature, national policy descriptions and evaluations. Throughout the review italics are applied to text highlighting the key findings and summarising the evidence presented in the paragraph.

The review primarily focuses on academic careers in higher education. However, *higher education systems are not uniform, a single system might encompass multiple distinct career models*. Frequently, these differences are based on types of institutions, for example between university and non-university sectors (Finkelstein and Jones, 2019<sup>[3]</sup>). A limitation of this review is that policy discourse and evidence in the field of higher education are dominated by research universities and higher education institutions included in international rankings. Most students globally, however, are enrolled in professionally oriented and teaching-intensive institutions that are frequently overlooked by the policy and research (Malee Bassett, 2021<sup>[4]</sup>).

The *classification of academic staff is unique to each higher education system*, reflecting historical developments and multiple layers of regulations, differences in professional titles and related qualifications and responsibilities (Arnhold et al., 2017<sup>[5]</sup>), contractual status, career paths (Eurydice and Crosier, 2019<sup>[6]</sup>), contractual stability and the status of doctoral students within the system (OECD, 2022<sup>[7]</sup>). This greatly limits the possible scope and depth of international comparative reviews of academic staff.

This review uses the term “*academic staff*” or “*academic*” to refer to “*personnel whose primary or major assignment is instruction or research*” in institutions offering programmes at International Standard Classification of Education (ISCED) levels 5 to 8 (OECD, 2018, p. 42<sup>[8]</sup>). Higher education institutions also employ additional support staff and professionals, who might have extensive expertise, but are not considered academic staff: 1) professional administrators in positions unrelated to academic tasks, such as legal or communication functions; 2) “third space” professionals working in areas related to academic tasks but with no direct engagement in them, such as writing research grant proposals or developing curriculum; or 3) higher education professionals, including those with extensive knowledge of higher education and other relevant policy, working in human resources or student affairs (Arnhold et al., 2017<sup>[5]</sup>). While most academics’ core responsibilities are teaching and research, this does not preclude them from taking on additional roles in management, support, administration, external engagement, or service.

Recurrent challenges in international comparative reviews are the general *lack of available data on academic careers and the fact that available data lack depth and comparability* across systems (Eurydice and Crosier, 2019<sup>[6]</sup>; Arnhold et al., 2017<sup>[5]</sup>). As a result, this review has had to rely on evidence drawn from infrequent international surveys, diverse academic literature, and ad hoc work by international organisations and stakeholder bodies, frequently based only on research within one system or in a limited number of higher education institutions.

## Context

*Authority over the academic careers and the official employer(s) of academic staff differ between higher education systems.* Historically, academic staff were often managed through collegial decisions on the institutional level or by state bureaucracies (Arnhold et al., 2017<sup>[5]</sup>). Table 1 outlines the main models of academic employer relations and the level of authority over academic career frameworks within higher education systems. Various categories of academic staff may fall under different models. For example, the government might be more prescriptive in its regulation of positions within the tenure track or functional equivalents while allowing institutions to have authority over the career framework of academic staff on the non-tenured track. There has been a growing trend to move away from employing academic staff as civil servants or with other forms of protected status, towards more hybrid models of staff management, whereby governments set frameworks for academic employment and institutions have freedom to employ and adjust other elements of academic staff employment conditions (Finkelstein and Jones, 2019<sup>[3]</sup>).

**Table 1. Employer and level of authority over academic career framework**

	Employer of academic staff	
	Government (e.g., public employment)	Higher education institution
<b>System-level (e.g., government, ministry, public body)</b>	System-level authority determines the career framework, and the government is the employer.	System-level authority determines career framework, but the institution is the employer.
<b>Hybrid</b>	The career framework is determined by both system-level authority and institution, and the government is the employer.	The career framework is determined by both system-level authority and institution; and the institution is the employer.
<b>Higher education institution</b>	The institution has authority over the career framework, but the government is the employer.	The institution has authority over the career framework and the institution is the employer.

Note: Adapted from Finkelstein, M. and G. Jones (2019<sup>[3]</sup>), "Introduction: The Academic Profession Enters a New Global Era", in *Professorial pathways: higher education systems and academic careers in comparative perspective*.

*The formulation of human resource strategies for academic staff on a system level is uncommon*, with most higher education systems relying on institutional responsibility for staffing strategies (Eurydice and Crosier, 2019<sup>[6]</sup>). This might indicate either governments' respect for the autonomy of higher education institutions (employers), or a limited appetite for strategic planning of academic staffing at the system level. Only a few (comparatively highly developed) higher education systems have created system-wide human resource strategies (Arnhold et al., 2017<sup>[5]</sup>). On the institutional level, the available evidence also suggests that strategic human resources management is under-developed, as funding is mostly concentrated on output-oriented activities and not on institutional capacity building (OECD, 2021<sup>[9]</sup>).

The current challenges around academic careers are connected to the broader trends in higher education and research. First, *policy focus is shifting from increasing enrolment in higher education towards promoting efficiency and quality*. In OECD countries – and broadly in almost all parts of the world – higher education policy in the second half of the 20<sup>th</sup> century has involved a strong focus on quantitative goals for gross enrolment and the share of the adult population with higher education qualifications (Marginson, 2018<sup>[10]</sup>). As enrolment and attainment rates increased, at the end of the 20<sup>th</sup> and beginning of the 21<sup>st</sup> century, the focus of public policies shifted towards increasing access to the remaining under-represented groups, promoting education quality and increasing efficiency of higher education systems (Arnhold et al., 2017<sup>[5]</sup>; Finkelstein and Jones, 2019<sup>[3]</sup>). Concerns with efficiency and quality have led to the introduction of accountability frameworks, such as quality assurance systems, institutional steering and, in some cases, performance-related funding. Higher education institutions have also changed their governance, as part of New Public Management reforms, to increase internal accountability and raise their performance (Broucker and De Wit, 2015<sup>[11]</sup>). These changes have led to the creation of new staff categories, including some

specialist and managerial roles, but also a proliferation of non-standard contracts and temporary jobs, to allow institutions to manage their human resources more flexibly and achieve efficiencies.

Second, *growing global competition and convergence has led to higher education institutions adopting business-like organisational approaches and entrepreneurial behaviour* to maximise their income (Marginson, 2018<sup>[10]</sup>). This trend has been driven by the growth of competitive research funding, both nationally and internationally (Finkelstein and Jones, 2019<sup>[3]</sup>) and pressure for research-intensive higher education institutions to pursue “world-class university” status to allow them to succeed in the global competition for talent, students and staff (Arnhold et al., 2017<sup>[5]</sup>). This is reflected in the increasing pressure on academics in terms of research performance and to engage in “impactful” external activities.

Third, in some higher education systems, *efficiency pressures and international competition have led to greater vertical stratification in the institutional hierarchy*, a process that has intensified as rankings have become more prominent. Systems have become bifurcated, with a division between an elite sector, with high-demand and high-value institutions, while the remaining institutions absorb the remaining demand for study places (Marginson, 2018<sup>[10]</sup>; OECD, 2019<sup>[12]</sup>). In some systems, highly ranked institutions have been given special funding or made subject to special regulations (Finkelstein and Jones, 2019<sup>[3]</sup>). Others have just accumulated resources either as an intended or unintended consequence of research and higher education funding policies (Kwiek, 2019<sup>[13]</sup>). The status of their institution has consequences for academics, notably in terms of the availability of core funding, research funding, publishing opportunities and prestige.

Fourth, the *academic labour market is facing a surplus of qualified staff*, with more doctoral students graduating every year, searching for postdocs and other positions in the research and academic sectors (Arnhold et al., 2017<sup>[5]</sup>; Brechelmacher et al., 2015<sup>[14]</sup>; OECD, 2021<sup>[9]</sup>; Iversen, 2023<sup>[15]</sup>). At the same time, student demand for higher education is stabilising or even declining in some OECD countries, reducing demand for new academics and leading to a need to rationalise the number of staff higher education institutions are employing.



## Key findings on academic careers in OECD higher education systems

OECD higher education systems are diverse, each characterised by different models of academic careers, often with multiple distinct models within a single system. Consequently, the way academic staff are defined and classified can vary significantly. However, recent efforts by the OECD's Indicators of Education Systems (INES) Working Party have led to the development of a refined standard classification of academics across OECD countries, which has been implemented in preliminary data collections.

The challenges associated with academic careers are deeply rooted in broader trends in higher education and research. The primary trend relates to a policy shift in the early 21<sup>st</sup> century from a focus on promoting participation in higher education to a focus on achieving greater efficiency and quality. This has brought with it new accountability frameworks, increased use of performance-based funding, more developed quality assurance systems and changes to institutional governance. In parallel, increasing global competition and convergence between systems have prompted higher education institutions to adopt business-like organisational approaches and entrepreneurial behaviour. In some systems, efficiency pressures and international competition have led to the introduction of new academic staff categories, to allow institutions to be more flexible, competitive, and specialised. At the same time, the academic labour market is increasingly grappling with an over-supply of qualified staff.

This evidence review rapidly came up against limits in the evidence now available on the trends and realities that characterise academic careers in OECD higher education systems. It found that much of the existing information collection and research related to academic careers is limited in scope – focusing on specific parts of higher education systems in specific countries or examining only narrow elements within broader areas of policy. To address this, there is a critical need for more internationally comparative data and system-level research across the different dimensions of academic careers covered by this report.

### 1. Contractual status

The first section of the review examines the increasing prevalence of precarious employment – characterised by job insecurity, insufficient income, and a lack of rights – among academics in many OECD higher education systems. This issue is particularly pronounced in higher education compared to other sectors of high-skill employment and is a worldwide phenomenon, especially affecting early-career academics. These conditions are influenced by the abundant supply of aspiring academics and the introduction of new contract types aimed at increasing the responsiveness – or flexibility – of higher education institutions. However, these employment practices often lead to a heavy reliance on casual (contingent) academic staff, which available evidence suggests can trigger negative effects on students' learning experiences. Students often perceive casually employed academic staff as less qualified and their extensive use leads to reductions in overall student satisfaction, potentially because contracted hours are insufficient for casual academics to adequately prepare for teaching and supporting students. The impact of precarious contracts on students varies depending on the working conditions of contingent faculty, which underlines the need for careful evaluation of current practices and – potentially – policy changes to mitigate the rampant precarity in academic employment, to ensure the quality of higher education and the wellbeing of academic professionals.

## 2. Responsibilities and workload

The second section of the review examines evidence on the emphasis placed on different academic activities, the tendency to reward research over teaching in large parts of the higher education sector and the shifting dynamic of academic roles in higher education. The strong emphasis on research can be seen as part of the current trends in higher education policy (a focus on performance, economic impact, competition and vertical diversification) and is further fuelled by geopolitical competition among national governments seeking advancements in innovation and research. This shift has contributed to the bifurcation of academic responsibilities and especially the wider adoption of teaching-only roles. The focus on research output is particularly strong in research universities but concerns around academic drift in professionally oriented higher education, suggest that non-university higher education institutions are drawn to the prestige and funding associated with research. Despite these trends, many academics still value a balance between teaching and research. Higher teaching loads are often carried by junior academics, as career progression rewards often entail a decreased teaching load. Evidence concerning service and external engagement workload is limited. Disconcertingly, the review found that academics frequently work exceptionally long hours and undertake multiple additional duties. This widespread practice in academia often results in an unsatisfactory work-life balance, further influencing the current state of the academic profession.

## 3. Performance appraisal

The third section notes widespread concerns in available literature about the emphasis placed on research-oriented and quantitative indicators in determining academic career advancement. Evidence found notable bias towards research merits in academic career appraisal, especially in research-intensive institutions, with potentially negative consequences on both the way research is conducted (with some incentives encouraging quantity over quality) and the priority academics give to teaching, supporting students and other academic responsibilities (which may be side-lined in favour of research). Teaching performance, whilst regularly evaluated (although mainly via student feedback surveys) and formally considered in career appraisal, does not translate into parity of esteem with research and generally has less influence on academic career progression. Efforts to enhance teaching excellence have yielded mixed outcomes. Furthermore, service, engagement, and third mission activities tend to be recognised only marginally in performance appraisal. In some systems, factors other than performance also significantly influence career progression. Evidence suggests that public, sectoral and institutional policies should ideally promote multi-dimensional career appraisal by developing consistent measures for teaching and external engagement and, to the extent possible, diversifying the set of research metrics used. Well-designed qualitative approaches will often be necessary: evidence suggests that a preoccupation in current academic performance appraisal models with the ideal of “impartial merit” often results in significant dimensions of academic work overlooked as they cannot be quantified.

## 4. Professional learning

The fourth section of the review looks at professional learning opportunities for academic staff. Available data from selected countries suggest that academics in temporary positions more frequently lack formal teaching qualifications than staff with permanent contracts. Even though most OECD countries have legal qualification requirements for certain academic positions (usually a PhD), pedagogical training is not systematically included in PhD programmes, and only a few countries require academic staff to hold formal teaching qualifications. There appears to be a widespread need to improve to improve professional learning to prepare academics for diverse responsibilities through robust initial preparation for academic roles and complemented through systematic continuous enhancement of individual competencies. The available evidence suggests an increase in the provision of teaching enhancement support for academic staff in OECD countries. The recent pandemic has hastened the digitalisation of

higher education, creating new expectations for academics to acquire digital competencies. There is also a need for academics to adapt their competencies to use and teach students about emerging digital technologies and an increasing expectation that a wide range of higher education programmes address questions related to climate change. Academic sabbaticals are often identified as a potential opportunity for professional learning, although such learning opportunities are only available to full-time academic staff.

### **5. Flexible career paths**

The fifth section of the review discusses the changing dynamics of academic career paths, noting evidence of a decline in linear career trajectories and an increase in alternative, non-linear routes. Despite the push for flexible career pathways, the report suggests that the best strategy for advancing in academia still often involves remaining at a single institution or – at least – staying within the academic sector. The demanding qualification requirements and publishing expectations in the academic hiring process can hinder non-academics from applying for academic positions and foster an environment where leaving academia inevitably becomes a permanent exit from the profession. The value attributed to professional experience gained outside of higher education varies between countries and institutions and plays a role in hiring and promotion decisions. Despite the challenges of transitioning between academia, industry, and other sectors, doctoral programmes incorporating inter-sectoral mobility are positively viewed. Inter-sectoral mobility becomes more prevalent as academics and researchers become more senior, but there has been a decline in the share of academics that have been mobile across sectors in recent years. Sharing of time between academia and other sectors is uncommon for permanent academics, but inter-sectoral collaboration is increasingly being encouraged by institutions and government policy. The available evidence highlights that women's academic career paths are often disrupted by career breaks related to having children, which can negatively affect research output and subsequent career progression.

### **6. Diversity and gender balance**

The sixth section of the evidence review analyses diversity in academia, focusing predominantly on gender, but also considering other populations within the academic workforce. It identifies three dimensions of gender imbalance: vertical (seniority), horizontal (field), and contractual inequalities. Despite a broad overall gender balance among academic staff in most European higher education systems, women remain under-represented in senior roles across all European OECD countries, with only one country achieving balance in its senior ranks. Women academics often face more contractual instability, and the research production process disadvantages women, who appear to face greater obstacles than men in accessing networks, especially international networks. They receive lower levels of research funding and experience greater difficulties in having their work recognised and published, in a pattern potentially influenced by the gender composition of academic review and editing panels. Men generally publish more and in more prestigious journals than women, although the difference is more pronounced among top-performing academics. Beyond the issue of research production, women more often take on dual caring responsibilities both in their personal life (family care, household work) and professional life (teaching and supporting students, service, administration). As a result, academic career prospects are gendered, partially explaining the difficulties in achieving gender balance among senior academics. The review draws attention to the significant challenges faced by non-binary, transgender, and non-white academics, as well as academics with disabilities, chronic illnesses, or neurodivergence. Harassment and bullying are commonplace in academia, disproportionately impacting under-represented groups and contributing to diminished mental wellbeing, particularly among academics from these groups. Despite numerous efforts to address these issues, the under-representation of women and other marginalised groups in academia persists.

## 7. Internationalisation

The seventh section of the review explores different elements of internationalisation in higher education. In this context, the aspect of internationalisation that has been researched to the greatest extent is the international mobility of academic staff, although, even in this area, student mobility has received far more research attention. Available evidence shows that the international mobility of academics is characterised by asymmetric flows that are influenced by the varying attractiveness of higher education systems. International mobility positively impacts academics, fostering international networks that enhance research and, to some extent, teaching. However, concerns about difficulties with returning and potentially poor working conditions abroad (such as visa conditions or social welfare) hinder international mobility. Policy initiatives in Europe are increasingly focusing on “internationalisation at home”, which can make professional experiences with an international dimension more accessible for a wider section of the academic community. Some OECD higher education systems are more focused on recruiting international students and staff, while others have focused on internationalising curricula and extra-curricular activities. The review identifies international research collaboration as the most common internationalisation-related activity among academic staff, with almost half of publications in OECD countries having international co-authors (UNESCO, 2021<sup>[16]</sup>). Growth of transnational education and the number of transnational higher education providers has increased internationalisation but creates challenges for academic staff, who need to navigate new educational spaces and reconcile differences in approaches to teaching. In the effort to embed and institutionalise international co-operation, more higher education institutions are entering transnational institutional partnerships, such as the European Universities Initiative. While these partnerships aim to bring significant potential benefits in terms of enhancing the quality of learning and teaching, further efforts appear to be required to develop incentives for academics to take part and commit to international co-operation initiatives over the long term. Looking forward, commentators suggest that internationalisation policies in higher education institutions and at the government level will need to address global responsibility issues related to uneven mobility flows and the sustainability of international travel in the face of the climate crisis.

## 8. Academic freedom

The eighth section of the review examines the intricate concept of academic freedom. For individual academics, the literature suggests that this consists of three key elements: freedom of teaching, freedom of research, and freedom to learn and study. But these core freedoms are influenced by contributing factors, including participation in self-governance, employment and financial security, and institutional autonomy. This set of freedoms and rights is, however, coupled with a set of obligations and responsibilities on the part of academics that need to be recognised. Using a wide range of indicators, evidence shows a concerning decline in academic freedom in OECD higher education systems over the past decade. The review highlights the influence of national contexts and institutional cultures on the interplay of institutional autonomy with academic freedom. The evidence raises concerns about political and public authority interference, risks related to the power of institutional leaders, harassment of scientific figures, and pressures on academics to reach certain research conclusions, whether from private or foreign partners.

# 1 Contractual status

The *contractual status of academics varies across higher education systems*. As such, it is not easy to classify academic staff into common categories by contractual status across jurisdictions. The specific features of different contractual arrangements are important to understand the real situation of the academic staff employed under them. Permanent, tenured, or similarly recognised positions tend to be regulated to a greater extent at the system or sector level, while institutions retain more control over managing more temporary and precarious contracts (Eurydice and Crosier, 2019<sup>[6]</sup>).

The focus of this section is on various contractual arrangements of academic staff, with an emphasis on part-time, temporary (fixed term), and precarious (non-standard, zero hours) contracts. The section looks at evidence about the effects of these patterns, trends, and practices. There might be good reasons why certain staff are employed on these contracts, for example, if they are supporting teaching on an ad-hoc basis or are hired to contribute to a specific research project (Arnhold et al., 2017<sup>[5]</sup>). Some academics might prefer contractual flexibility if they have other professional or personal commitments. The problem is that many academics on precarious contracts are committed to their academic work, but “their institutions make little or no long-term commitment to them or to their academic work” (American Association of University Professors, 2014, p. 171<sup>[17]</sup>).

Generally, *precarious employment can be characterised by three elements: 1) employment insecurity, including the unpredictability of contract renewal; 2) income inadequacy; and 3) a lack of protections and rights* (Kreshpaj et al., 2020<sup>[18]</sup>). Within different systems, various terms are used to describe academic staff on casual (Williams, 2021<sup>[19]</sup>), sessional or part-time contracts (ILO, 2018<sup>[20]</sup>), such as contingent faculty (McNaughtan, García and Nehls, 2017<sup>[21]</sup>), peripheral faculty (Arnhold et al., 2017<sup>[5]</sup>), or non-tenured faculty (Kezar, 2019<sup>[22]</sup>). The casualisation of employment in academia is part of a broader trend in labour markets, affecting all sectors of the economy (OECD, 2020<sup>[11]</sup>).

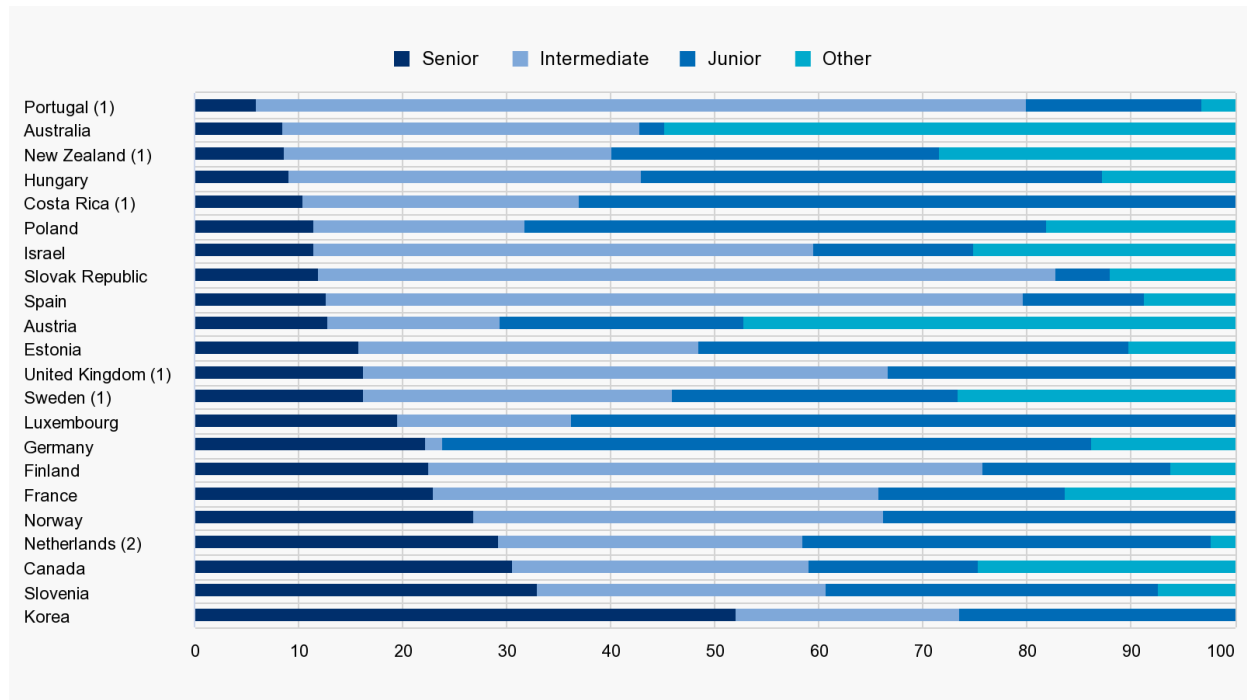
## Indicators and data availability

No internationally comparable data are collected systematically on the contractual status of academic staff. Different higher education systems use diverging sets of staff categories and contracts that might be further differentiated by conditions for part-time work or temporary contracts. The OECD’s Indicators of Education Systems (INES) Working Party has conducted two feasibility studies to explore the possibility of collecting more detailed data on academic personnel within tertiary systems. In the existing UNESCO-OECD-Eurostat (UOE) education statistics collection, out of 22 countries participating in the most recent study, seven do not report and five only partially report casual and temporary staff in their counts of academic staff. Countries like Estonia or Finland do not consider casual and temporary teaching and research staff as academic staff. In other systems, data on casual and temporary academic staff cannot be separated from other categories of casual and temporary staff. Contract duration is systematically collected by only three of the 22 countries covered by the INES feasibility study: Italy, Estonia, and Latvia (OECD, 2021<sup>[9]</sup>).

The INES feasibility study did succeed in collecting data for academic staff by seniority, which was reported in Education at Glance 2022 (Figure 2). Through these data, it is possible to look at two key categories of staff with a high prevalence of temporary and precarious contracts: “junior” and “other”. Seniority is a strong

determinant of contractual stability (Eurydice and Crosier, 2019<sup>[6]</sup>; Aarrevaara, Dobson and Wikström, 2015<sup>[23]</sup>; OECD, 2022<sup>[7]</sup>). The “other” category consists of staff who are not on the academic career track, excluding employed doctoral students and research and teaching assistants, who were reported separately. The two categories could be used to construct proxy indicators of academic staff that are likely to lack permanent contracts and are outside of the academic career track.

Figure 2. Distribution of instructional and academic staff by seniority (2020)



Note: Please note that employed doctoral candidates are excluded from this figure.

1. Data cover all levels of tertiary education.
2. Data cover only academic institutions.

Source: OECD (2022<sup>[24]</sup>), "Distribution of instructional and research academic staff by seniority level (2020)", in *Education at a Glance 2022: OECD Indicators*, <https://doi.org/10.1787/73b0c95b-en>.

Ten countries have more than 50% of their staff in the “junior” or “other” categories: Germany (76%), Austria (71%), Poland (68%), Luxembourg (64%), Costa Rica (63%), New Zealand (60%), Australia (57%), Hungary (57%), Sweden (54%), and Estonia (51%). These data are however only indications of certain broad staff categories and there are remaining challenges with the classification. The INES Working Party has agreed to continue collecting these data and to work on improving them.

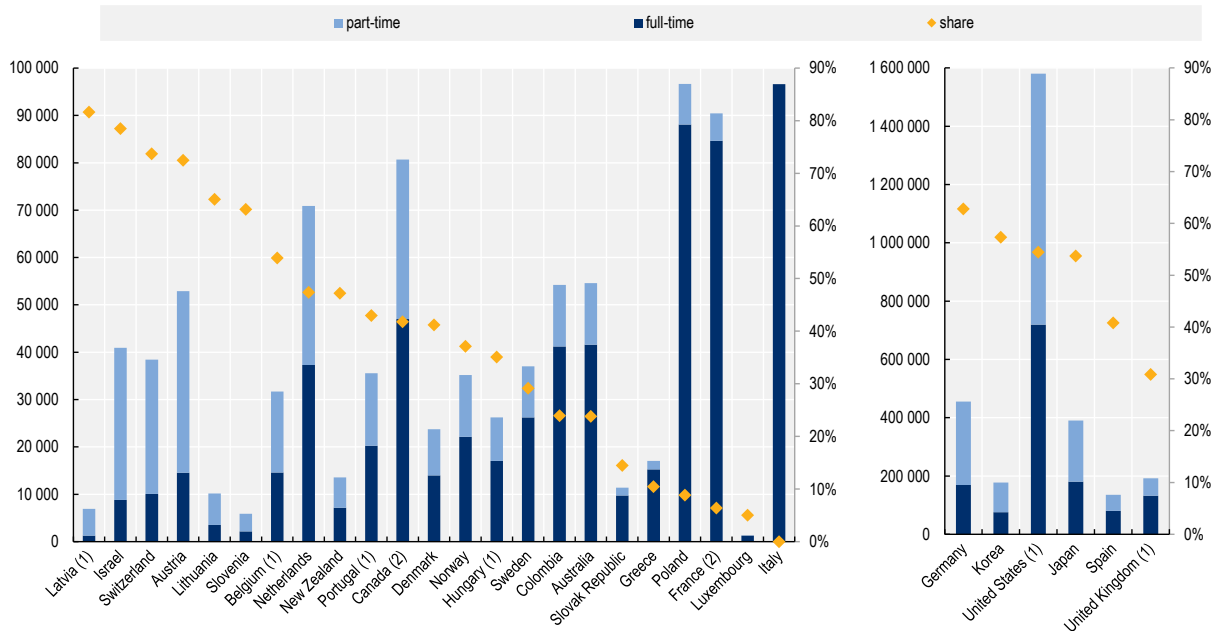
The second available UOE dataset related to academic staff contracts is on headcounts (HC) of academic staff with part-time and full-time employment (Figure 3). While academic staff data are increasingly also collected and presented in full-time equivalents (FTE), the headcount data make it possible to see the share of academic staff employed on a part-time basis. The highest share of part-time teachers in UOE data are in Latvia, Israel, Switzerland, Austria, Lithuania and Germany. It is interesting that among countries with a relatively high share of part-time staff are three that share the three-sector system structure, Germany, Switzerland and Austria, with universities, universities of applied sciences and teacher education colleges. Especially the latter two types of institutions tend to have a higher share of part-time academic staff.

Similar findings were also reported in the most recent Eurydice brief on academic staff, which showed that part-time academic staff are particularly prevalent in the three countries mentioned above, and also in

Latvia, Lithuania and Slovenia, while – according to the official statistics, at least – such staff are almost non-existent in Greece, France, Italy, Poland, and Romania (Eurydice and Crosier, 2019<sup>[6]</sup>).

Figure 3. Academic staff in OECD countries (2020)

Headcounts of academic staff by intensity (full-time or part-time) and share of academics on part-time contracts.



Note: Adapted from OECD (2022<sup>[25]</sup>), *Education Database: Educational personnel by institution (Edition 2022)* (database), <https://doi.org/10.1787/3687e4db-en>.

Data for countries where they are available. Two graphs are separated due to the number of academics. In most cases data include academic staff in all higher education institutions (ISCED 6-8). Countries are ranked by the share of part-time academic staff.

1. Academic staff in all tertiary education institutions (ISCED 5-8)
2. Academic staff in public higher education

While international data providing evidence on the contractual status of academic staff are limited, some higher education systems collect data on temporary and casual contracts. In Ireland, for example, the underlying data collected for the publication *Higher Education Institutional Staff Profiles by Sex and Gender*, include information about academic staff and their contractual status, both in terms of headcounts (HC) and full-time equivalents (FTE). The dataset includes all publicly funded higher education institutions in Ireland (HEA, 2021<sup>[26]</sup>).

As displayed in Table 2, a majority (65%) of FTE positions in Irish higher education are filled by staff on permanent contracts, but in terms of headcount, only 50% of all academic staff hold permanent full-time contracts. While the casual, zero-hours contracts account for about 3% of the FTE, 16% of individual (headcount) academic staff are employed on such contracts. Both permanent and zero-hours contracts are evenly distributed between the university and technological higher education sectors. However, temporary staff are mostly concentrated within the university sector, which has a stronger focus on research and employs more researchers on temporary contracts.

**Table 2. Ireland's academic staff by contract type (2021)**

	FTE	FTE %	HC	HC %
Permanent full-time	9 812	61%	9 967	50%
Permanent part-time	563	4%	1 066	5%
Temporary full-time	4 710	29%	4 762	24%
Temporary part-time	492	3%	956	5%
Zero hours	418	3%	3 191	16%
Total	15 995		19 942	

Note: Adapted from HEA (2021<sup>[26]</sup>), *Higher Education Institutional Staff Profiles by Sex and Gender* (dataset), <https://hea.ie/policy/gender/statistics/higher-education-institutional-staff-profiles-by-sex-and-gender/> (accessed on 24 February 2023).

In the United Kingdom, the Higher Education Statistics Agency (HESA) collects data on the terms of employment of academic staff, including variables similar to those collected in Ireland. The statistics in Table 3 are reported in terms of headcounts and rounded to the nearest multiple of five. Like Ireland, about half of academic staff (headcount) are employed on permanent full-time contracts. The dataset further includes markers for academic staff with zero-hours contracts, around 2% of all academics in the United Kingdom, and another 14% are hourly paid (HESA, 2022<sup>[27]</sup>).

**Table 3. Academic staff in the United Kingdom by contract type (2021)**

	HC	HC%	Zero hours contract	Hourly paid
Open-ended/permanent full-time	115 740	49%	90	600
Open-ended/permanent part-time	40 715	17%	2 185	20 110
Fixed-term, full-time	35 580	15%	265	555
Fixed-term, part-time	41 895	18%	1 875	10 375
Total	233 930		4 415	31 640

Note: Adapted from HESA (2022<sup>[27]</sup>), *Figure 3 - All staff (excluding atypical) by mode of employment and hourly paid marker 2021/22* (dataset), <https://www.hesa.ac.uk/data-and-analysis/sb264/figure-3> (accessed on 24 February 2023).

HESA collects data on academic staff on atypical contracts separately and they are not included in the overview in Table 3. Atypical contracts are characterised by at least one of the following criteria: 1) very short duration, less than four consecutive weeks; 2) one-off/short-term tasks; 3) work away from supervision; or 4) high flexibility of working as-and-when required. The 2020/21 HESA collection counted over 66 000 academics with atypical contracts (UCU, 2021<sup>[28]</sup>).

In the Netherlands, statistics on contract types for academic staff in universities are gathered by the national university association. Table 4 presents the data on academic staff categories, excluding PhD candidates, who are all employed on temporary contracts. Overall, 59% of academic staff are on permanent contracts in terms of headcount. The differences between headcount and FTE are minimal in the case of Dutch universities and 60% of FTE are on permanent contracts (Universities of the Netherlands, 2022<sup>[29]</sup>).



**Table 4. Academic staff in Dutch universities by contract type (2021)**

	Permanent		Temporary	
	HC	HC%	HC	HC%
Professor	3 501	14%	234	1%
Associate professor	3 074	12%	156	1%
Assistant professor	5 090	20%	2 000	8%
Teacher	2 394	9%	3 650	14%
Researcher	819	3%	4 310	17%
Other research staff	196	1%	307	1%
<i>Total</i>	<i>15 074</i>	<i>59%</i>	<i>10 657</i>	<i>41%</i>

Note: Adapted from Universities of the Netherlands (2022<sup>[29]</sup>), *Fixed-term employment contracts per job category* (dataset), <https://public.tableau.com/app/profile/petra.pieck/viz/shared/K68B4SK6Q> (accessed on 5 March 2023).

Data include academic staff from universities, excluding PhD candidates.

In Sweden, the Swedish Higher Education Authority (UKÄ) collects data on contract types. The data presented in Table 5 distinguish between various roles within academic careers and the share of people on permanent and temporary contracts. In the source data, further differentiation is made between various types of temporary work based on various provisions in labour regulation. While overall, about two-thirds of academics (headcount) are on permanent contracts, with relative contractual stability among professors and lecturers, temporary contracts are particularly widespread among merit appointments (postdocs and assistant university lectureships) and other research and teaching staff.

**Table 5. Academic staff in Sweden by contract type (2022)**

	Permanent		Temporary	
	HC	HC%	HC	HC%
Professors	5 603	14%	1 203	3%
Adjunct professors	4 916	12%	1 640	4%
Lecturers	10 224	25%	1 293	3%
Merit appointment (1)	26	0%	3 784	9%
Other research and teaching staff	6 418	16%	5 369	13%
<i>Total</i>	<i>27 187</i>	<i>67%</i>	<i>13 289</i>	<i>33%</i>

Note: Adapted from UKÄ (2022<sup>[30]</sup>), *Antal personer 2022 (Number of People 2022)* (dataset), <https://www.uka.se/integrationer/hogskolan-i-siffror/statistik?statg=https://statistik-api.uka.se/api/totals/121> (accessed on 15 June 2023).

Data include academic staff from universities, excluding PhD candidates.

1. Merit appointment can either refer to a postdoctoral fellow or assistant university lecturer.

Another higher education system that systematically gathers data on contractual status is Canada. The University and College Academic Staff System provides data on whether staff are full-time or part-time and on the type of their appointment: tenured, probationary, non-tenured, visiting, or other (Statistics Canada, 2021<sup>[31]</sup>). Many countries report their system-level statistics by their staff categories, sometimes also including information on whether staff are part-time or full-time for each position.

## Research and evidence on the topic

The OECD's Higher Education Policy Survey (HEPS) found that open-ended contracts with enhanced protections against dismissal (recognised either as civil or public servant status, or another special provision) are an option in 21 systems out of 28 systems that submitted responses. The other seven

systems have only open-ended contracts under general employment law. Most systems however have both possibilities. Fixed-term contracts are offered in nearly all systems (except the Flemish Community of Belgium and Hungary). In some systems, fixed-term contracts need to provide the possibility of conversion to a permanent position, specifically in Lithuania, Poland, the Slovak Republic and Türkiye. Some systems only offer contracts without prospects of conversion, including Israel, New Zealand, Portugal, and England (United Kingdom). Other contract types are offered in 21 systems. Most systems have regulations or collective agreements that set a maximum duration for fixed-term contracts in the employment of academic staff, although there are five exceptions; Canada, Czechia, England, Lithuania and Sweden (Golden, Troy and Weko, 2021<sup>[32]</sup>).

*The precarity of employment contracts appears to be more pronounced in higher education than in other equivalent sectors of the economy.* In comparison to other levels of education, precarity and casualisation are more prevalent in higher education (Thompson, 2021<sup>[33]</sup>). Moreover, academic institutions in many countries offer fewer permanent positions than in the past. The “DocEnhance” survey of doctorate holders in Europe showed that while 87% of doctorate holders were employed on permanent full-time contracts in industry and about 70% in government, in academia it was only 56% and in research organisations 57% (Boman et al., 2021<sup>[34]</sup>). Data from Flemish Community of Belgium shows that doctorate holders who switched to careers outside academia are more likely to have permanent contracts (80-93%) compared to those who stayed in academia as principal investigators (67%) and post-docs (9%) (Mortier, Levecque and Wille, 2020<sup>[35]</sup>).

*Precarious employment in academia is a worldwide phenomenon.* According to the American Association of University Professors, about 70% of academic staff in the United States are employed on “contingent” appointments and outside the tenure track (American Association of University Professors, 2017<sup>[36]</sup>). In Canada, there has been growth in precarious employment in teaching-focused academic positions, while secure, tenured opportunities are mostly concentrated in prestigious research-intensive institutions (Stephenson et al., 2022<sup>[37]</sup>). In Australia, the casual academic workforce, with hourly-paid or sessional contracts, makes up the majority of academic staff in terms of headcount and about 23% in terms of FTE, with most casual staff on teaching-only contracts. Within the non-casual academic workforce, about 46% are academics with (longer) fixed-term contracts, mostly in research-only positions. The organisation and funding of universities by public authorities in Australia, with different resource streams for research and teaching limit the number of permanent positions, especially positions combining teaching and research (Norton, Cherastidham and Mackey, 2018<sup>[38]</sup>). In Japan, most teaching academic staff work part-time, and universities have also been granted exemption from a law that allows workers to demand permanent contracts after five years of temporary contracts. In Japanese universities, staff need to work for ten years to obtain a permanent contract (ILO, 2018<sup>[20]</sup>).

*Precarious academic employment is also widespread across Europe.* In the European Union, Council Directive 1999/70/EC concerning the framework agreement on fixed-term work, places limits on the duration of temporary employment in general. As a consequence, many member countries have adopted regulations limiting the total duration of successive temporary contracts in labour regulation. However, in the Czechia, Estonia, Latvia, Lithuania and Slovenia, academic staff are excluded from these provisions (ILO, 2018<sup>[20]</sup>). In Latvia, the latest reform of academic careers included a six-year limit on contracts for professors and associate professors. The Latvian Constitutional Court ruled that this conflicted with the constitutional right of choosing an employment workplace, citing the Council Directive and rulings of the European Court of Justice (EELA, 2019<sup>[39]</sup>). The European Court of Justice (ECJ) has interpreted the Directive, especially Clause 5, in multiple cases within academia. This suggests some misuse of successive fixed-term contracts that are used to employ academics that fulfil permanent and long-term needs and thus do not meet the objective criteria for the use of fixed-term contracts (Lauwers, 2020<sup>[40]</sup>). EU legislation makes important distinctions between academic staff performing core teaching and research duties and those contracted for the period of fixed-term research grants or to teach specific additional courses.

In Lithuania, precarious employment in academia has been identified through surveys of academic staff, in which some respondents reported no employment outside the academic terms, as their contracts only cover the teaching semesters themselves (Leišytė et al., 2022<sup>[41]</sup>). A report from Denmark also found differences in hiring processes, with permanent positions generally having transparent recruitment procedures and many fixed-term appointments being based on networks and personal connections (Melin et al., 2018<sup>[42]</sup>).

*Across countries, precarity of employment is especially felt among early-career academics, who compete for a limited number of permanent and tenured positions and typically take on temporary or casual employment contracts (Diogo, Carvalho and Queirós, 2022<sup>[43]</sup>). Historically, doctoral training was a form of apprenticeship for an academic career, but now, with the increase in the number of doctoral students, the focus of doctoral programmes has changed to reflect the fact that a majority of PhD graduates continue their career outside academia. As the focus of the doctoral career stage has changed, the selection of future academics has moved to later career stages, after individuals have completed postdocs and other junior posts (Kwiek and Antonowicz, 2014<sup>[44]</sup>; Sarrico, 2022<sup>[45]</sup>). Data from Sweden show a concentration of temporary contracts in Sweden among younger academic staff, with about 86% of academics below the age of 35 on temporary contracts. In the category of 35–44-year-olds, about 39% of academics still do not have permanent contracts. For the other age categories, the concentration is relatively stable, with about 17–22% of academics on temporary contracts (UKÄ, 2022<sup>[30]</sup>). A benchmarking exercise by the OECD, covering Estonia, Flemish Community of Belgium, the Netherlands, and Norway, shows similar patterns, with the share of staff with permanent contracts being the lowest among the youngest cohort, with a clear trend towards more permanent contracts for older academic staff (OECD, 2019<sup>[12]</sup>). In 32 European systems, junior academics can be on fixed-term contracts, while only 19 systems allow this for senior academics (Eurydice and Crosier, 2019<sup>[6]</sup>). However, the hope of junior academics is often kept alive through the award of repeated fixed-term contracts, often covering multiple years. Academic staff in such positions frequently experience stress and uncertainty until they potentially obtain a permanent position (Melin et al., 2018<sup>[42]</sup>). They also tend to be dependent on more senior academics, as postdocs are not always eligible to apply individually for research funding (OECD, 2021<sup>[9]</sup>).*

Many OECD countries have *a strong supply of young academics with aspirations for academic careers* but limited positions available at institutions (Iversen, 2023<sup>[15]</sup>). Many commentators argue that the current research and teaching model in most advanced economies depends largely on the availability of plentiful and cheap labour in the form of doctoral candidates and postdocs (Arnhold et al., 2017<sup>[5]</sup>). A global survey by Nature showed that 56% of doctoral candidates named academia as their first preference for work, while about two-thirds of postdocs preferred academia to employment in other sectors (Woolston, 2020<sup>[46]</sup>; Woolston, 2019<sup>[47]</sup>). Many are willing to endure poor contractual and working conditions because of the prospect of future positions (Carvalho, 2021<sup>[48]</sup>). During the expansion of higher education during the 20<sup>th</sup> century and 2000s, new institutions were created, and existing institutions expanded, creating demand for academic staff (OECD, 2019<sup>[12]</sup>). But enrolment rates started to decline in Europe and Northern America in the 2010s (Marginson, 2016<sup>[49]</sup>) and the student population in the OECD overall is starting to stagnate, with many OECD higher education systems experiencing enrolment decline (OECD, 2022<sup>[50]</sup>). In this environment, institutions have fewer positions to offer and have existing contractual commitments with more senior academics, on permanent contracts that create a significant strain on institutional resources (OECD, 2019<sup>[12]</sup>). This compounds the situation of doctoral holders unable to find a position in academia (OECD, 2021<sup>[9]</sup>) and further increases the number “trapped in a hamster wheel of precarity” (Courtois and O’Keefe, 2015, p. 43<sup>[51]</sup>).

*Institutions and public authorities have introduced new types of contracts to allow higher education to become more responsive* to shifting policy priorities (ILO, 2018<sup>[20]</sup>). These new contracts contrast with traditional “lifetime” contracts, which hinder the long-term flexibility of academic departments, schools, and institutions in the face of increased unpredictability (OECD, 2020<sup>[11]</sup>). The major policy shift came after high enrolment rates had been attained and the focus moved more clearly towards public accountability and

efficiency questions (McNaughtan, García and Nehls, 2017<sup>[21]</sup>). This involved reforms to institutional governance, the expansion of quality assurance, and the adoption of new funding models through performance-based institutional funding, competitive and fixed-term research grants (Eurydice and Crosier, 2019<sup>[6]</sup>; Jongbloed et al., 2023<sup>[52]</sup>; OECD, 2020<sup>[11]</sup>). These reforms have transformed the academic profession, expanded the role of higher education professionals, and changed academic career appraisal (Teichler, 2021<sup>[53]</sup>). The growth of research funding has allowed institutions to hire new staff, but many projects are short-term (OECD, 2021<sup>[9]</sup>), thus not providing staff with permanent career options and creating bottlenecks (ISE, 2020<sup>[54]</sup>). This can be observed in the data from Ireland, where the employment of around 70% of academic staff is financed through core funding to institutions. Around 92% of permanent staff are paid from core funding, while those on temporary contracts are mostly covered by non-core funding (HEA, 2021<sup>[26]</sup>). Institutions are limited in the scope of the contractual commitments they can offer to their staff by the overall volume of funding and its predictability.

While the casualisation of the academic workforce creates cost savings for academic employers, there is evidence that *strong reliance on casual academic staff can have negative effects* on the functioning of academic teams and the results of research and teaching (OECD, 2020<sup>[1]</sup>; OECD, 2021<sup>[9]</sup>). Findings from Australia suggest that casual academic staff are at risk of being put in peripheral positions, excluded from meetings and having limited interactions with their supervisors (Nadolny and Ryan, 2013<sup>[55]</sup>; McComb, Eather and Imig, 2020<sup>[56]</sup>). In the United Kingdom, contingent faculty have been found to be excluded from some communications and activities, making them feel like “non-citizens in the academic community” (Meliou and Lopes, 2022<sup>[57]</sup>). A report from the United States suggests that contingent faculty are excluded from various activities and functions, including self-governance, professional development, administrative support, and curriculum development (Hurlburt and McGarrah, 2016<sup>[58]</sup>).

The casualisation of the academic workforce has also been found to have *potentially adverse effects on students’ learning experiences* (OECD, 2020<sup>[11]</sup>). While evidence has shown that an increasing share of the teaching load is being assumed by academics with casual contracts, the effects on students have been understudied. The evidence presented here is limited to a few countries and often only includes a few institutions. Moreover, the effects identified in the studies that do exist might be less substantial than they would otherwise have been due to the commitment of these academics, who frequently work over and above the requirements of their contracts, as the survey from the University and College Union in the United Kingdom has found (UCU, 2019<sup>[59]</sup>). An additional challenge is strong research bias in incentive structures in academic career appraisal, which means that the pursuit of a permanent academic post often requires a focus on developing a strong publication record, rather than focusing on teaching and student support (OECD, 2021<sup>[9]</sup>). This issue will be further explored in sections 2 and 3.

In Australia, *academic staff with precarious contracts have been found to be perceived by students as less qualified* (Hitch, Mahoney and Macfarlane, 2017<sup>[60]</sup>). Students surveyed in Australia have been found to feel that part-time staff have limited understanding of the degree programmes followed and the connection of their course or classes to the wider programme objectives. They were also perceived to have less information about administrative matters and were therefore not able to help students to navigate the university system (Marshall, 2012<sup>[61]</sup>). The experiences of industry experts in Australia employed as casual academics highlight their frustration with the lack of support and isolation from the academic community, despite having been a source of valuable insight for the students and creating links with industry (Clarke, 2021<sup>[62]</sup>).

A recent survey in the United Kingdom has shown that the *higher proportion of teaching by casual academic staff negatively impacts student satisfaction* (Williams, 2021<sup>[19]</sup>). The more casual forms of contracts, and the associated workload models, limit the time academics can devote to supporting students and teaching preparation (Leathwood and Read, 2020<sup>[63]</sup>). A survey by University and College Union among casualised academic staff found that 67% did not have enough time on their contract to prepare adequately for their classes, 73% lacked time to complete their marking, and 71% did not have time to

provide proper feedback. Many casually contracted academics did not have access to facilities to support their students (44%) and they were not included in the development of new curricula (35%) (UCU, 2019<sup>[59]</sup>).

The evidence from the United States is mixed. One report suggests that *the impact [of casual staff] on students is unclear, as it depends on conditions within which the contingent faculty is working in* (Hurlburt and McGarrah, 2016<sup>[58]</sup>). A study of six four-year institutions suggests that having part-time faculty negatively affects student retention between the first and second year of college (Jaeger and Eagan, 2010<sup>[64]</sup>). Another study showed a potentially positive impact of adjuncts on current course performance, but then negative effects on students' subsequent interest in the field and their further study outputs (Xiaotao Ran and Xu, 2018<sup>[65]</sup>). This effect was confirmed by a later study that suggested that increased employment of adjunct faculty led to grade inflation, as a result of hopes that positive student feedback would provide a path towards a more permanent position (Chen, Hansen and Lowe, 2019<sup>[66]</sup>).

*Employment in precarious positions negatively impacts the career development* of individuals employed on such contracts. These staff members are excluded from professional learning (Hitch, Mahoney and Macfarlane, 2017<sup>[60]</sup>) and insecure employment limits their chances to form networks and develop research profiles (Broadbent and Strachan, 2016<sup>[67]</sup>). Those in permanent positions are more likely to have an impact on policy, produce patents, be awarded academic prizes, or conduct public engagement activities (Nogueira, Heywood-Roos and Phillips, 2015<sup>[68]</sup>). Testimonials from Dutch academics mention the disruptive nature of casual contracts on the work of departments and relationships between colleagues, affecting co-operation on research, curriculum development and its delivery (Casual Academy, 2022<sup>[69]</sup>).

*The casualisation of contracts contributes to poor wellbeing among affected academics and damages the ability of academia to attract and retain talent.* A combination of insecure contracts, long working hours, a competitive academic culture, and poor interpersonal relationships have been found to have negatively influenced the mental wellbeing of academics (Hall, 2023<sup>[70]</sup>; Jayman, Glazzard and Rose, 2022<sup>[71]</sup>; Moulin, 2020<sup>[72]</sup>). Academics are especially at risk of experiencing stress and burnout (Smith et al., 2022<sup>[73]</sup>; Záborská et al., 2017<sup>[74]</sup>). While elements of this problem are recognised, much institutional policy focuses on individual change to improve the mental health of affected academics, rather than examining and changing the structures which contribute to the problem (Limas et al., 2022<sup>[75]</sup>; Nicholls et al., 2022<sup>[76]</sup>). A project tracking careers of doctorate holders in selected European countries has found that temporary staff in academia have lower levels of satisfaction with their working conditions compared to those on permanent contracts (Nogueira, Heywood-Roos and Phillips, 2015<sup>[68]</sup>). This has an impact on the motivation and performance of staff, and the ability of academia to attract and retain talent (Klopper and Power, 2014<sup>[77]</sup>). A recent study from Finland suggests that stress and dissatisfaction with working conditions are pushing people away from academia (Aarnikoivu et al., 2019<sup>[78]</sup>). Similar findings have been found in the Netherlands (Government of the Netherlands, 2022<sup>[79]</sup>).

Several countries (including Austria, Finland, Switzerland, Germany, Ireland, and Poland) have recently introduced reforms to restructure the postdoctoral phase of research careers, by adapting their career structure to a tenure track model, with progression based on clear criteria. These changes make it possible to shorten the uncertain postdoctoral phase of fixed-term contracts by making the decisive selection earlier in researchers' careers. However, it also reduces individuals' career options after this decision point: postdocs either obtain tenure track positions or are forced to either leave academia or accept temporary academic contracts for the rest of their academic career (Brechelmacher et al., 2015<sup>[14]</sup>).

## Policy and practice examples

**Germany** attempted to regulate the historically high rates of non-standard contracts in its 16 state-level higher education systems through the Academic Fixed-Term Contract Act (*Wissenschaftszeitvertragsgesetz*) in 2007. After criticism of the initial legislation, the Act was amended in 2016 to increase the duration for which staff can be employed on fixed-term contracts. The length of the

contract should correspond to the funding or to the time needed to finish a doctorate. It was hoped that this model would decrease the precariousness of young academic staff (Hüther and Krücken, 2018<sup>[80]</sup>; OECD, 2020<sup>[1]</sup>). However, the Act caused a wave of protests and outrage, under the hashtag #IchbinHanna responding to a video published by the Federal Ministry of Education and Research that tried to defend the model. The main concern was the continuation of precarity in academia and the process in which the decision about professorship is made late in the career and forces people to leave academia (Bahr et al., 2021<sup>[81]</sup>). In comparison to other countries, as seen in Figure 2, Germany has the largest share of academics in junior and other categories, with almost none in intermediate positions. It appears that precarious academic employment has persisted despite the introduction of limits on casual contracts.

**Austria** has also undertaken efforts to reduce precarity, with the introduction of tenure track schemes in 2015 which have shortened the periods when young academics work under fixed-term contracts. Under the new tenure track model, young researchers can be offered a “qualification agreement” with clearly defined criteria for their progression to associate and later full professorship (OECD, 2018<sup>[82]</sup>). Like Germany, in 2021, Austria introduced limits, terms and conditions for the use of fixed-term work contracts in universities, limiting the total duration of contracts to six or eight years (Eurydice, 2022<sup>[83]</sup>). The precise impact of this change is unclear at the time of writing.

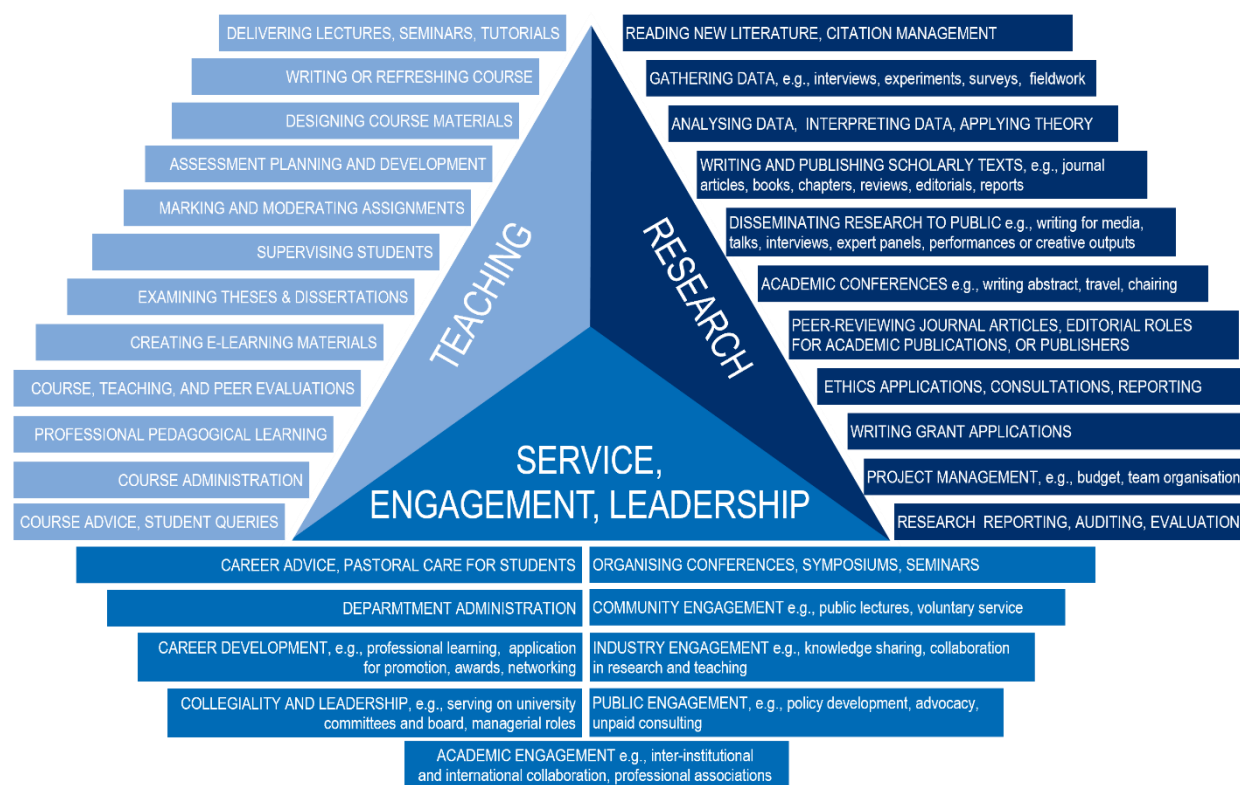
**Italy** reformed academic career paths in 2022 through national legislation addressing the fragmentation of junior pathways by creating a single junior researcher position after the PhD and an initial two-year fellowship (*assegno di ricerca*). This junior position, which can be up to six years long, gives access to associate professorships and other positions further along the tenure track. The law also addressed issues of salaries, social benefits and tax contributions. While the reform is seen as a positive change in the higher education sector, the current funding model caps resources, limiting how many staff members universities can hire and allow to pursue the tenure track (Paterlini, 2022<sup>[84]</sup>).

The precarity of employment conditions can also be limited through collective bargaining, which involves the negotiation of the terms and conditions of employment between academic employers and staff unions (ILO, 2018<sup>[20]</sup>; OECD, 2020<sup>[1]</sup>). The **Netherlands** is a key example of a country with a national collective agreement that limits the use of temporary and casual contracts. In 2016, bargaining led to a cap on these contracts at 22% FTE (VSNU, 2015<sup>[85]</sup>). The commitment to reducing temporary and casual employment is still present in recent collective agreements, setting limits on repeated temporary contracts (Universities of the Netherlands, 2022<sup>[86]</sup>). Despite the agreements, there has been a recent increase in the use of temporary contracts in the Netherlands (Balleman, 2022<sup>[87]</sup>).

## 2 Responsibilities and workload

The focus of this section is on evidence about how academic staff allocate their time between different responsibilities. Figure 4 provides an overview of the various components of academic working life, categorised around three key areas: teaching, research, and service (including engagement and leadership). Particular attention in this section is given to the question of creating parity of esteem between teaching and research, the adoption of differentiated career profiles by some institutions and higher education systems, and the workload of academics.

Figure 4. What does an academic do?



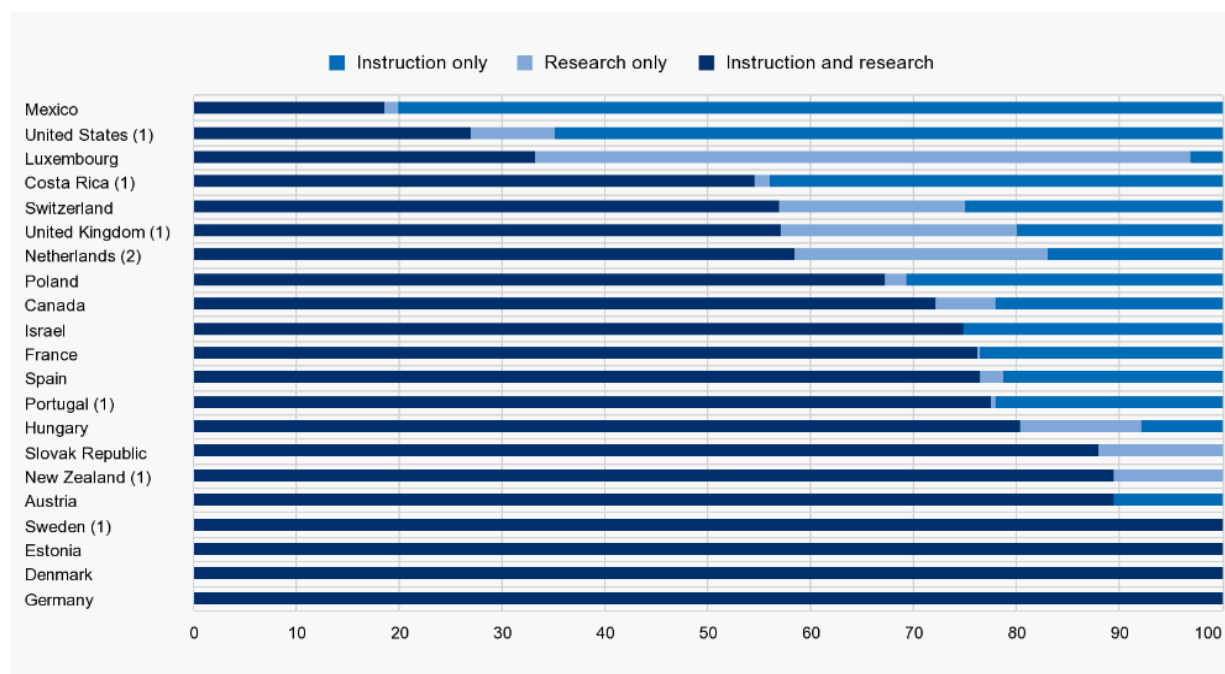
Note: Adapted from an infographic by Susan Wardell (2021<sup>[88]</sup>) developed in the context expectations placed on academics in New Zealand.

### Indicators and data availability

The OECD and Eurostat jointly collect data on research personnel in different sectors, including the higher education sector. These data indicate how many academic staff are involved in research activities but not in other roles. These statistics may also include graduate students and doctoral candidates. This creates difficulties, as some countries, such as the Slovak Republic and Italy, do not recognise PhD students as employees (OECD, 2022<sup>[71]</sup>).

However, the previously cited feasibility study by the INES Working Party attempted to collect data on the primary function of academic staff. Rather than showing the time spent on different roles, it indicated the prevalence of contracts assigning sole responsibility for either research or teaching. As shown in Figure 5, from the participating countries, only Mexico and the United States reported that a majority of academic staff are involved in teaching-only (instruction-only) roles. All other participating countries reported a majority of academic staff with combined roles, with both teaching and research responsibilities. Sweden, Estonia, Denmark, and Germany were the only countries with no reported differentiation in primary functions, while other systems reported that a minority of roles in their higher education system had a single primary function. These patterns partially reflect decisions on which employees to categorise as academic staff. As most countries report academic staff as having both functions, it is difficult to draw conclusions on the allocation of time between responsibilities from these data. In the meetings of the INES Working Party, there was a discussion about the use of time-use surveys, however, currently only Canada and Norway can provide this information.

Figure 5. Distribution of academic staff by primary function (2020)



Note: Data are excluding PhD candidates.

1. Data cover all levels of tertiary education.

2. Data cover only academic institutions.

Source: OECD (2022<sup>[89]</sup>), "Distribution of academic staff by primary function (2020)", in *Education at a Glance 2022: OECD Indicators*, <https://doi.org/10.1787/cd4873d1-en>.

## Research and evidence on the topic

The best estimations of the hours that academics dedicate to various activities can be obtained from surveys among academic staff, such as the "Changing Academic Profession" carried out in 2007-08. Results are presented in Table 6. Research activities are the most dominant activity for academics in all countries included in this survey, except in Finland and Malaysia. On average, full-time academics spent about 30% of their annualised hours on teaching and around 40% on research activities. Administration



occupies about 15% of working time, while service and engagement account for around 7%. However, there are significant differences between systems (Bentley and Kyvik, 2012<sup>[90]</sup>).

**Table 6. Overview of academic workload distribution by country and region (2007-08)**

Annualised mean weekly hours of academic activities.

	Teaching (1)	Research (2)	Administration (3)	Service (4)	Other (5)	Total
<b>English-speaking (n=2484)</b>	<b>16.0</b>	<b>17.7</b>	<b>8.8</b>	<b>3.3</b>	<b>3.3</b>	<b>49.1</b>
Australia (n=526)	15.9	16.5	9.7	3.0	3.4	48.5
Canada (n=702)	15.9	20.4	7.3	3.5	2.9	50.0
United Kingdom (n=569)	16.1	16.5	10.6	1.5	3.8	48.4
United States (n=687)	15.9	17.6	7.4	5.2	3.1	49.3
<b>Western Europe (n=2729)</b>	<b>16.1</b>	<b>19.6</b>	<b>5.6</b>	<b>3.4</b>	<b>3.0</b>	<b>47.6</b>
Finland (n=393)	18.5	16.6	5.8	2.6	2.7	46.3
Germany (n=612)	12.7	22.5	4.7	6.2	3.5	49.6
Italy (n=1358)	15.5	21.6	4.6	2.6	2.5	46.7
Norway (n=366)	17.5	17.6	7.1	2.1	3.5	47.8
<b>Asia (n=1272)</b>	<b>16.5</b>	<b>17.8</b>	<b>8.0</b>	<b>3.6</b>	<b>3.1</b>	<b>49.0</b>
China (n=429)	16.3	21.6	5.6	3.1	2.3	48.9
Hong Kong (n=527)	16.9	19.6	8.3	3.7	3.6	52.2
Malaysia (n=316)	16.3	12.2	10.1	3.9	3.5	45.9
<b>Latin America (n=632)</b>	<b>13.8</b>	<b>18.8</b>	<b>5.1</b>	<b>2.7</b>	<b>2.6</b>	<b>43.0</b>
Argentina (n=371)	11.9	21.9	4.6	2.9	2.2	43.6
Brazil (n=261)	15.8	15.6	5.7	2.4	2.9	42.4
<b>All countries (n=7117)</b>	<b>15.6</b>	<b>18.5</b>	<b>6.9</b>	<b>3.2</b>	<b>3.0</b>	<b>47.2</b>

Note: Adapted from Bentley, P. and S. Kyvik (2012<sup>[90]</sup>), *Academic work from a comparative perspective: A survey of faculty working time across 13 countries*, <https://doi.org/10.1007/s10734-011-9457-4>.

Data for full-time academics. Annualised mean weekly hours is calculated on basis that classes are in session two-thirds of the year. The survey question: "Considering all your professional work, how many hours do you spend in a typical week on each of the following activities?"

1. Teaching: preparation of teaching materials and plans, instruction, advising students, reading, and evaluating student work
2. Research: reading literature, writing, conducting experiments, fieldwork
3. Administration: committee work, paperwork, activities in academic associations, reviews, etc.
4. Service: externally oriented activities (services to clients and/or patients, unpaid consulting, public or voluntary services)
5. Other academic activities: professional activities not attributable to any of the categories above

A follow-up survey was conducted in the period 2017-18, with the participation of academics from Argentina, Austria, Brazil, Canada, Chile, China, Croatia, Finland, Japan, Kazakhstan, Latvia, Malaysia, Mexico, Norway, Portugal, Russia, Slovenia, South Korea, Sweden, Chinese Taipei, Türkiye, and the United States. Preliminary evidence suggests that the *proportion of academics' working hours spent on research has been increasing* in recent years, especially at high-ranked and research-oriented institutions (Teichler, Aarrevaara and Huang, 2022<sup>[91]</sup>). The preference for research is widely reported to be rooted in the culture of European academic life and institutions (EUA, 2019<sup>[92]</sup>). An increasing value placed on research can create tension between what academics spend time on and what they are evaluated on (Schimanski and Alperin, 2018<sup>[93]</sup>). The question of incentives for individual staff members is further explored in section 3.

There is a general trend towards *increased specialisation of roles in academia*, with some staff having responsibility solely or primarily in one domain – either teaching or research. These efforts to specialise are mostly undertaken with the intention of enhancing research and dedicating more people to pursuing research and applying for and implementing grant-funded projects. Academics also have a smaller role in institutional governance and administration, tasks more often assumed by professional staff (OECD, 2020<sup>[11]</sup>).

Teichler, Aarrevaara and Huang argue in their book that the *stronger emphasis on research and the dissolution of the teaching-research nexus are part of the “current zeitgeist” of higher education*. In their view, six developments have transformed the climate in higher education (2022, p. 245<sup>[91]</sup>):

1. Targeted expectations on performance and achievements,
2. Emphasis on the visible economic impact of higher education,
3. A competitive environment with incentive mechanisms and sanctions,
4. Vertical diversification between institutions,
5. Emphasis on the enhancement of research,
6. A bifurcation of individual work (teaching or research only) and institutions (research-intensive or teaching-dominated institutions).

Examples of these developments can be observed in several OECD higher education systems. In Canada, the programme Networks of Centres of Excellence was found to have led to a reduction of teaching responsibilities for academic staff in research-intensive institutions. Teaching duties at these institutions have been given to staff on teaching-only contracts, often employed on more precarious contracts (Stephenson et al., 2022<sup>[37]</sup>). Another example is the German Excellence Initiative, which caused changes in funding, leading to the dissociation of research from teaching on both an organisational and individual level (Götze and Schneijderberg, 2022<sup>[94]</sup>). Changes in funding have also transformed the academic workload in Lithuania. After EU accession and greater availability of competitive European funds (notably Horizon Europe), academics are now dedicating more time to research (Leišytė et al., 2022<sup>[41]</sup>).

The *workload distribution for academic staff differs inside systems, with vertical stratification between institutions*. In most cases, research-intensive institutions generally have a large staff of researchers and academics with combined research and teaching roles, while other institutions might have a more dominant focus on teaching and engagement roles (OECD, 2020<sup>[1]</sup>). In Germany, vertical differentiation between research-oriented and well-funded institutions and less research-intensive and less well-funded institutions is associated with German Excellence Initiative (Götze and Schneijderberg, 2022<sup>[94]</sup>). Academic staff at research-intensive institutions show a greater preference for research, have a greater research workload, and more third-party funding. The teaching workload increases in smaller institutions that have a lower position in Excellence Initiative rankings (Müller and Schneijderberg, 2020<sup>[95]</sup>).

*Geo-political competition also contributes to the strong focus on research in funding and policy*. First, governments are striving to promote innovation and research advancements in critical developments, such as developing vaccines, advanced microchips, or artificial intelligence to strengthen their country's competitive advantage. Second, the strategic positioning of national higher education systems in university rankings largely based on research outputs is important for international competition in attracting talent (Parreira do Amaral, 2022<sup>[96]</sup>; Leprévost, 2020<sup>[97]</sup>).

Global, national, institutional, and individual competition for research outputs has – to varying extents across national systems – led to the *bifurcation of academics and their responsibilities*, into those primarily responsible for teaching and those focusing on research. The development of new categories of academic staff has allowed institutions to maximise the time high-performing academics can spend on research, while labour-intensive teaching tasks of mass and primarily undergraduate courses are covered by teaching-only academics (Nyamapfene, 2018<sup>[98]</sup>; Stephenson et al., 2020<sup>[99]</sup>). This creates the perception that teaching-only academics are second-class academics, as they are not as highly performing in research (Macfarlane, 2011<sup>[100]</sup>). Moreover, they are more frequently exposed to casual contracts that, for example, only cover term time (Gill, 2016<sup>[101]</sup>). Academics in these roles are “finding themselves in bounded careers” (p. 271<sup>[102]</sup>), with little space to develop traditional academic skills in research, lacking promotion scripts and actual pathways to roles with combined responsibilities (Bennett et al., 2017<sup>[102]</sup>). This separation of research and teaching roles can be detrimental to students, as they are less likely to

develop interest in research and enthusiasm for highly advanced learning (Hajdarpasic, Brew and Popenici, 2013<sup>[103]</sup>).

While there is a tendency towards research in workload allocations, research-only positions are not necessarily the most sought-after in academia, as *academics tend to value balance between teaching and research* (EC, 2018<sup>[104]</sup>; Janger and Nowotny, 2013<sup>[105]</sup>). While there is a preference among academic staff for keeping both teaching and research roles, evidence from Slovenia and Croatia suggests that job satisfaction depends on the experience of individual academics. Teaching-oriented academics do not mind doing extra research work but increasing the teaching load negatively affects the satisfaction of research-oriented academics (Flander, Rončević and Kočar, 2020<sup>[106]</sup>). In a cross-country comparison of six European systems, academics expressed their interest in the survey as leaning towards research, with a majority of academics stating a preference to work primarily in research or in both research and teaching but leaning towards research. The strongest preference for research was found in Germany (77%) and Sweden (73%). More balanced preferences were found among academics in Estonia (60%), Croatia (56%), Portugal (55%) and Lithuania (52%). However, in all examined countries, the majority of academics had a preference for both teaching and research. Interest to engage only in research or teaching was not strong (Leišytė et al., 2022<sup>[41]</sup>). While the emphasis on either teaching or research might be changing over time, the combination of both remains appreciated (Teichler, Aarrevaara and Huang, 2022<sup>[91]</sup>). Furthermore, evidence from the Netherlands shows that a balanced time allocation between research and teaching is associated with higher research productivity (Leišytė, 2016<sup>[107]</sup>).

Junior academics in comparison with their more senior colleagues have different teaching and research workloads. The most prevalent model in Europe includes higher teaching loads for more junior academics, *with the reward for career progression being a decreasing teaching load*. In very few instances is the reward for strong research performance to reduce the research workload and increase teaching, highlighting the lack of parity of esteem between the two responsibilities (Eurydice and Crosier, 2019<sup>[6]</sup>). This pattern can be observed in Croatia, Estonia, Portugal, and Sweden, where junior academics spend more time teaching. But this largely depends on the career model and types. There are notable exceptions, like Germany and Lithuania, where junior academics spend more of their time on research. In Germany, many young academics are employed to work on research projects with external funding and have no teaching obligations (Leišytė et al., 2022<sup>[41]</sup>). This reflects the bias in incentives towards research outputs, as junior academics need to primarily pursue research activities that will be reflected in their appraisal (Civera et al., 2023<sup>[108]</sup>).

Differences in time allocation are also observed by gender, with *women academics taking on greater teaching loads* and men spending more time on research (Leišytė et al., 2022<sup>[41]</sup>; Gibney, 2017<sup>[109]</sup>). This is also reflected in the types and number of requests for new work that women receive. Students and colleagues ask women academics for help more often, while men receive fewer requests and thus have more time to spend on advancing their research profile (O'Meara et al., 2017<sup>[110]</sup>). In Spain, a survey found that while men and women have a similar amount of teaching in terms of credits awarded by their courses, women spent an average of four hours more a week on preparing classes, tutoring, supervision and other tasks connected to teaching (Cabero and Epifanio, 2021<sup>[111]</sup>).

The *evidence on workload regarding service and external engagement is limited*, partially due to conceptual ambiguity (Smolentseva, 2023<sup>[112]</sup>). In the survey cited in Table 6, service and externally oriented activities are understood as services to patients or clients, unpaid consulting, and public or voluntary service (Bentley and Kyvik, 2012<sup>[90]</sup>). The monitoring of these activities in national systems is often focused on commercial activities, which generate variables that are easily quantifiable and collectable, such as income (Krčmářová, 2011<sup>[113]</sup>). In many instances, however, the form of external engagement is fluid and not easily measurable, as in the case of academic contributions to policy development (Jones, 2023<sup>[114]</sup>). Externally oriented activities seem to be more widespread in higher education in the United States, where entrepreneurial activity is relatively common, while in Europe higher education institutions are less engaged in these activities (Compagnucci and Spigarelli, 2020<sup>[115]</sup>).

The greatest level of external engagement in Europe seems to be within the hard sciences, but activities differ between systems. The results from a survey on external activities among academics have found that in Finland, academics more frequently engage in spin-offs and start-ups, in Slovenia, they often focus on volunteer-based activities, in Portugal external engagement includes mainly teaching-related activities, and consultancy activities are common in Lithuania (Pekşen et al., 2021<sup>[116]</sup>). In the social sciences and humanities, engagement activities take on different forms, such as people-based, problem-solving, and community-based activities. On the whole, academics in the social sciences and humanities are less focused on the commercialisation of knowledge, less frequently work with private industry and are more focused on building connections with the public and third sector (Bullock and Hughes, 2016<sup>[117]</sup>). A study from Portugal suggests that some academics are hesitant to become involved in commercially oriented external activities, as they have negative attitudes towards the commercialisation of knowledge (Sá, Dias and Sá, 2017<sup>[118]</sup>). Another study among German professors has shown the strong influence of the discipline community on the types of academic identities academics develop and consequently their relationship to the third mission (Püttmann and Thomsen, 2022<sup>[119]</sup>). While the time dedicated to these activities and priority given to engagement is generally low, in the context of the climate crisis, academics have a significant role to play in supporting innovation and policy development to facilitate the green transition (McCowan, 2020<sup>[120]</sup>).

One of the most notable findings from both overviews is long self-reported working hours in the academic community. It is widely expected among academics and their employers that *academics will work long hours and take on additional duties* (Melin et al., 2018<sup>[42]</sup>). The culture of long working hours has been exacerbated by the COVID-19 pandemic, with further additional work at home established as a norm (Horta et al., 2022<sup>[121]</sup>) with little resistance from academics (Sang et al., 2015<sup>[122]</sup>). Mean weekly working hours in many higher education systems included in Table 6 far exceed 40 hours. In seven countries, academics work, on average, over 48 hours a week, adding at least an extra workday to their contracted working hours (Bentley and Kyvik, 2012<sup>[90]</sup>). The practice of long working hours can have significant health consequences on individuals and is also associated with a reduction in productivity (Wong, Chan and Ngan, 2019<sup>[123]</sup>). Furthermore, excess working hours are rarely compensated and may potentially even conflict with basic labour protections. A survey among casual academics in the United Kingdom showed that 78% of them regularly work over their contracted hours to do their job properly as their remuneration does not reflect the work needed to mark assessments and provide sufficient feedback (UCU, 2019<sup>[59]</sup>).

A survey in Spain found that academics work on average 49 hours a week, overtime, which is not recognised and would be a violation of national labour law (Cabero and Epifanio, 2021<sup>[111]</sup>). A survey in Norway found that academics work on average 46 hours per week – well above the normal Norwegian work week of 37.5 hours. Professors work about 49 hours per week, with international professors even reporting working 51 hours a week (Amundsen and Bergstrøm, 2021<sup>[124]</sup>). In the United Kingdom, a staff workload survey reported an increase in working hours since 2016, with academic staff working a weekly average of 51.3 hours (in full-time equivalent), with the greatest workload on teaching assistants, who work an average of 64.4 FTE hours per week (UCU, 2022<sup>[125]</sup>). In Canada, there has also been a significant increase in working time in the period 2007-17, with academics on average working 45.3 hours per week (Nakano, Beaupré-Lavallée and Bégin-Caouette, 2021<sup>[126]</sup>). In Slovenia, there was a reduction in working hours between two surveys in 2013 and 2018, with a drop to about 44 hours per week (Flander, Klemenčič and Kočar, 2020<sup>[127]</sup>). A global survey of postdocs by Nature showed that only 9% of postdocs do not work beyond the hours stipulated in their contract, while about 65% work at least an extra six hours a week, often working during weekends and days off. The culture of long working hours is widely reported by postdocs, with 47% of postdocs agreeing that it is prevalent in their institution (Woolston, 2020<sup>[46]</sup>).

Overall, *higher education can be characterised by an inadequate work-life balance* for academics, with serious consequences on diversity and gender equality (Rosa, 2021<sup>[128]</sup>; Williams, 2022<sup>[129]</sup>). Some analysts argue that the intensification of work and prevalence of long working hours among academics intersects with structural developments in higher education, driving increased emphasis on individual and

institutional performance and a discourse of efficiency (Sang et al., 2015<sup>[122]</sup>). Institutions are expected to “do more with less”, which is then translated into pressure on academics to carry out their existing work, while also performing an increasing number of roles (Kinman and Johnson, 2019<sup>[130]</sup>). An increase in administrative work and new institutional initiatives and projects are often associated with an increase in academics’ workload (Williams, 2022<sup>[129]</sup>). A literature review on the well-being of academics finds that the current performance-oriented policy environment and institutional cultures can in some cases trigger burnout and high levels of stress (Urbina-Garcia, 2020<sup>[131]</sup>). The use of directive performance management approaches, with high reliance on individual performance measures and targets has especially been found to be associated with negative effects on academics’ well-being (Franco-Santos and Doherty, 2017<sup>[132]</sup>). Overt institutional pressure is associated not only with poor well-being but also to negatively affect the work quality of academics (Steenkamp and Roberts, 2018<sup>[133]</sup>).

## Policy and practice examples

The most common policy response to the lacking parity of esteem between research and teaching is regulations prescribing minimum allocations, and protected time for teaching for certain staff categories (Eurydice and Crosier, 2019<sup>[6]</sup>). In **Germany**, the workload is based on hours per term, with professors having eight course hours (teaching hours per week, with a teaching duration of at least 45 minutes) per term and early-career academics usually have four course hours (Müller and Schneijderberg, 2020<sup>[95]</sup>). In **Hungary**, the allocation is based on average hours for two consecutive semesters. Teaching-related activities should occupy from eight to twelve hours, with fewer hours expected of more senior positions. Furthermore, professors and lecturers are expected to spend at least 20% of their working time on research activities (Hungarian National Assembly, 2016<sup>[134]</sup>). **Polish** academics have limits that consider their annual class hours instead of broader teaching-related activities. The regulation also provides limits by which the load can be increased (Eurydice, 2023<sup>[135]</sup>). In **Spain**, the teaching load is determined by the European Credit Transfer System (ECTS) credits of courses delivered by the academic over the academic year. Teaching duties however can be altered by evaluations of research activity that can allow academics to reduce their teaching load from 24 ECTS to 16 ECTS (Eurydice, 2023<sup>[136]</sup>). These different models limit how flexibly institutions and academics can manage their workload, while in some systems, the teaching workload is based on a per term basis, in others, it is possible to distribute the teaching throughout a year. Some systems have only minimal requirements, while others indicate the usual workload or, as in the case of Poland, even limit the teaching load. Only in Hungary do regulations also stipulate expectations regarding research. There is limited coverage of administrative or service activities in the examined system regulations.

The findings from **Portugal** suggest that centrally imposed uniform weekly teaching requirements restrict academics in developing their careers, and especially in dedicating longer periods to research. As the law regulates the weekly teaching load, it prevents academics from managing their time and varying their teaching load over a year or for a longer period (OECD, 2019<sup>[137]</sup>).

Following the post-2008 downturn in **Ireland**, the Irish government needed to make cuts in public expenditure and, as part of the Croke Park Agreement with public sector unions, the government introduced measures to increase efficiency in the public sector. As a consequence, in 2010 universities and other higher education institutions adopted workload management practices. Workload planning is largely delegated to institutions that set their priorities, delegating the planning and assessment of needs to the academic units to develop workload plans for academics. As the workload models were developed by institutions, their integration and development vary. Some models are aligned with performance management and cover all three academic activities – research, teaching, and service, while many still lack a comprehensive nature and integration with other processes. This greatly limits their transparency and comparability across institutions, although there are attempts to benchmark the models, centralise certain data collections and work with institutions to align their models (HEA, 2014<sup>[138]</sup>).

# 3 Performance appraisal

This section focuses on academic performance appraisal models that determine rewards and career advancement. For consistency, this report uses the term “appraisal” to refer to activities designed to assess the performance of academic staff members, as distinct from the term “evaluation”, which is often used to refer to the assessment of institutions, systems, policy and programmes and “assessment”, which is used in relation to students. Discussion of performance appraisal models became prominent in recent years with *a widely-shared concern about the dominance of research-oriented, quantitative indicators, such as the Journal Impact Factor (JIF) in determining career advancement and research funding decisions* (Saenen et al., 2019<sup>[139]</sup>; McKiernan et al., 2019<sup>[140]</sup>). Initially, these concerns led to the preparation and adoption of the San Francisco Declaration on Research Assessment (DORA) and the Leiden Manifesto for Research Metrics. This inspired an EU initiative, the Coalition for Advancing Research Assessment (CoARA), founded in December 2022 (CoARA, 2022<sup>[141]</sup>). The scope of discussions has been broadening and now also encompasses concerns about how academic appraisal models consider other academic responsibilities (teaching, engagement, service, etc.). There is an increasingly shared understanding among key stakeholders that the current processes of academic performance appraisal should be revisited (Saenen et al., 2021<sup>[142]</sup>).

In the context of career advancement, there are two basic models in higher education: competition and promotion. In the competition model, when a position becomes vacant at a certain rank, it is made available to all internal or external applicants. In contrast, in the promotion model, which may take the form of a tenure track, the person advances to the next category after meeting certain criteria and performance appraisal. Systems may use elements of both models (OECD, 2020<sup>[11]</sup>). In Europe, the competition model is the most prevalent. There are, however, some exceptions, including France and Spain, which have competitive early selection in the form of national examinations or accreditation and subsequent promotion through ranks (Arnhold et al., 2017<sup>[5]</sup>; Sanz-Menéndez and Cruz-Castro, 2018<sup>[143]</sup>; Eurydice and Crosier, 2019<sup>[6]</sup>).

## Indicators and data availability

The OECD Higher Education Policy Survey (HEPS) from 2020 provides the most comprehensive international collection of recent information about staff recruitment, appraisal, and reward policies.

As shown in Table 7, the 2020 HEPS results confirm that a majority of OECD higher education systems used a competitive model, with regulations requiring vacant and new positions to be opened to external candidates. Apart from in Chile, in all systems, even if internal candidates have priority, vacant positions are also publicised externally. Performance in research is used in academic staff appraisal in 19 systems, while teaching is recognised in 18 systems. This suggests a relative parity of esteem for teaching and research in formal appraisal regulations. However, the policy survey did not cover the exact performance indicators used for academic staff appraisal and it is not possible to assess whether performance in the two responsibilities is valued equally.

Table 7. Existing regulation on staff recruitment and appraisal in OECD jurisdictions (2020)

	Recruitment of academic staff regulations		Staff appraisal performance regulations		
	Individuals already employed by an institution should have priority in applying for vacant or new academic positions	All vacant or new academic positions must be opened to external candidates	Performance in teaching	Performance in research	Performance in civic, commercial, regional or social engagement
Austria		o	o	o	o
Belgium (Flemish Community)		o			
Belgium (French Community)	o	o	o	o	o
Canada	o o	o o	o o	o o	o o
Chile (1)	o		o	o	o
Czechia		o			
Denmark (2)		o			
Estonia		o			
Finland (3)			o	o	o
France		o	o	o	
Hungary		o	o o	o o	
Ireland					
Israel		o	o	o	
Italy	o	o	o o	o o	o
Japan (4)			o	o	o
Lithuania		o		o o	
Luxembourg		o	o	o	
Netherlands (5)	o o	o o	o o o		
New Zealand (6)				o	
Norway		o	o o	o o	
Poland		o	o	o	
Portugal		o	o o	o o	o o
Slovak Republic		o	o	o	
Slovenia		o	o o	o o	
Sweden		o			
Switzerland		o	o	o	o
Türkiye			o	o o	o o
England, United Kingdom (7)					

Note: Adapted from Golden, G., L. Troy and T. Weko (2021<sup>[32]</sup>), *How are higher education systems in OECD countries resourced? Evidence from an OECD Policy Survey*, <https://doi.org/10.1787/0ac1fbad-en>.

o Specified in legal rules or government regulations

o Specified in sector agreements

o Specified in programme approval, quality assurance or accreditation rules

1. In Chile, the priority given to individuals already employed by an institution in applying for vacant or new academic positions in the same institution applies only to public institutions.
2. In Denmark, the rector may decide to offer a candidate a position at the professor or associate professor level without advertising the position if there is a particularly well-qualified candidate for the position.
3. In Finland, if in principle all vacant or new academic positions must be opened to external candidates, positions can on rare occasions be filled by invitation when a candidate is appointed to the position for a fixed period.
4. Japan's responses exclude professional graduate schools, professional and vocational universities, professional and vocational junior colleges, colleges of technology and post-secondary course of specialised training colleges.
5. In the Netherlands, all vacant positions must be opened to external candidates, however, it is possible to first open to internal candidates only, and then do a second round for external candidates.
6. In New Zealand, quality assurance rules require institutions to demonstrate that they have suitable capability to meet quality standards but rules are not prescriptive about how institutions achieve this.
7. In England (United Kingdom), there are no specific employment regulations concerning the higher education sector.

Performance in civic, commercial, regional, or social engagement activities is reported to be considered in appraisal systems in 10 of the 28 jurisdictions that participated in HEPS. Regulation of appraisal is often based on quality assurance and accreditation rules (13 jurisdictions in both research and teaching), followed by legal rules and government regulations (9 in teaching and 11 in research). Sector agreements influence the areas of performance included in the appraisal in Canada, Finland, Israel, Italy, Japan, and the Netherlands.

On the national level, countries collect some data on recruitment – mostly for permanent and senior positions. In Switzerland, for example, there are statistics on the number of people appointed to professorial positions, looking at whether they have come from within the institution or were external applicants (FSO, 2022<sup>[144]</sup>). In the Slovak Republic, the annual report on the state of higher education includes the number of selection processes for academic positions, together with the number of applicants and the share of re-appointments (Slovak Ministry of Education, 2023<sup>[145]</sup>). In Ireland, institutional staff profiles provide data on staff by sex and gender and include data about the number of applicants and appointments (HEA, 2021<sup>[26]</sup>).

## Research and evidence on the topic

The overview of existing policies in OECD higher education systems shows the *diversity of approaches to embedding performance, staff appraisal and rewards into higher education systems*. The HEPS found that academic staff performance appraisal is regulated at the system level in 18 jurisdictions, mostly through legislation governing employment in the public sector in general or in separate regulations covering only academic staff. In seven systems, issues of performance are addressed in collective agreements at the system level. Merit-based rewards in various forms are covered by regulation in 11 jurisdictions, while in 14 systems, the regulation also deals with poor-performance sanctions. In some contexts, institutions and their associations are responsible for these human resource policies within academia. In others, the policies emerge from collective bargaining and agreements, while in a slight majority of the systems covered by the 2020 HEPS, legislation, government regulation, and quality assurance processes cover these topics (Golden, Troy and Weko, 2021<sup>[32]</sup>).

The evidence suggests that *academic career appraisal is “biased towards research merits”* (Arnhold et al., 2017, p. 90<sup>[5]</sup>; EC, EACEA and Eurydice, 2018<sup>[146]</sup>), further building on the findings in sections 1 and 2 about the generally greater prestige associated with research compared to teaching, and the importance of a strong research record for accessing more secure academic positions. This bias can be reflected in a culture of “publish or perish”, whereby career advancement, attracting research funding and gaining status are only possible with sufficient publication records (Moosa, 2018<sup>[147]</sup>). This culture is especially strong in English-speaking higher education systems, but is also prevalent across Western Europe, with its features spreading globally (van Dalen and Henkens, 2012<sup>[148]</sup>; Bello, Azubuike and Akande, 2023<sup>[149]</sup>). Closely connected with individual publication records is the ability to attract research funding through successful bids for competitive research funding (Kwiek and Antonowicz, 2014<sup>[44]</sup>; Melin et al., 2018<sup>[42]</sup>). In some systems (such as the United States) the bias towards research is more pronounced in the salaries of academics, which reflect research hours and research productivity (Kwiek, 2019<sup>[13]</sup>). Academic salaries in Europe are not as responsive to research performance as in North America, as they rather follow defined and fixed salary systems, often with direct state involvement. This means that research performance differences are usually not directly reflected in the salaries of academics, but they do show in individuals’ rank and status (Cadez, Dimovski and Zaman Groff, 2015<sup>[150]</sup>; Sandnes, 2018<sup>[151]</sup>).

*An over-emphasis on research performance in career appraisal can have negative consequences* (OECD, 2020<sup>[1]</sup>). The evidence about consequences on the quality of education is mixed. There is a concern that the time, attention and resources dedicated to research activities compete with teaching activities (Bebegal-Mirabent, Mas-Machuca and Marimon, 2016<sup>[152]</sup>; Bello, Azubuike and Akande, 2023<sup>[149]</sup>; Bak



and Kim, 2015<sup>[153]</sup>). However, findings from the United Kingdom suggest that research productivity is not related to teaching quality and impactful research is positive for teaching quality (Cadez, Dimovski and Zaman Groff, 2015<sup>[150]</sup>). It is unclear how and whether these links work in settings in which research and teaching roles within institutions are separated. Regarding impact on research, concerns exist that the emphasis placed on research productivity has shifted academic culture from a focus on quality to a focus on quantity of research outputs (Simula and Scott, 2020<sup>[154]</sup>). While scientific production is increasing, a very high proportion of publications are barely cited, and dubious research practices may be used by academics in the pursuit of meeting research performance goals (Rawat and Meena, 2014<sup>[155]</sup>). Evidence from the United Kingdom shows that publications spike right before the Research Excellence Framework assessment, but articles published closer to the deadline receive fewer citations, are in lower-impact journals and are more frequently retracted, suggesting possible negative impacts of performance metrics on quality (Groen-Xu et al., 2023<sup>[156]</sup>). Studies of academic discourse have also noticed a shift towards an “attention economy”, which has also altered the publishing landscape, and wherein success is not only about research quality but also visibility (Hyland, 2023<sup>[157]</sup>).

The *strong orientation towards research is not universal, but rather concentrated among the most research-intensive institutions* that compete for a significant share of national and international research funding, for higher positions in global university rankings and to attract top researchers and students. Institutions and staff working in such institutions are drawn to invest heavily in research, which is then reflected in career appraisal (Kwiek, 2019<sup>[13]</sup>). Higher education institutions are therefore nudged to enhance their research performance to gain global recognition and prestige through global university rankings, which rely heavily or almost exclusively on research metrics (Marginson, 2013<sup>[158]</sup>). Furthermore institutions are incentivised to focus on research to generate income. This can come in the form of competitive research funding or through core institutional funding in systems that use research metrics in output and outcome-related funding models. While student enrolment is the most widely used metric in institutional funding models in OECD higher education systems, 16 systems use research income as a metric in the funding allocation formulas, 13 use the number of publications and 12 the number of doctoral degrees awarded (Golden, Troy and Weko, 2021<sup>[32]</sup>).

In many higher education systems *teaching performance is regularly evaluated but it has a limited impact on academic careers* (Gaebel, Zhang and Iucu, 2020<sup>[159]</sup>; Flander, Rončević and Kočar, 2020<sup>[106]</sup>). The limited recognition of teaching performance is hindered by a lack of shared criteria to capture teaching quality, the inherent difficulty of measuring teaching quality and a lack of suitable evaluation instruments (EUA, 2019<sup>[92]</sup>). An institutional survey by the European University Association (EUA) found that teaching performance is considered in career appraisal in 87% of participating institutions, but only at 39% fully. The same survey found that in making academic appointments European institutions consider teaching experience (50-52%) and evaluations of teaching performance (46-48%). Participation in teaching enhancement is reported to be a requirement for 30% of higher education institutions in the case of professorial appointments and 35% in the case of lecturers or associate professors. Large differences nevertheless exist in how these criteria are interpreted and used (Gaebel et al., 2018<sup>[160]</sup>). In the United Kingdom, about 20% of academics are promoted through the teaching route. While this share is increasing, it is significantly smaller than the promotions through the research path (NCUP, 2023<sup>[161]</sup>). In Sweden, a study looking at the promotion files found that the primary factor considered was the quantity of teaching experience and doctoral supervision, with little attention given to any indicators of pedagogical quality (Levander, 2020<sup>[162]</sup>; Levander, Forsberg and Elmgren, 2019<sup>[163]</sup>). While research activity indicators at the institutional level are aggregations of work that can be associated with individual academics (e.g. publications, citations, patents), teaching-related metrics (e.g. degree completion, graduate employability, and earnings) are not easily attributable to individual academics. This hinders the translation of teaching-related institutional performance indicators to academic career appraisal.

The same institutional survey by EUA has found that 98% of higher education *institutions use student feedback surveys as their primary tool to assess teaching*. Other means for evaluating quality teaching in

European institutions include self-evaluations (65%), student progression rate (58%), and peer assessment (57%) (Gaebel et al., 2018<sub>[160]</sub>). A review of academic literature has found similar patterns, with student feedback identified as the most frequently used means of evaluating the quality of teaching, followed by self-assessment, peer review and teaching portfolios (Harrison et al., 2020<sub>[164]</sub>). Collecting student feedback is beneficial to gain a better understanding of the student experience and can be used for the evaluation of the broader teaching-learning environment (LERU, 2021<sub>[165]</sub>). However, available evidence suggests that there is a rather weak link between student feedback surveys and enhancement of teaching quality, as feedback is not sufficiently reflected in professional learning (Teelken, 2018<sub>[166]</sub>; Hein et al., 2021<sub>[167]</sub>; Harrison et al., 2020<sub>[164]</sub>). The widespread use of student feedback for appraisal of individual academics raises serious concerns. Large-scale studies have shown minimal correlation between student satisfaction ratings and learning outcomes (Uttl, White and Gonzalez, 2017<sub>[168]</sub>). Student feedback has been documented to include biases towards individual teachers (Mitchell and Martin, 2018<sub>[169]</sub>) and at times can even include abusive comments (Heffernan and Harpur, 2023<sub>[170]</sub>). Collecting student feedback can play an important role but is better suited to be used as a formative assessment of academics, to improve their practice rather than make decisions about their career. The most promising tool for appraisal of teaching academics may be portfolios that incorporate various elements of different approaches, feedback from students, self-reflection, and observations from peers, with a good balance between evidence-based and context-relevant inputs (Harrison et al., 2020<sub>[164]</sub>).

*Efforts to raise the prominence of teaching in policy and appraisal systems have had mixed outcomes.* While almost every country has a substantive policy on research, teaching is not as present in system-level policy. In a survey of European systems, only five (Austria, Ireland, Norway, Spain, and the Netherlands) were found to have a standalone national strategy for Teaching and Learning (T&L). National measures have been found to raise awareness of the importance of teaching and provide justification for institutional change, but funding beyond core funding for teaching to support these initiatives is crucial (Gaebel et al., 2018<sub>[160]</sub>). National teaching prizes existed in more than half of the 28 European systems surveyed in 2018, but their recognition and visibility were minimal compared to the prizes and other rewards linked to research (Bunescu and Gaebel, 2018<sub>[171]</sub>). Due to their smaller size, teaching prizes are not seen as being as divisive as research awards, but questions exist as to whether awards can help to promote good practices in the absence institutional structures to support improvement of teaching and learning. A great concern from interviews with academics was that receiving teaching awards often leads to an increased workload, as winners are asked to share their practices and mentor their colleagues, without any career progression. The authors of a 2019 study also suggest introducing awards for whole teaching teams to promote collaboration (Seppala and Smith, 2019<sub>[172]</sub>). Teaching is not as recognised in policy and rewards as research to provide sufficient incentives for institutions to reflect teaching excellence in academic career appraisal.

While there is progress, and more teaching awards are being introduced, the recognition of teaching as an academic activity will be only raised if awards are taken into account in career appraisal, promotion and tenure (Chalmers, 2011<sub>[173]</sub>). For the past three decades, New Zealand has been employing a performance-led approach to enhancing teaching. A study drawing on interviews with a few staff members suggests the policy had unintended consequences. Institutions and academics used creative compliance to meet the objectives, rather than to pursue pedagogical innovation (Narayan, 2019<sub>[174]</sub>). Experience from Europe also suggests that the spread of regulations trying to enhance teaching often leads academics to pursue compliance with an external concept of teaching that might not align with their experiences and meet the needs of the students (Bahia et al., 2017<sub>[175]</sub>). The development of the Teaching Excellence Framework in the United Kingdom has been accompanied by many similar concerns around institutions and academics focusing on specific indicators that can only partially capture teaching quality (Gunn, 2018, p. 142<sub>[176]</sub>).

For various reasons, *service, engagement and third mission activities are only marginally recognised in career appraisal.* The first challenge is that external engagement takes many forms, making it difficult to

compare. Second, many activities have intangible outcomes that are not easily measurable, quantifiable, and documentable (Jessani et al., 2020<sub>[177]</sub>). Third, external activities are not seen as being of equal importance to the core academic tasks of research and teaching, which are perceived to be more valued in academic careers (Pfeifer, 2016<sub>[178]</sub>). Fourth, the motivation to engage with external stakeholders or community may be less about incentives and more about academics' intrinsic motivation to contribute to the betterment of society (Atta-Owusu and Fitjar, 2021<sub>[179]</sub>). Overall, institutions rarely incentivise their staff to collect data about their activities besides research and teaching or to be actively involved in them (Compagnucci and Spigarelli, 2020<sub>[115]</sub>).

The evidence so far has focused on different performance indicators and their role in career advancement. However, *other factors besides performance may boost or hinder career progression*. At the outset of an academic career, senior academics and research funding bodies play a substantial role in deciding which projects are funded and how much space young academics have to start building their research record (Kwiek and Antonowicz, 2014<sub>[44]</sub>). A “Matthew effect” has been observed in research funding, whereby those who secure funding early in their career are more likely to be successful in subsequent funding bids than their peers who were just below the threshold in the evaluation of the early proposals (Bol, de Vaan and van de Rijt, 2018<sub>[180]</sub>). While policy often supposes that excellence, whether in research or teaching is within reach for every academic, there are great disparities between institutions and the resources and infrastructure available to the academics (Bahia et al., 2017<sub>[175]</sub>). A study from Italy shows that a strong determinant of career progression is the association of junior academics with senior academics that are part of selection committees (Abramo, D’Angelo and Rosati, 2015<sub>[181]</sub>). Similar concerns were also raised in Poland, where academic promotions are controlled by a small group of senior academics, who are repeatedly part of promotion panels (Koza et al., 2023<sub>[182]</sub>).

Adopting more multi-dimensional academic career appraisal systems is hindered by a *lack of quantifiable and consistent indicators for teaching and external engagement*. While research metrics are continuously being perfected, other tools used for staff appraisal, like peer feedback, are under-developed in comparison with other professions (OECD, 2020<sub>[1]</sub>). Even within research, the sole use of bibliometrics is widespread. Despite the evidence about the limitations of the Journal Impact Factor, it has become one of the most frequently used measures of the quality of research outputs. In Northern America, the use of this criterion is especially widespread in research-intensive universities (McKiernan et al., 2019<sub>[140]</sub>), while a survey by the EUA found that it is also the most widespread metric used in European institutions, with about three-quarters of responding institutions using it (Saenen et al., 2019<sub>[139]</sub>). The prevalence of quantitative indicators is evident in a recent case study from Croatia and Slovenia, cited earlier, where academics collect points, based on their publication record and teaching outputs that are translated into points required for promotion (Flander, Rončević and Kočar, 2020<sub>[106]</sub>). There is recognition in Europe and internationally that current academic appraisal models are too narrow in terms of the dimensions they cover and their focus on quantifiable outputs (Saenen et al., 2021<sub>[142]</sub>).

Existing *systems of academic career appraisal are often pre-occupied with the ideal of impartial merit*. The concept of unbiased knowledge and information, which can fairly capture individual merits and thus rewards, is particularly prevalent in academia (Oravec, 2017<sub>[183]</sub>). This has helped to drive the widespread use of standardised performance indicators to compare and rank individual staff members (Kallio, Kallio and Grossi, 2017<sub>[184]</sub>). Such performance systems may incentivise individuals to meet goals rather than pursue creativity and innovation (Ter Bogt and Scapens, 2012<sub>[185]</sub>), and there is widespread concern about academics gaming the indicators, either because of pragmatism or desperation (Ashwin, 2020<sub>[186]</sub>; Oravec, 2017<sub>[183]</sub>; Teelken, 2018<sub>[166]</sub>). The use of performance metrics in career progression at a time when few permanent positions are available has promoted a competitive environment, undermining the notions of collegiality and collaboration in academia (Spence, 2018<sub>[187]</sub>). The academic discourse benefits from competition around knowledge development and research but the widespread deployment of performance indicators risks diverting attention to the metrics themselves, rather than academic content (Söderlind, 2020<sub>[188]</sub>). Metrics and the pursuit of impartial merit have also hindered the implementation of policies

addressing diversity concerns, as particular groups of academics have been disadvantaged, a topic which will be further explored in section 6.

## Policy and practice examples

*The complexity of developing and implementing multi-dimensional and comprehensive academic appraisal is a major barrier to the adoption of these models.* As such, many examples below show the involvement of representative bodies, institutional alliances, trades unions, and sometimes even public authorities, coming together to maximise their capacity (Saenen et al., 2021<sup>[142]</sup>).

The World Bank has provided targeted advice on the reform of the academic career model in Latvia, drawing on international practice relevant to reforming the Latvian academic careers system. A key takeaway from the international practice is the difficulty of implementing such reforms, as the incentive structures and the legislative environment are highly complex, especially in Europe. Regulating types of senior academics and basic models of remuneration can be done at the system level, but it is preferable to delegate more detailed questions and responsibilities to higher education institutions. Trade unions have been found to play an important role in some systems. Career appraisal should be defined to include a wide range of academic activities (teaching, research and development, and service) and functions, including leadership, reflecting institutional priorities (Arnhold et al., 2017<sup>[5]</sup>).

In the past decade, higher education institutions in **Ireland** have introduced workload management tools that reflect various university missions (more policy examples in section 2). The focus on three functions (research and scholarship, teaching, and contribution to institution/discipline/society) has been also adopted in appraisals, rewards, and career advancement. Trinity College Dublin has a process of Merit Bar Review, whereby academics progress through the salary scale within their staff category based on their performance until they reach the bar and become eligible for promotion, pending review by a committee (TCD, 2019<sup>[189]</sup>). The criteria used for promotion include all three functions, with different weights. For more junior positions, research can account for 40% and the other two functions for 30%, while for senior academics, research is more heavily weighted, accounting for 60% (Kwiek and Antonowicz, 2014<sup>[44]</sup>). While there is limited state regulation in this area in Ireland, many institutions have adopted similar procedures.

The **League of European Research Universities (LERU)** has recently published a position paper combining practices from their member institutions and outlining key principles for multi-dimensional academic careers frameworks. The focus is on three key contributions by academics: 1) research (not only outputs but contribution to the scientific community); 2) education, including development of teaching and learning materials, tools and curricula, and educational engagements outside institutions; and 3) service to society and duties and responsibilities taken on within institutions and collaborations. LERU argues that these contributions should be further interpreted from developmental and contextual perspectives. The developmental perspective attempts to consider not only past outputs, but also how individuals are growing in terms of leadership, innovation and collaboration. The focus on these should incentivise academics to invest in teamwork, learn how to take risks that can lead to innovation and be able to manage and lead others. The second perspective is professional and personal contexts that can alter contributions. This presents a departure from the universalistic understanding of performance, which sees performance as something measurable and absolute that can be detached from circumstances. The aim is not to eliminate measures of performance but to set them in context. The example offered in the position paper is from KU Leuven (Belgium), where in some tenure track appointments, an agreement is signed between the staff member and the institution, highlighting individual expectations of the appointed academic but also their expectations regarding resources and support from their institution. This contextualises the performance expectations, as they are individualised but also conditional upon the institution creating a suitable environment for performance (Overlaet, 2022<sup>[190]</sup>).

In the **Netherlands**, a largely bottom-up initiative has led to the creation of a national consortium representing key public knowledge institutions and research funders that have the common ambition to reform their recognition and rewards systems. This emerged as a consequence of four agendas: new teaching career tracks, open science, the Science in Transition movement, and widespread concerns about work pressure (Saenen et al., 2021<sup>[142]</sup>). In November 2019, Universities Netherlands (VSNU), The Netherlands Federation of University Medical Centres (NFU), the Royal Netherlands Academy of Arts and Sciences (KNAW), the Dutch Research Council (NWO), and The Netherlands Organisation for Health Research and Development (ZonMw) published a position paper, Room for everyone’s talent: towards a new balance in the recognition and rewards of academics. The paper presents five key principles for a new model of recognition and rewards: 1) the diversification of career paths, while promoting excellence in key areas: education, research, impact, leadership, and in some cases also patient care; 2) greater recognition for teamwork, while acknowledging individual qualities and contributions; 3) move from quantitative towards qualitative results; 4) encouraging open science; 5) emphasis on academic leadership (VSNU et al., 2019<sup>[191]</sup>). The implementation process is largely decentralised, with every institution changing its processes. The consortium created Strategy Evaluation Protocol in 2020 that will be used to evaluate institutional progress in implementation (Saenen et al., 2021<sup>[142]</sup>).

The position papers of LERU and the change in the Netherlands come together at the **University of Utrecht**, which in 2021 started implementing TRIPLE, its new recognition and rewards model. The model has six components: team spirit, research, impact, professional performance, leadership, and education. Three of the components (research, professional performance, and education) are output oriented. Professional performance includes discipline-specific activities, such as patient care. This is complemented by impact, which explores these outputs through narrative contributions. Leadership relates to roles and responsibilities within institutions, whether in administrative roles or as guidance for doctoral students and junior academics. The vision for the new recognition and rewards structure also emphasises the importance of a collective approach and teamwork, stimulating diversification of profiles, and recognising quality over quantity (Utrecht University, 2021<sup>[192]</sup>).

At the **University of Maastricht (UM)**, the approach was also motivated by change in the Netherlands and activities within the Young European Research Universities Network (YERUN) that similarly to LERU has expressed interest in reforming the academic career model (da Costa Pinto, Gómez Recio and Colella, 2022<sup>[193]</sup>). At UM, the focus is on four core values: academic citizenship, team performance, personal and professional leadership, and impact and open science. The exact assessment components differ between various positions, with different emphasis put either on teaching, research or a combination of both. Those in positions with combined responsibilities make a choice in further selecting components and activities in education, research, leadership, societal impact and patient care for a period of 3 to 5 years. The selection serves both for assessment and development during that timeframe and to closely align work with institutional needs and priorities. The implementation started in autumn 2022, with academics discussing their individual profiles using the UM Career Compass to facilitate the discussion (UM, 2023<sup>[194]</sup>).

In **Sweden**, higher education institutions have introduced teaching merit models, with about half of institutions now using them and thus creating new paths for promotion and rewards in terms of salary increases. Academics develop their teaching portfolio which is reviewed by an external panel (Winka and Ryegård, 2021<sup>[195]</sup>). The focus is on providing evidence of learning results, examples of using pedagogical and disciplinary content knowledge in practice, participating and leading professional development. An important element of their approach has been to promote a strong connection between teaching and research, together with community engagement. The direction in Sweden is not to unbundle these responsibilities, but rather to recognise that academics can benefit from their complementarity. Many teachers with high performance are also the leading researchers and are in leadership positions within their institutions (Olsson et al., 2018<sup>[196]</sup>). The evidence shows that universities that have implemented these models have seen more positive feedback from students (Zhang, 2022<sup>[197]</sup>).

Significant work on promoting the recognition of teaching and learning in higher education was done by Advancing Teaching, a global initiative supported by the Royal Academy of Engineering, which has developed the **Career Framework for University Teaching**. The framework proposes possible methods to evaluate teaching performance in a standardised and evidence-based way. The criteria are to be evaluated through four forms of evidence: 1) self-assessment; 2) records of professional activity; 3) measures of student learning; and 4) peer review (Graham, 2018<sub>[198]</sub>). The framework proposes four levels of criteria:

- Level 1: Effective teacher has a reflective and professional attitude, capable of designing, delivering, and assessing effective courses.
- Level 2: Skilled and collegial teacher has skills to support and engage students, promoting a collegial and collaborative environment.
- Level 3a: Institutional leader that impacts teaching and learning across the institution.
- Level 3b: Scholarly teacher who contributes to pedagogical knowledge.
- Level 4: National or global leader in teaching, with influence beyond own institution.

In **Norway**, a discussion of multi-dimensional approaches to recognition and rewards in academic careers started with a white paper in 2017. The Norwegian Ministry of Education outlined expectations for higher education institutions to develop systems which reward quality teaching and emphasise pedagogical competence in promotion. This is to be done through the use of pedagogical merit systems and systematic documentation (Ministry of Education, 2017<sub>[199]</sub>; Frølich et al., 2018<sub>[200]</sub>). This was combined with national actions on open science and broader international discussions about research metrics, leading to the establishment of a working group within Universities Norway (UHR) that built the new career appraisal framework. Already then, the appraisal included more holistic approaches, such as narrative self-evaluation and there was a move away from publication metrics, but with differences between universities and academic fields (Saenen et al., 2021<sub>[142]</sub>). The new national framework, published in 2021, provides a toolbox for institutions to implement suitable tools for their appraisals and promotions. As in the Netherlands, the implementation is happening on the institutional level, but with significant central support, such as developing a national register and building on data that is already collected. The toolbox presented in Table 8, provides examples of outputs, how to document them and what reflection is appropriate for each area of competence (UHR, 2021<sub>[201]</sub>).

**Table 8. Norwegian career assessment matrix**

Area of competence	Results and competencies (examples)	Documentation	Reflection
A. Research Outputs	<ul style="list-style-type: none"> <li>- Published works</li> <li>- Datasets</li> <li>- Software</li> <li>- Methodologies</li> <li>- Artistic results</li> <li>- Research reports</li> </ul>	CRIS systems (e.g. Cristin) and other databases.	Reflection on the relevance and quality of the results. Emphasis is placed on open access to published works and other results, as well as whether the data adhere to the FAIR principles.
B. Research process	<ul style="list-style-type: none"> <li>- Leadership and participation in research groups</li> <li>- Working across disciplines</li> <li>- Research integrity/RRI</li> <li>- Editorial activity</li> <li>- Peer reviews</li> <li>- Building consortia</li> <li>- External funding</li> <li>- Development of research infrastructure - leadership and participation in clinical trials</li> </ul>	CRIS systems and other databases. Narrative CV system with links to source data.	Reflection on roles and relevance. How and why various actors within and outside academia have been involved in the research process. Emphasis is placed on transparency in the research process.
C. Pedagogical competence	<ul style="list-style-type: none"> <li>- Planning, execution, evaluation and development of lectures and supervision of students</li> </ul>	CV system with links to source data. Institutional	Reflection on formal and informal competence and experience.

Area of competence	Results and competencies (examples)	Documentation	Reflection
	<ul style="list-style-type: none"> <li>- Participation in the development of educational standards in academic communities</li> <li>- Mentoring</li> <li>- Devising and sharing learning materials</li> </ul>	registration of lecturing activity. Pedagogical portfolio.	Emphasis is placed on open education and the sharing of educational resources.
D. Impact and Innovation	<ul style="list-style-type: none"> <li>- Innovation</li> <li>- Entrepreneurship and commercialisation</li> <li>- Social innovation</li> <li>- Innovation in the public sector</li> <li>- Citizen science</li> <li>- Textbooks</li> <li>- Publishing activity</li> <li>- Research reports and studies</li> <li>- Application of research in public administration and industry</li> </ul>	CRIS systems and other databases. Altmetrics. Narratives and impact stories. Patents and licenses.	Reflection on the relevance and effects of activities for society, as well as external contributions to research. Sharing of research and educational results with the general public and others.
E. Leadership	<ul style="list-style-type: none"> <li>- Institutional and departmental leadership</li> <li>- Leadership in academic networks and projects</li> <li>- Leadership outside academia</li> <li>- Leadership in panels and other committee work</li> </ul>	CV system with links to source data, CRIS systems and other databases, narratives.	Formal and informal leadership, reflection on roles, processes and effects. Contribution to strategies and policy development in relation to open science.
F. Other experience	<ul style="list-style-type: none"> <li>- Experience and competence from sectors outside academia.</li> <li>- Courses and discipline-related development work</li> </ul>	CV system with links to source data.	Reflection on how these experiences contribute to the competence in general.

Note: Adapted from UHR (2021<sup>[2011]</sup>), *NOR-CAM-A toolbox for recognition and rewards in academic careers*, <https://www.uhr.no/en/news-from-uhr/nor-cam-a-toolbox-for-recognition-and-rewards-in-academic-careers.5780.aspx> (accessed on 1 March 2023).

# 4 Professional learning

The term professional learning (PL) encompasses not only formal professional development, but also formal or non-formal learning in the form of one-off interactions or more prolonged, continuous, and linked activities. This section will examine professional learning in which academics are engaged in the context of PhD training, formal qualifications, continuing PL and sabbaticals. The major focus is on teaching skills, where the most evidence is available, but the section will also specifically reference professional learning needed to facilitate the digital and green transition.

It is possible to distinguish *multiple approaches to managing professional learning* in higher education. First approach is *self-management*, where academics are individually responsible for enhancing their skills and knowledge, seeking opportunities to learn, and deciding what learning might be required for career advancement. A second approach is *team management*, whether in a research group or other team of people within one field or one administrative unit. The basic principle is that PL takes place through mentorship, employee-to-employee training, or informal apprenticeship-like relationships, which take advantage of the fact that teams have a mixture of more senior and junior academics, with various administrative and managerial roles (Melin et al., 2018<sup>[42]</sup>). A third approach is *centralised management*, in which PL is institutionalised inside a higher education institution, or even on a regional or national level. This might take the form of teaching and learning centres, formal qualifications, and national associations for teaching and learning.

Professional learning can also be distinguished based on form. Learning *about* practice is a knowledge-based approach to providing academics with theoretical information about a topic or practice. Learning *through* practice is more focused on helping academics to become better practitioners by providing them with an opportunity to practice in relevant contexts, with guidance provided (Saroyan, 2022<sup>[202]</sup>). These forms of professional learning are relevant for both teaching and research activities.

## Indicators and data availability

Internationally, data on professional learning undertaken by primary or secondary-level teachers are regularly collected, but there are no systematic international data collections on the professional learning of academic staff. On a national or system level, anonymised administrative data are often collected on the highest degree obtained by individual academics (this is the case, for example, in Canada, Portugal, Slovak Republic or the United Kingdom). While doctoral and postdoctoral programmes and career development practices vary, they tend to focus on developing research competencies, with limited focus on developing teaching skills (Sharmini and Spronken-Smith, 2019<sup>[203]</sup>). Adoption of formal teaching qualifications for higher education staff is becoming more common, but such qualifications are not yet internationally recognised or comparable.

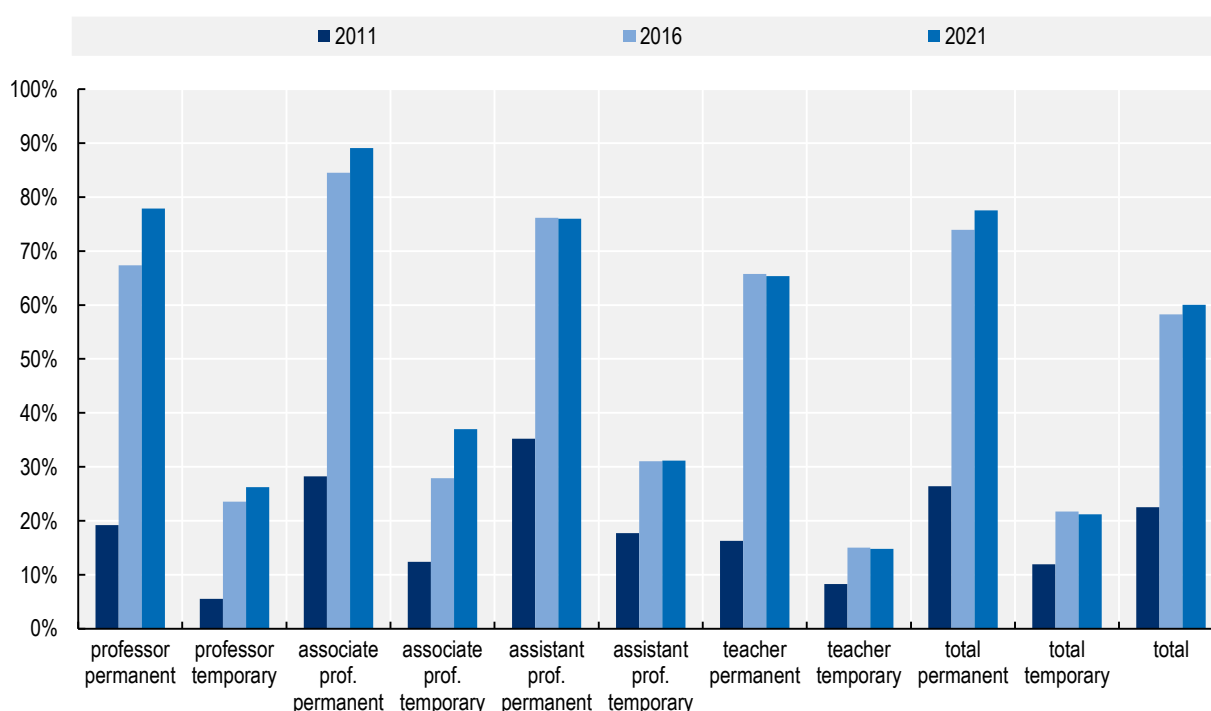
Norway has included questions about teaching qualifications and professional learning in their national “Teachers’ Survey”, last conducted in 2021. About 55% of academics reported they completed a basic course on teaching in higher education, 23% reported engaging in practical pedagogical training, and 16% reported another form of pedagogical training. Approximately 16% of academics had no formal qualification for teaching – a lower share than the 27% reported in the previous survey conducted in 2017. The *share*



of academics without formal teaching qualifications was much greater among academics in temporary positions (Amundsen, Karlsen and Lid, 2021<sup>[204]</sup>).

In the Netherlands, data are collected on academics with the University Teaching Qualification (UTQ). As seen in Figure 6, in total, 60% of academics in Dutch universities have the UTQ. The share is around 78% of those on permanent contracts, but only 21% among academics with temporary contracts. The UTQ was established in 2008 through an agreement between universities, and in 2011 only 23% of permanent academics had obtained it (de Groot and Kouwenaar, 2018<sup>[205]</sup>). By 2016, the UTQ had already become the norm, with most academics holding it. Between 2016 and 2021 there was further progress, especially among academics in more senior positions: professors and associate professors are now the groups with the highest shares of academics with the UTQ (Universities of the Netherlands, 2022<sup>[206]</sup>).

Figure 6. Share of academics with University Teaching Qualification in the Netherlands (2021)



Note: Adapted from Universities of the Netherlands (2022<sup>[206]</sup>), *Number of academic teaching staff with University Teaching Qualification (UTQ) (dataset)*, [https://public.tableau.com/app/profile/petra.pieck/viz/W\\_006ENGBKOCirkel/Graph](https://public.tableau.com/app/profile/petra.pieck/viz/W_006ENGBKOCirkel/Graph) (accessed on 5 March 2023).

Figure reflects data for academic staff from universities, including all sectors.

## Research and evidence on the topic

Most OECD countries have legal requirements on the qualification level required for certain academic positions, in many cases specifying that doctoral degrees are required (Golden, Troy and Weko, 2021<sup>[321]</sup>). According to an EUA survey among higher education institutions in Europe, a doctorate or a postdoctoral degree is required by 88% of institutions for the position of professor and 72% of institutions for the position of lecturer or associate professor (Gaebel et al., 2018<sup>[160]</sup>). Postdoctoral qualifications for senior academic positions are required in the form of “habilitation” in Austria, Czechia, Hungary, Poland, and Slovak Republic, while in Italy, Portugal, and Spain academics need to pass a similar top-level accreditation to become full professors. France has a combination of both top-level accreditation and habilitation (Eurydice and Crosier, 2019<sup>[6]</sup>).

While the doctorate is the most frequent requirement for academic positions, *training on teaching is not systematically included in PhD programmes*. In some countries, national regulations stipulate a general expectation that doctoral programmes will equip students with teaching competence but leave it up to institutions to interpret this requirement. About one-quarter of higher education systems in European Higher Education Area (EHEA) do not generally expect a teaching component within PhD programmes (Gaebel et al., 2018<sub>[160]</sub>; EC, EACEA and Eurydice, 2018<sub>[146]</sub>). Even if PhD programmes formally include some teaching training or experience, the overall focus of training within PhD programmes is strongly skewed towards research. Doctoral assessment is most frequently based on a written thesis, in some cases complemented by examinations on disciplinary knowledge, but it evaluates teaching competencies only in rare cases (Sharmini and Spronken-Smith, 2019<sub>[203]</sub>). Furthermore, as doctoral students are exposed to similar incentives in terms of academic appraisal and rewards as academic staff, they are drawn to focus investment of time and effort in building their research portfolio, the quality of which will likely determine their chances of remaining in academia (Kwiek, 2019<sub>[13]</sub>; Arnhold et al., 2017<sub>[5]</sub>).

Only a few OECD countries have regulations which require academic staff to hold a formal teaching qualification. A policy survey by OECD has found that only seven responding jurisdictions (out of 29) had a requirement for system- or sub-system-level teaching qualifications or training (Broberg and Golden, 2023<sub>[207]</sub>). The Bologna Process Implementation Report 2018 also found only a few instances of such provisions. There are cases like Denmark, where permanent staff with teaching responsibilities must undergo pedagogical training. In some systems, the requirement applies only to the non-university sector, as in the French Community in Belgium or Switzerland. While not centrally regulated, teaching qualifications are also common in Finland, Norway, Sweden and the Netherlands (EC, EACEA and Eurydice, 2018<sub>[146]</sub>). In the latter case, the national collective agreement – negotiated between trade unions and higher education employers – established the requirements and objectives concerning the University Teaching Qualification (de Groot and Kouwenaar, 2018<sub>[205]</sub>).

Teaching training during a PhD or as a pre-requisite for obtaining a position only constitutes a form of *initial professional learning, which needs to be connected to the systematic continuing enhancement of individual competencies* (Basilotta-Gómez-Pablos et al., 2022<sub>[208]</sub>). Professional learning cannot be restricted to junior academics in their PhDs or postdoc, as these individuals have less influence over programme content and methods of teaching. The introduction of innovative pedagogies requires professional learning to take place across all stages of academic careers. Professional learning should also be structured as an ongoing activity, rather than one-off interventions that tend to have a limited impact (Simon and Pleschová, 2012<sub>[209]</sub>). Scheduling learning activities outside the main teaching period has been found to be effective as it can create opportunities to work with feedback from those who recently completed courses or as preparation for the next term (Saroyan, 2022<sub>[202]</sub>). Evidence indicates that co-ordinated professional learning initiatives for academic staff are associated with greater staff satisfaction, engagement, and sense of belonging, as well as better student outcomes (Condon et al., 2016<sub>[210]</sub>). At the same time, there should also be space for less formal professional learning - mentoring relationships between more senior and early-career academics have been shown to help the careers of junior academics (Zacher et al., 2019<sub>[211]</sub>).

While formal teaching qualifications are yet to be implemented widely, there has been progress in *increasing support provided for enhancement of academics' teaching capabilities*. Expert interviews by European Universities Association (EUA) have found that eight European countries have a regulatory obligation for teaching enhancement and in nearly all these systems, the obligation was created recently (Zhang, 2022<sub>[197]</sub>). An institutional survey by the EUA found that around 77% of institutions offer optional pedagogical training while 37% of institutions made certain courses compulsory for academic staff (Gaebel et al., 2018<sub>[160]</sub>). Teaching and learning (T&L) centres in higher education are mostly found in English-speaking systems but are increasingly also found in other parts of Europe. Such centres function as separate units or multiple units within institutions, providing resources for academics, convening communities of practice, and advocating for teaching policies (Saroyan, 2022<sub>[202]</sub>). The EUA survey among institutions cited earlier found that institutions with a T&L centre are more likely to have systematic teaching

enhancement policies in place (Gaebel et al., 2018<sup>[160]</sup>). While these efforts are important to support academics and their teaching competencies, existing initiatives could be strengthened by ensuring formal and informal professional learning is effectively recognised across institutions and systems through certification and accreditation (Basilotta-Gómez-Pablos et al., 2022<sup>[208]</sup>).

The COVID-19 *pandemic has accelerated the digitalisation of higher education and created new expectations for academics to possess and develop digital competencies* (Basilotta-Gómez-Pablos et al., 2022<sup>[208]</sup>). Academics have rapidly started using digital tools in their research and teaching, the use of which has remained strong even after the pandemic (Ziembra and Eisenhardt, 2021<sup>[212]</sup>). This has also been observed by the OECD Higher Education Policy Team which has conducted multiple projects examining the digitalisation of higher education. A policy survey among OECD higher education systems found that 15 (out of 29) OECD jurisdictions have created innovation funds used to finance experimentation with digital tools and that in 17 jurisdictions public authorities directly or through non-governmental organisations support and provide resources for academics to develop their digital competencies in teaching (Broberg and Golden, 2023<sup>[207]</sup>). Academics face several obstacles in enhancing their digital skills and deploying digital technologies. OECD work in Hungary showed that investment in digital infrastructure was not matched with professional learning activities for academics to gain pedagogical skills in digital education (OECD, 2023<sup>[213]</sup>), that academics do not have protected time for professional learning and that institutions face difficulties attracting and retaining relevant technical support staff needed to deploy digital technologies (OECD, 2023<sup>[214]</sup>). In general, academics recognise that they lack some digital competencies, and they would welcome further opportunities for professional learning (Basilotta-Gómez-Pablos et al., 2022<sup>[208]</sup>). However, as exemplified by the work of the OECD in Croatia, there can be discrepancies between the level of self-assessed digital competence between academics in more technically oriented faculties and those in social sciences or humanities (OECD, 2023<sup>[215]</sup>). Therefore, professional learning also needs to recognise that there are different levels of competencies, and academics might need different levels and types of professional learning. In many cases, it is not only about providing support but also helping to build the confidence of academics to use digital tools (Scherer et al., 2021<sup>[216]</sup>).

The literature suggests that there is a *need to consider academics' competencies and readiness to respond the emerging technologies more generally*, not only their capacity to deliver digital education. Mass use of artificial intelligence (AI) and the deployment of other smart machines are already altering the nature of many established professions (OECD, 2023<sup>[217]</sup>), including the academic profession. AI models are rapidly developing, already outperforming large shares of the population in literacy and numeracy (OECD, 2023<sup>[218]</sup>). Tools like ChatGPT are already disrupting assessment methods, as the language models can generate texts almost instantly, even though they make factual and referencing errors. Further uses of AI include generating research ideas, summarising existing evidence, analysing data, drafting, acting as a tutor, and providing personalised feedback (Sabzalieva and Valentini, 2023<sup>[219]</sup>). Academics need to gain knowledge about - and skills to use - these new technological capacities. Current systems of professional learning, curriculum development and approval of changes will need to become more agile to keep up with the pace of change (Dec et al., 2022<sup>[220]</sup>).

*In response to climate change, many academics will need professional learning to help adjust their teaching.* While the green transition will require knowledge and technical skills to tackle environmental challenges effectively, attitudes and dispositions will also play an important role (OECD, 2023<sup>[217]</sup>). A survey among marketing academics has shown that they are generally concerned about the environment and see a need for change, but that they were hesitant to recognise how their discipline – in promoting resource-intensive products and services - might be contributing to climate change (Kemper, Ballantine and Hall, 2020<sup>[221]</sup>). A survey among academics in Spain has found that the attitudes of academics are not the greatest challenge. It is rather that academics lack the capabilities to transform their course to reflect the topics in their teaching (Olaskoaga-Larrauri, Guerenabarrena-Cortazar and Cilleruelo-Carrasco, 2021<sup>[222]</sup>). This observation is supported also by study examining universities around the world trying to address climate change in their teaching and research. Besides lack of staff expertise, it also found that

implementing education on climate crisis in developed countries is hindered by a lack of institutional support and inflexible curricula (Leal Filho et al., 2021<sup>[223]</sup>). An overview from European universities suggests that higher education institutions lack the capacity to integrate environmental topics into professional learning and mainstream teaching practices, so issues of sustainability are mostly covered in specialist modules (Mulà et al., 2017<sup>[224]</sup>). These approaches will have minimal success in providing the necessary skills, knowledge and attitudes needed for the green transition. Professional learning should ideally help academics integrate sustainability issues into their courses and assist them to adopt their pedagogy to be oriented towards “critical questioning and deliberation, leading to a virtuous cycle of deepening of understanding and connection” (McCowan, 2023, p. 933<sup>[225]</sup>) and transformative learning that can emancipate students to help them to innovate and take action needed to implement the green transition (Papenfuss et al., 2019<sup>[226]</sup>).

*Academic sabbaticals are potential professional learning opportunities.* Most European countries have regulations that give certain categories of academics the right to take sabbatical leave. There are differences between systems, including whether the sabbatical leave is paid, the maximum duration of such leave and how frequently an academic can take sabbaticals (Eurydice and Crosier, 2019<sup>[6]</sup>). Most frequently, sabbaticals are intended for research purposes, but in some cases, they allow for professional learning or a period as a visiting lecturer (teacher) at another institution (OECD, 2020<sup>[11]</sup>). An article observing developments in Australia and the United Kingdom suggests that there has been a progressive change in the focus from sabbaticals as periods to relax and travel to learn new things, towards a period of hyper-productivity in terms of research, publishing, and applying for grants (Macfarlane, 2022<sup>[227]</sup>). This transformation may hinder the use of sabbaticals as opportunities for professional learning.

## Policy and practice examples

Simon and Pleschová identified three main areas of system-level policy levers to promote professional learning for academic staff: 1) quality assurance; 2) funding for teacher development; and 3) incentives for quality teaching. They were sceptical regarding quality assurance, as it is perceived by academics to lead to over-bureaucratisation, rather than improved teaching (Simon and Pleschová, 2012<sup>[209]</sup>). As more career-related incentives for quality teaching were already explored in section 3, the policy examples below mostly focus on regulation and funding arrangements.

In **Austria**, public universities are tasked by legislation to promote the professional learning of staff members, with further objectives established through institutional performance agreements (Federal Law Gazette, 2021<sup>[228]</sup>). This approach puts the responsibility on the institution, without stipulating the form that the learning should take (Zhang, 2022<sup>[197]</sup>). The guidance is further developed in the National Development Plan for Public Universities published by the Federal Ministry for Education, Science, and Research. This document outlines national targets that serve as the basis for institutional performance contracts, with a proportion of institutional funding then notionally made conditional upon institutions meeting agreed targets. The plan for 2019-24 includes goals for career development for young researchers and improving the quality of university teaching (BMBWF, 2018<sup>[229]</sup>). As the regulation and funding model places the responsibility on the institutions, most universities run their programmes and develop their strategies. At the **University of Graz**, a special programme has been established for people starting their academic careers. UNISTART focuses on enhancing research and teaching skills, developing management and social skills, and understanding better the institution from an administrative and legal perspective. Another programme - PostDocPro - is intended for early-career academics that are on their way to professorship. The goal is to further enhance instruction and supervision skills, communication, project management, and leadership (University of Graz, 2023<sup>[230]</sup>).

In **France**, the 2014 Bertrand report outlined a series of policy options for the French higher education system to mainstream innovative teaching, including providing funding and support for teaching prizes,

recognition of teaching activity, a system of professional learning, and pedagogical research (Bertrand, 2014<sub>[231]</sub>). Some of the proposals were taken on by the Directorate-General for Higher Education and Professional Integration (DGESIP) within the Ministry for National Education, Higher Education and Research. This unit, under the Mission for Pedagogy and Digitalisation in Higher Education, organises events and networking of key actors (Bunescu and Gaebel, 2018<sub>[171]</sub>). Furthermore, the DGESIP has conducted an extensive mapping of innovative pedagogical practices in French higher education institutions (2019<sub>[232]</sub>). These changes were complemented by regulatory developments. From 2018, new assistant professors that have both teaching and research responsibilities (*enseignants-chercheurs*) are given a sixth of their allocated teaching time for professional learning. During their first year, they should spend at least 32 hours throughout the year developing their teaching skills, with another 32 hours of continuous PL over the next five years of their contract (Authemayou, 2017<sub>[233]</sub>). Additionally, since 2019, the law includes teaching activities as possible activity during the sabbatical leave, but this has not been widely used, as taking a sabbatical requires teaching duties to be taken over by remaining colleagues (Zhang, 2022<sub>[197]</sub>).

In **Sweden**, teaching enhancement was a legal obligation for higher education institutions in the period before 2011, with a requirement that all the teaching academics in higher education undergo a teaching programme. In the push for greater institutional autonomy, the regulation was dropped at the system level, but institutions with existing structures, such as teaching and learning centres, continued to provide teaching enhancement and institutional policies often require academics to undergo pedagogical courses, both during their doctoral studies and throughout their career (Zhang, 2022<sub>[197]</sub>). The focus on teaching competencies and their recognition in academic career progression is reported to be strong in Sweden (Frølich et al., 2018<sub>[200]</sub>). A study from Sweden shows positive effects of pedagogical courses on academics in terms of their confidence, self-assessed teaching skills, and fundamental changes in the way they teach (Ödalen et al., 2018<sub>[234]</sub>).

In **Latvia**, since 2014 academics who teach are required to conduct at least 160 hours of professional learning with a focus on didactics, and management of education within their appointment. Participation in conferences or mobility might be also recognised as a form of professional learning (Bunescu and Gaebel, 2018<sub>[171]</sub>). These training activities must include at least 60 contact hours and they are usually provided by institutions (Eurydice, 2022<sub>[235]</sub>).

The **Jaume I University** in the Valencian Community (**Spain**) launched a new approach to professional learning for academics in 2017, with a view to transforming curricula and aligning teaching with sustainable development goals. The courses developed focus on giving academics a better understanding of sustainability and possible actions within the context of higher education, providing them with teaching methodologies and competencies to apply in the context of their teaching and re-design of their courses. Subsequent analysis has shown that participants have incorporated sustainable developmental goals in their teaching, along with more active learning methodologies (Collazo Expósito and Granados Sánchez, 2020<sub>[236]</sub>).

Universities **Norway** (UHR) is conducting Deans' school (*Deanskolen*), a programme for middle management in higher education institutions. Selected participants take part in four three-day sessions over the course of a year, learning about leadership, strategic management, institutional development, and the broader higher education context both on national and international levels (UHR, 2022<sub>[237]</sub>).

# 5 Flexible career paths

This section examines the flexibility and diversity of the career paths of academics, focusing on career trajectories that include periods working outside higher education. The typology presented in Table 9 provides a stylised view of the possible individual trajectories that academics might follow. The order indicates increasing difficulty in accessing senior academic positions, such as full professorship.

**Table 9. Career trajectories in academia**

Pathways	Description
1. Traditional linear path	Based on the traditional chair model, often based in a discipline-centred academic unit, where a novice, junior academic, is working for a professor and learning from them. This role includes combined responsibilities in teaching, research, with elements of service and engagement.
2. Research-focused path	Includes a sequence of research projects from graduate studies up to postdoc, where the person is mostly focusing on research, with some elements of engagement and service. Career progression is connected to a specific group or research, with the possibility to stay in a research-only role in a more senior capacity or move into roles with combined responsibilities.
3. Teaching-focused path	Usually in form of lectureship or other teaching position with teaching-only or mainly-teaching responsibilities with elements of service in context of supporting students. Research performance might be limited in this path, therefore in some higher education systems, they have limited career progression options without moving to another pathway.
4. Academic-adjacent specialist path	Includes people working in research, teaching, or clinical roles outside higher education, whether in research institutes, companies, schools, hospitals, non-governmental organisations, or public institutions. They have some experience in academia (postgraduate degree, PhD, etc.) and they are developing their academic profile (publishing, research, policy development, clinical or teaching practice, etc.) outside academia before making the move into an academic position within higher education.
5. Precarious academic path	Situation in which a prospective academic is moving between temporary and casual contracts, whether to teach or contribute to research projects or other academic activities. These various jobs frequently lack consistency, teaching various courses and contributing to different research projects, never developing own topic or specialised area of expertise. This path can also include periods outside higher education. There is no real career progression.
6. Non-academic adjacent specialist path	Includes specialists that work outside higher education, in the private or public sectors. Unlike type 4, they may not be engaged in teaching or research in their external profession, but their work experience is useful for the teaching, research, or engagement activities of higher education institutions who might recruit them.
7. Non-academic internal specialist path	Includes non-academic staff in higher education, working in managerial positions or as third-space professionals. They might include people that were not successful in securing academic positions as well as professionals recruited from outside higher education. While they are not in academic roles or contracts, their activities can frequently overlap with academic work, they might develop curricula, support students and research projects (Whitchurch, Locke and Marini, 2019 <sup>[238]</sup> ). Their proximity to academic work and institutions increases their chances of securing an academic position when it becomes available.

Note: The typology developed by the OECD Secretariat. It draws on work of Pekkola (2014<sup>[239]</sup>), as presented in World Bank's report on academic careers in Latvia (Arnhold et al., 2017<sup>[5]</sup>), narratives on academic careers developed by Ylijoki and Henriksson (2015<sup>[240]</sup>) and by analysis of academic career maps in nine higher education systems by the League of European Research Universities (2017<sup>[241]</sup>).

The traditional career path (1) seems to be declining, as it is oversaturated, and prospective academics need to take another pathway (Whitchurch, Locke and Marini, 2019<sup>[238]</sup>). Increasing specialisation has promoted the use of research-only (2) or teaching-only pathways (3), which can be now considered partially part of the linear path. The remaining trajectories (4-7) are more flexible and include inter-sectoral mobility. This section focuses on those career trajectories that include a period outside academia and it examines obstacles for academics trying to take these pathways.

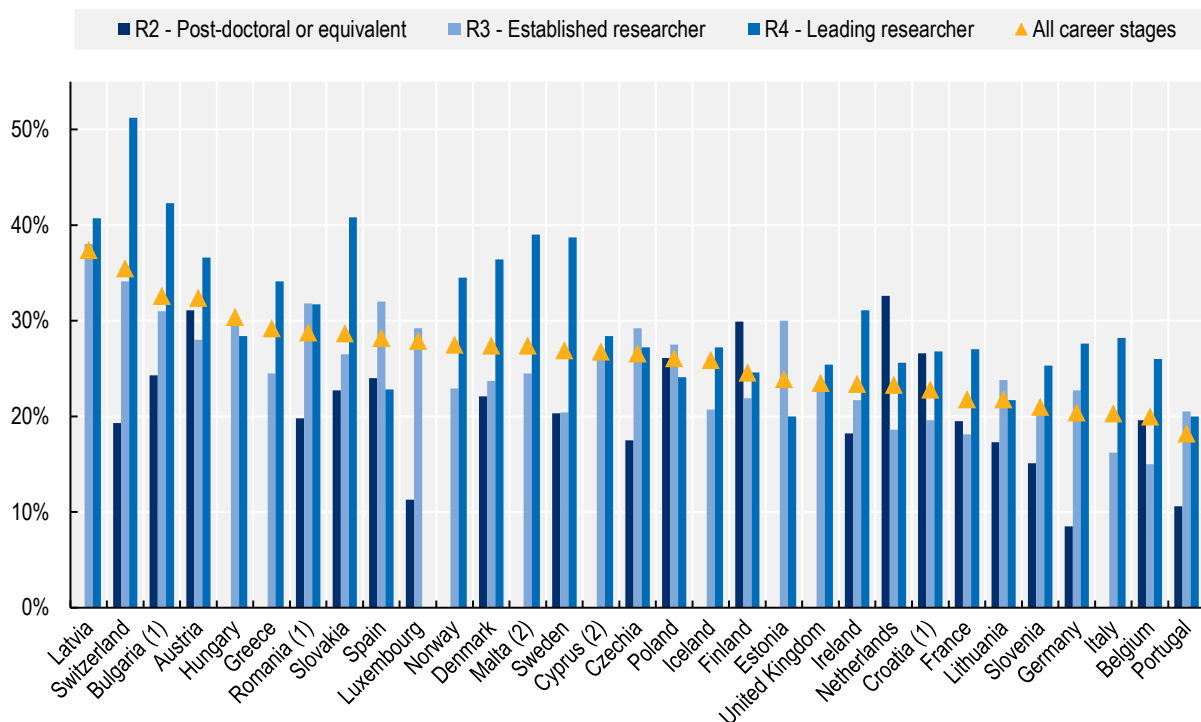
## Indicators and data availability

International and national data about academic career paths and inter-sectoral mobility are limited. The most international comprehensive data are from Mobility Patterns and Career Paths of EU Researchers (MORE) projects which carried out four surveys among researchers working at higher education institutions in the EU28 (including the United Kingdom) and associated countries (Iceland, Norway, Switzerland), looking at their inter-sectoral mobility. The latest MORE 4 survey was conducted in 2019 and had more than 9 000 respondents. However, MORE projects have significant limitations, as they only capture academics that conduct research, excluding teaching-only academics, and only capture inter-sectoral mobility between higher education and the academic-adjacent sector (pathway 4).

The data presented in Figure 7 show that about 24% of all researchers in European higher education have been mobile across sectors during their careers. The share of experience with inter-sectoral mobility is increasing with seniority. Overall numbers for the EU, excluding associated countries, show that about 17% of postdocs, 23% of established researchers, and 27% of leading researchers have worked outside the higher education sector during their careers after their PhD. There are however significant differences between countries, with the highest shares in Latvia (37%), Switzerland (36%), Bulgaria (33%), and Austria (32%), and relatively low shares in Germany, Italy, Belgium (20%), and Portugal (18%) (EC, 2019<sub>[242]</sub>).

Figure 7. Inter-sectoral mobility of European researchers in higher education (2019)

Share of researchers in higher education that worked outside the higher education sector



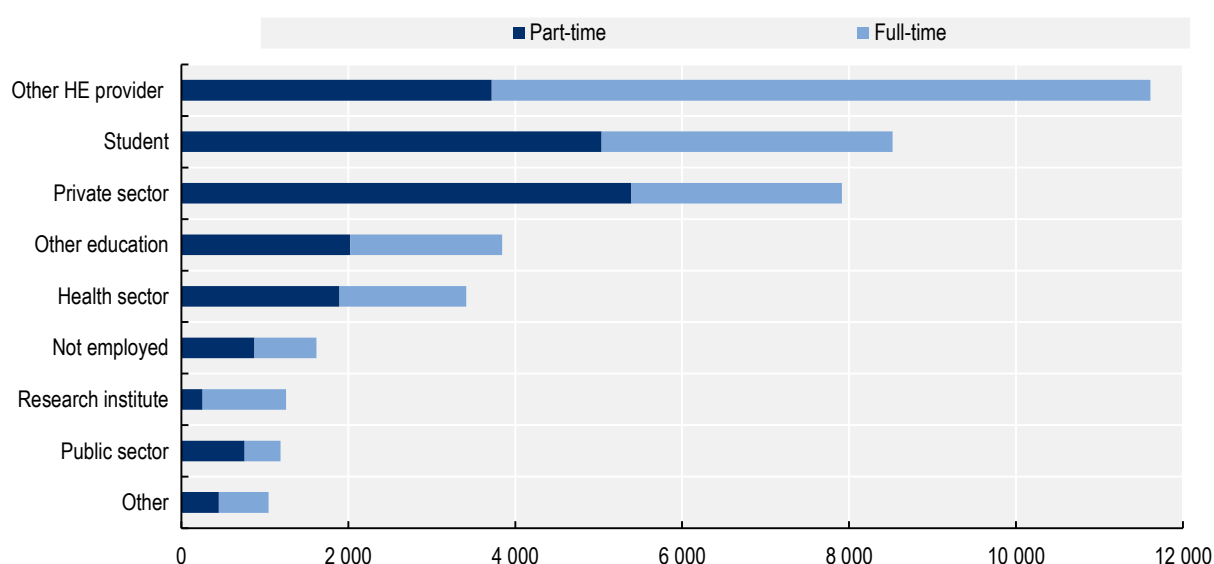
Note: Adapted from EC (2019<sub>[242]</sub>), MORE 4 study (indicator tool), <https://www.more-4.eu/indicator-tool> (accessed on 24 July 2023). Results are not shown when there were fewer than 30 observations.

1. OECD accession country
2. Not OECD member

The MORE studies have also found that inter-sectoral mobility among researchers was more likely in the private rather than the public sector, and most common among researchers in engineering and technology, agricultural sciences (both 27%), and social sciences (32%). The least mobile category of researchers were in the medical sciences (19%) and humanities (18%). Across sectors, between one-fifth and one-quarter of researchers benefitted from a stipend, fellowship or grant for their inter-sectoral mobility. However, 2019 data confirms that overall the share of researchers that participated in inter-sectoral mobility has been in decline since the first MORE survey in 2012 (EC, 2021<sup>[243]</sup>).

National statistics in some countries can also shed light on the mobility patterns of academics. In the United Kingdom, the Higher Education Statistics Agency (HESA<sup>[244]</sup>) publishes aggregate yearly data on the previous employment of ‘starters’, newly recruited academic staff (Figure 8). In 2021/22 there were about 40 415 starters with information about their previous employment. About a quarter of starting academics arrive from another higher education institution, around 19% join academia right after their studies, and about 17% are coming from the private sector. Full-time positions are more likely to be occupied by starters that have previously worked in another higher education institution or in research institutes (pathway 4). Junior academics (previous role was a student) and those mobile across sectors are more likely to initially start with part-time contract.

Figure 8. Previous employment of starters among academic staff in the United Kingdom 2021/22



Note: Adapted from HESA (2023<sup>[244]</sup>), Table 23 - Academic staff starters and leavers 2014/15 to 2021/22 (table), <https://www.hesa.ac.uk/data-and-analysis/staff/table-23> (accessed on 5 March 2023).

About 11% of all academic staff do not have information about their previous employment and they are excluded from the count. Original data are rounded, so their counting can cause minor rounding errors.

The data presented in Figure 8 only cover academics who started their work at a new higher education institution, which is only a small share of the entire academic staff population and does not account for inter-sectoral mobility that does not involve new contracts. A long-term study on higher education co-operation with industry in the United Kingdom has found that only about 1.4% of academics during the years 2009-15 were associated at some point of their career to the private sector (Tijssen, Lamers and Yegros, 2017<sup>[245]</sup>). Still, the data in Figure 8 demonstrates the range of pathways from which starters in academia may enter, including the private, health, and public sectors, as well as other education providers.

Canada also collects - but does not publish - data on academics' previous employment (university, non-university, student, public sector, private sector, other) and additionally collects information on the number



of months of sabbatical leave academic staff have taken during the current academic year (Statistics Canada, 2021<sub>[31]</sub>). In the Slovak Republic, the Ministry of Education collects information on the share of people in the selection process for academic positions who did not have a contract with any higher education institution in the country at the time of their application (Slovak Ministry of Education, 2023<sub>[145]</sub>).

## Research and evidence on the topic

For many academics, the *best strategy to advance in academia is to remain at their institution or at least stay in academia* (Fumasoli and Goastellec, 2015<sub>[246]</sub>). Evidence from the United Kingdom shows that even moving between jobs in academia leads to a short-term reduction of research productivity and only if the academic moves to a ‘better’ department, their research output is positively impacted in the longer term (Fernández-Zubieta, Geuna and Lawson, 2015<sub>[247]</sub>). Finnish register data on doctoral holders show that moving to private industry increases subsequent earnings, but frequent moves between sectors have negative consequences (Tohmo and Viinikainen, 2017<sub>[248]</sub>). Even when the working conditions for doctoral holders might be better outside academia, they are discouraged from making the move as it might prevent them from securing academic positions later (OECD, 2021<sub>[9]</sub>; Haynes, Metcalfe and Yilmaz, 2016<sub>[249]</sub>). While the traditional linear pathway might be out of reach, junior academics are pursuing research- or teaching-only roles, precarious positions in academia or even becoming third-space professionals within higher education institutions.

*Qualification requirements and publishing expectations in the academic hiring process hinder the chances of non-academics applying for traditional academic positions.* This relates to the bias in the career appraisal which is skewed towards accumulated research output, giving less prominence to work experience outside academia and engagement with non-academic actors (Kwiek and Antonowicz, 2014<sub>[44]</sub>; Perkmann et al., 2021<sub>[250]</sub>; OECD, 2021<sub>[9]</sub>). Most higher education systems have qualification requirements for academic positions, especially for more senior roles (Golden, Troy and Weko, 2021<sub>[32]</sub>; Arnhold et al., 2017<sub>[5]</sub>). The general expectation that those entering academia should hold a PhD might be an obstacle for many highly experienced individuals (pathway 6). But in many countries, there are further specific experiences or credentials that one can typically only obtain by remaining in academia. For instance, in Poland only those with habilitation (a qualification gained while working in academia) can access permanent positions. This also increases the opportunity cost of academics wishing to explore different sectors without necessarily wanting to remove all opportunities to return to academia (Kwiek and Antonowicz, 2014<sub>[44]</sub>). These mechanisms of accumulating credentials and outputs which are only relevant in academia, creates obstacles for those outside academia in reaching more senior permanent positions, especially within the traditional pathway. Similar credentials are not required for career progression within private sector research positions (Melin et al., 2018<sub>[42]</sub>).

The logic of trying to stay in academia to gain qualifications and the need for research output has created an *environment in which leaving academia at the onset of the career equates to a permanent exit*. As the academic labour market is becoming saturated, an increasing proportion of aspiring academics are offered only part-time contracts (or only precarious contracts) requiring them to seek additional employment (Brechelmacher et al., 2015<sub>[14]</sub>) or to leave academia. However, in the eyes of many doctorate holders, leaving academia is only second best option (Hnatkova et al., 2022<sub>[251]</sub>) and there is a perception of failure associated with leaving (Haynes, Metcalfe and Yilmaz, 2016<sub>[249]</sub>). A survey of doctorate holders in nine European universities found that, for 24% of PhD graduates, changing sectors was the only way to start working. However the same survey has also found that those employed outside academia have been more satisfied with their career (Boman et al., 2021<sub>[34]</sub>). If a person leaves academia, their return to academia, even after years of professional experience, is undesirable as it often means a drop in their salary and seniority (Crowder and Mouratidou, 2020<sub>[252]</sub>).

*In hiring and promotion, the value of professional experience gained outside higher education differs between countries and types of institutions.* Studies in Europe have shown heterogeneity between systems in the extent to which institutional representatives prefer recruiting academics with professional experience. The lowest share was in Italy with 7%, a system with quite a rigid academic career structure, while at the other end is the Netherlands with nearly 40% support, as the system has a large share of professionally oriented institutions (Kwiek and Antonowicz, 2014<sup>[44]</sup>). The findings from the MORE4 survey of researchers suggest similar patterns. In that survey, 60% of researchers agreed that inter-sectoral mobility to non-governmental organisations, the public or government sector would be a positive factor for recruitment by their home institution and 59% agreed in the case of inter-sectoral mobility to the private sector. There were however significant differences between countries (EC, 2021<sup>[243]</sup>). At institutional level, university and professionally oriented or specialist institutions frequently have distinct career pathways available (Finkelstein and Jones, 2019<sup>[3]</sup>). Universities, especially those with more elite status and a strong research orientation, have a strong inclination towards looking at academic record rather than professional experiences. While more professionally oriented or specialist institutions might be more interested in hiring specialists with professional expertise (Crowder and Mouratidou, 2020<sup>[252]</sup>). For example, in Germany professors at universities of applied sciences have a requirement to have spent 3 years in industry to be eligible for professorship (Teichler, Höhle and Jacob, 2017<sup>[253]</sup>). In the United States, some institutions have started to introduce positions such as professors of practice, offering specialists from the industry a pathway and career progression in academia outside of the traditional pathways (Ramsay and Brua, 2017<sup>[254]</sup>). Evidence also indicates that researchers who have experience with inter-sectoral mobility in the United Kingdom tend to conduct more applied research rather than basic research (Tijssen, Lamers and Yegros, 2017<sup>[245]</sup>). Thus, there are differences in how professional experience is valued based on the particular focus of any given institution and available career pathways.

*Transitions between academia, industry and other sectors are challenging* (OECD, 2021<sup>[9]</sup>). Besides the already mentioned difficulties with recognition of experience, lack of qualifications and research record, people returning to academia in later career stages face conflicting institutional cultures (Kaiser et al., 2018<sup>[255]</sup>). Challenges with moving to academia include workload, isolation, technical and administrative systems, and culture shock, connected with many informal norms connected with succeeding in academia (Wilson et al., 2014<sup>[256]</sup>). Those that have made the move report having more flexible work, but they often must accept a drop in their salary and seniority. Working conditions tend to also be more demanding in academia, although contributing to research and teaching has been described as a calling (Crowder and Mouratidou, 2020<sup>[252]</sup>).

*Doctoral programmes that include inter-sectoral mobility seem to be positively viewed.* A survey focusing on the mobility of Marie Skłodowska-Curie doctoral fellows, a programme requiring varying periods of diverse mobility, found that among the 66% of fellows who had experienced inter-sectoral mobility, an overwhelming majority (85%) found that such mobility had no negative aspects. The main reported benefits included having work experience outside academia, scientific and technical qualifications or skills, being exposed to new perspectives and broader views of their research field, seeing research in practice, accessing new data, increased networking, experiences of working in a different culture, gaining insights into different working environments, writing joint publications and career development. The 15% of Marie Skłodowska-Curie doctoral fellows reporting negative experiences highlighted having little relevance or alignment with the fellow's PhD project or academic career, bureaucratic challenges and time-consuming processes of resettling in new places and unpreparedness of the host institutions caused by poor co-ordination between partner institutions (Walakira and Wright, 2017<sup>[257]</sup>). The fact that these cases involve doctoral fellows who are exposed to other sectors but continue to undertake research in their chosen field and remain associated with their home higher education institution may also contribute to their generally positive outlook on inter-sectoral mobility.

*Professional experience with sectors outside higher education can be also gained through inter-sectoral collaboration.* The MORE4 survey has found that inter-sectoral collaboration with non-academic partners

was reported by 32% of researchers in the 2019 wave. However, there was a declining trend in the share from the previous surveys (EC, 2021<sup>[243]</sup>). Many policymakers have tried to promote this co-operation through targeted funding for research projects, or even new hybrid organisations created as collaboration between higher education institutions and non-academic partners. Working within these hybrid structures might be more appealing to academics, as they allow them to keep their place at their institution, gain qualifications and be exposed to other sectors (Perkmann et al., 2021<sup>[250]</sup>).

*Sharing time between work in academia and another sector is not very common.* The MORE4 survey has found the share of researchers in higher education combining their academic work with positions in other sectors stands at approximately 5%, with a higher share among more senior researchers. These arrangements are most common among researchers in Eastern and South-Eastern Europe. This is the only inter-sectoral mobility parameter in which there is a slight increase between 2016 and 2019, from 3% to 5% (EC, 2021<sup>[243]</sup>). This figure is quite low considering the potential of such arrangements to allow researchers to keep pursuing their academic careers while also working in the non-academic sector.

## Policy and practice examples

The evidence presented in the previous sections shows that inter-sectoral mobility is perceived as beneficial by academic staff and in many of their employing institutions. At the same time, the available evidence indicates that not all academics have access to such opportunities, and academics might feel more empowered to avail of mobility through structured programmes or projects specifically designed to promote inter-sectoral movement or collaboration as part of a stable career trajectory. The following examples highlight promising examples of initiatives that are designed to support academic mobility.

In **Canada**, the Mitacs programme provides opportunities and funding for postdocs to conduct research in co-operation with partner organisations, pursue entrepreneurship, and policy fellowships in public or governmental organisations (OECD, 2021<sup>[9]</sup>). The programme has supported over 17 thousand projects around Canada (Mitacs, 2023<sup>[258]</sup>).

In **France**, the Industrial agreements on training through research (*Conventions Industrielles de Formation par la Recherche* - CIFRE) programme encourages the development of collaboration in research between the academic world and private sector companies or public institutions by providing financial assistance to companies to recruit young doctoral candidates. The programme is fully financed by the French Ministry of National Education, Higher Education, and Research and it has been in place since 1981, with increasing interest in recent years and a government goal to have 2 150 CIFRE doctorates by 2027. The programme seeks to contribute to the innovation process of French companies and their competitiveness by placing doctoral students in scientific employment positions and strengthening their co-operation with academic institutions (French Ministry of Higher Education, 2021<sup>[259]</sup>).

**United Kingdom** Research and Innovation (UKRI) is a non-departmental public body that finances individual researchers. It offers multiple programmes that allow for re-entry to research careers, such as Future Leaders Fellowships and the Daphne Jackson Trust fellowship. Both programmes have guidelines for reviewers to take into consideration career breaks, defined as periods spent outside research, whether those were for personal reasons, caring responsibilities or trying a new career. These guidelines recognise that time spent outside academia and the research sector will have an impact on the track record of the applicant in terms of publications, past secured funding, networks, training, and many other elements (UKRI, 2020<sup>[260]</sup>; UKRI, 2016<sup>[261]</sup>).

# 6 Diversity and gender balance

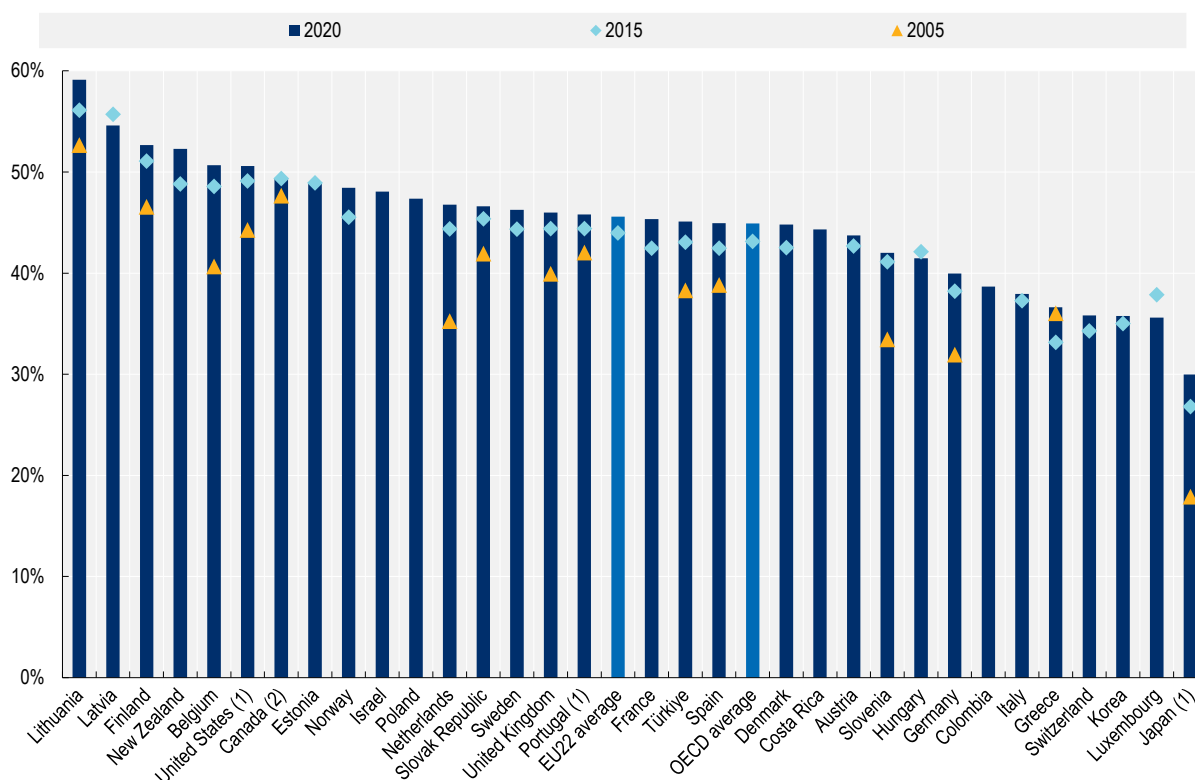
*The data and evidence on diversity in the academic sector primarily concern the gender of academics, as these statistics are regularly reported in international data collections and presented in regular reports. This section summarises existing international evidence and data on gender balance in academia, but also considers other dimensions of diversity, including minority ethnic background, disability, and socio-economic and family background, for which data are more limited. The emerging trend is to look beyond specific dimensions of diversity in isolation and rather approach the question through an intersectional framework, which accounts for the interplay of various diversity dimensions (Nichols and Stahl, 2019<sup>[262]</sup>; Zacher et al., 2019<sup>[211]</sup>).*

*Gender imbalance can be observed along three axes: 1) vertical (seniority) inequality, with women making up a majority of undergraduate students but a lower proportion of academic staff than men, especially among senior academics and institutional leaders; 2) horizontal (field) inequality, whereby women are concentrated in certain academic fields; and 3) contractual inequality, whereby women are more frequently employed on precarious and temporary contracts than men (EC, 2000<sup>[263]</sup>; EC, 2021<sup>[264]</sup>). Similar axes of inequality could also be applied to other dimensions of diversity, with under-representation of specific ethnic, social, or other groups in senior positions, in specific fields, and among staff with stable contracts.*

## Indicators and data availability

The annual UNESCO-OECD-Eurostat education statistics collection assembles data on academic staff by gender. As shown in Figure 9, the *OECD average share of women among academic staff in 2020 was 45%*, with a slight increase of two percentage points from 2015. In six OECD countries, women academics were the majority: Lithuania (59%), Latvia (55%), Finland (53%), New Zealand (52%), Belgium and the United States (both 51%). Out of 35 countries with data, 27 countries fall within the range of 40%-60% women, accepted as the range indicative of gender balance.

Figure 9. Share of women among academic staff (2005, 2015 and 2020)



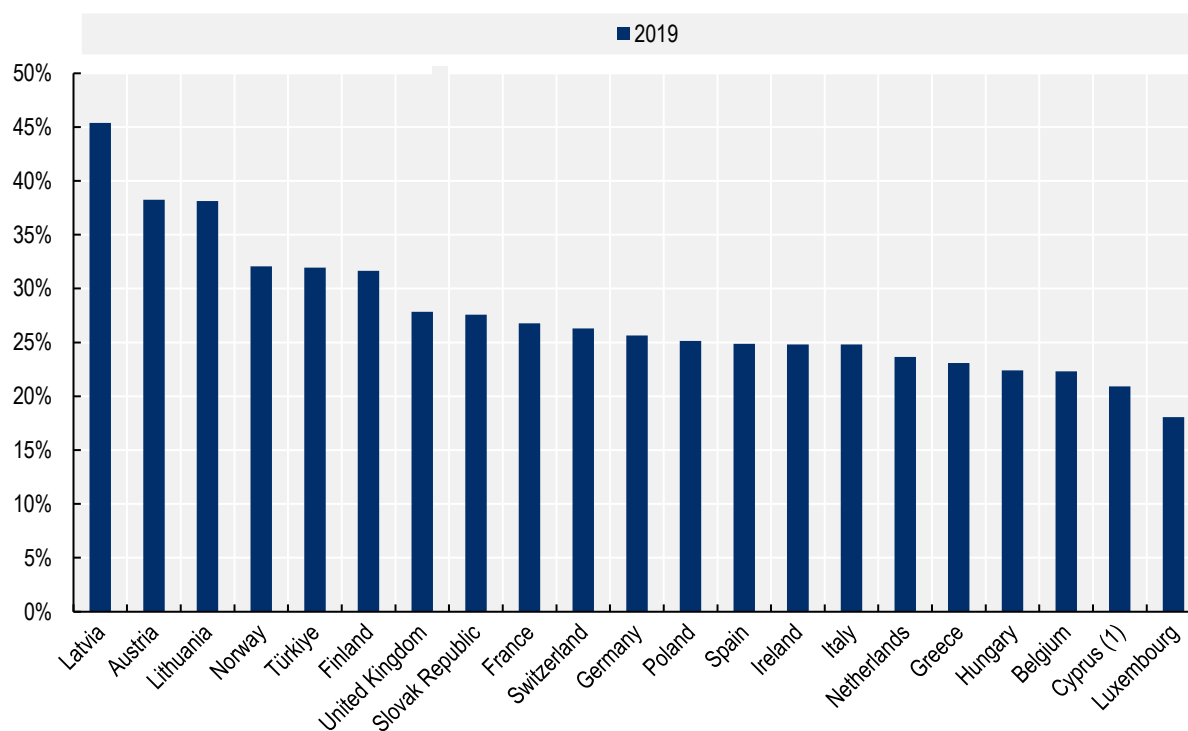
Note: Adapted from OECD (2022<sup>[265]</sup>), "Share of women among academic staff (2005, 2015, 2020)", in *Education at a Glance 2022: OECD Indicators*, <https://doi.org/10.1787/e0a93f61-en>.

Countries are ranked in descending order of the share of women among tertiary teaching staff in 2020.

1. Count may include post-secondary non-tertiary teachers that teach at the tertiary level.
2. Only public institutions at the tertiary level.

*Among senior academic staff, women are in a minority in all European OECD countries and gender balance is achieved only in one country.* As the feasibility study by the INES Working Party did not collect data on gender, the only available data on the gender of academics by seniority are in the European Tertiary Education Register (ETER). The ETER project has made substantial advancements in consolidating and gathering data from different European higher education systems on institutional level. For this review, headcounts of senior academics by gender were aggregated on country level for all available jurisdictions, as presented in Figure 10. Only Latvia, with 45% representation of women in senior academic positions is within the range considered to equate to gender balance. Only six countries (out of 21) have at least 30% of women among senior academics.

Figure 10. Share of women among senior academic personnel (2019)



Note: Adapted from ETER (2023<sup>[266]</sup>), *ETER Database*, <https://www.eter-project.com/data-for-download-and-visualisations/database/> (accessed on 2 March 2023).

Countries are ranked in descending order of the share of women among senior academic personnel in 2019. Calculated based on headcount data of senior academic personnel by gender.

1. Not OECD member.

A positive finding is that *most institutions in Europe are within the 40-60% goal for gender balance among academic staff overall*. However, there is still great variability in the share of women academics between institutions within countries. The widest variations between institutions are found in Croatia, Latvia, Lithuania, and Portugal, while small differences between institutions are found in Spain, Ireland, the Netherlands, and Slovak Republic (Hovdhaugen and Gunnes, 2019<sup>[267]</sup>).

Among OECD countries, one of the most comprehensive national data collections on sex and gender in academia is found in Ireland. The Higher Education Authority (HEA) regularly compiles institutional staff profiles that reflect the share of women among: 1) institutional presidents and provosts; 2) within governance structures (governing body, academic council, executive); 3) by post and grade; 4) by broad disciplines; 5) in recruitment and promotions; and 6) by contract type (HEA, 2021<sup>[26]</sup>). Furthermore, the HEA is exploring the option of collecting data about the ethnicity and nationality of staff and conducted a pilot survey in 2020/21. This involved wide-ranging discussions about the appropriate categorisation, but the results have helped to develop a picture of ethnic equality in Irish Higher Education (Kempny and Michael, 2021<sup>[268]</sup>).

The Higher Education Statistics Agency (HESA) in the United Kingdom regularly collects data on gender, disability, and ethnicity. The patterns for gender largely follow international trends. About 5% of academic staff are recorded as disabled in the latest collection (2020/21). In terms of ethnicity, about 12% of academic staff and 10% of professors were Black, Asian and Minority Ethnic (BAME). Advance HE, in their annual statistical report on this data, also tried to apply the principle of intersectionality to its analysis by combining the sex and ethnicity characteristics of professors. White male full professors are the majority

group in the United Kingdom, representing 64% of the total, white female professors make up about 27%, BAME males 7% and BAME females 3% (Advance HE, 2022<sup>[269]</sup>).

## Research and evidence on the topic

*Women academics are concentrated in specific fields of study and research.* This horizontal segregation is largely a consequence of sorting mechanisms, as women as students are also more concentrated in certain fields. Among doctoral graduates in Europe, there is an over-representation of women in the field of education, while there is significant under-representation in most fields under the broad umbrella of Science, Technology, Engineering, and Mathematics (STEM). Similar patterns are observed in publishing patterns (EC, 2021<sup>[264]</sup>). The U-Multirank Gender Monitor has collected data on gender representation among institutions from all around the world. STEM-intensive institutions were found to be male-dominated. The fields with an above 60% share of women among academic staff included nursing, psychology, social work, education, and pharmacy. The fields with below 40% representation of women were mathematics, earth science, industrial engineering, civil engineering, computer science, physics, and electrical and mechanical engineering (U-Multirank, 2022<sup>[270]</sup>).

Women are under-represented among senior academics and in senior positions within academia. The statistics presented above in Figure 10 already highlighted the gender imbalance among senior academics in Europe. Similar patterns can also be seen in the United States where, among the top 130 institutions according to the Carnegie Classification, only one institution has a gender balance among tenured professors: City University of New York Graduate School with 43%. An even greater gender imbalance can be found on the level of academic governance, where only 22% of institutional presidents are women, while among university system presidents it was only 10% (Silbert, Puntly and Brodbine Ghoniem, 2022<sup>[271]</sup>). In the EU, only about 24% of the heads of higher education institutions are women. Women make up around 31% of board members, but only 25% of board leaders in institutions (EC, 2021<sup>[264]</sup>). Although there are some positive trends, some authors have referred to women entering leadership roles as a “glass cliff” – with women being appointed in turbulent times and as the leadership positions are declining in prestige or increasing in difficulty (Peterson, 2015, p. 114<sup>[272]</sup>). These roles have become increasingly time-consuming, and they are harder to combine with an academic career and have thus become less attractive (Silander et al., 2021<sup>[273]</sup>).

While the conditions of precarity are not equally felt among OECD higher education systems, there is a *general observation that women in academia are more exposed to contractual instability*. In evidence from the Czechia, the academic careers of women tend to be shorter and slower (Cidlinská and Zilincikova, 2022<sup>[274]</sup>). The spread of more flexible contracts has made it easier for women to work in academia, but as a study from Italy notes, it has made access to permanent positions harder and women experience more fragmented work patterns (De Angelis and Grüning, 2020<sup>[275]</sup>). Especially at the onset of their academic career, when young academics face precarity and competition for few permanent spots, the tensions between work and life become very visible, discouraging women from staying in academia (Bozzon, Murgia and Poggio, 2018<sup>[276]</sup>; Nielsen, 2016<sup>[277]</sup>; Machado-Taylor, White and Gouveia, 2013<sup>[278]</sup>). Evidence from Switzerland shows gendered career strategies in academia, with men staying after a PhD in academia only if they have the assurance of obtaining a permanent position, while women are more likely to accept successive fixed-term contracts, even on a part-time basis and with a teaching or research-only focus. These findings are partially mediated by gender dominance in specific fields and are part of a larger career script which expects men to take breadwinning roles, while women have more caring roles (Feuvre et al., 2018<sup>[279]</sup>). At the same time, women academics might be more risk-averse, and only consider working in an environment with sufficient support for work-life balance and recognition of career breaks, while men academics do not feel they need to be as selective (Bozzon, Murgia and Poggio, 2018<sup>[276]</sup>).

The *research production process is unfavourable to women* (Lundine et al., 2018<sub>[280]</sub>). A study from articles published in infectious disease journals in period 2018-19 suggests that the proportion of women editors was predictable of women being an author (Last et al., 2022<sub>[281]</sub>). While the finding is field specific, it is concerning, as men are significantly over-represented among both journal editors and reviewers (Liu et al., 2023<sub>[282]</sub>). There are mixed results regarding gender differences in the length of the peer review process. A study of economic journals has found that papers by women spend more time in peer review (Hengel, 2017<sub>[283]</sub>). Another multidisciplinary study did not find evidence of this pattern but acknowledged that women authors might be more self-selective as they expect higher standards to be applied to them (Squazzoni et al., 2021<sub>[284]</sub>). Furthermore, women's research productivity is hindered by competition for research funding, where women tend to receive smaller awards (Schmaling and Gallo, 2023<sub>[285]</sub>). This also connects with how their work is recognised, with women tending to be less credited than men when they co-author an article (Sarsons et al., 2021<sub>[286]</sub>). Another explanation are the networks and connections that women academics have. Young women in research seem to have worse access to networks crucial for career development than their male counterparts (Silander et al., 2021<sub>[273]</sub>). In terms of research collaborations, women academics have lower rates of international collaboration, while outperforming males in all other forms of collaboration. However, international collaborations are more consequential for publication and citation rates, which are, in turn, needed for career progression (Kwiek and Roszka, 2020<sub>[287]</sub>).

As a consequence of the factors noted, even when controlling for time allocation, *men tend to publish more, especially in more prestigious and impactful journals* (Bendels et al., 2018<sub>[288]</sub>; Diogo, Carvalho and Queirós, 2022<sub>[43]</sub>). The publishing gender gap seems to have widened during the COVID-19 pandemic (Madsen et al., 2022<sub>[289]</sub>). However, *gender differences have been found to be mostly concentrated among top research-performing academics*, where the proportion of men is substantially higher. A study from Norway and Italy suggests that there is a gender performance gap among the top 10% of publishing academics, while within the remaining 90% of research performers, the differences are minimal and in some cases in favour of women (Abramo, Aksnes and D'Angelo, 2021<sub>[290]</sub>). These findings are supported by a historical analysis of publications, which shows that women have comparable annual publication rates and career impact for comparable publication records, with the main gender differences linked to different career lengths and dropout rates that disrupted research output (Huang et al., 2020<sub>[291]</sub>). An analysis of submissions for the Research Excellence Framework by the Equality and Diversity Advisory Panel (EDAP) in the United Kingdom, also shows gaps between outputs by men and women academics, even taking into consideration the eligible population. The under-representation was not found to be due to assessment design, but rather to be a reflection of existing structural inequalities in higher education (Grove, 2023<sub>[292]</sub>; EDAP, 2023<sub>[293]</sub>).

*Academic career prospects are gendered*, with gaps being observed between the career progression of women and men. One of the main reasons appears to be that men tend to receive favourable treatment when it comes to opportunities that enhance their academic career prospects, while women need to do more to earn such opportunities (Bourabain, 2020<sub>[294]</sub>). Hiring committees tend to inspect the relationship status of women (Rivera, 2017<sub>[295]</sub>) and have been found to penalise partnered heterosexual women, as they are seen as less mobile and flexible (Carlsson et al., 2020<sub>[296]</sub>). Research from New Zealand shows that the probability of being promoted is lower for women, even when controlling for factors like age, research performance and field of study. The persistence of these patterns is attributed to hiring processes (Brower and James, 2020<sub>[297]</sub>). However, a study from the Nordic region of Europe found little evidence of biased evaluation, with women seen as more competent and hireable, even when they have children (Carlsson et al., 2020<sub>[296]</sub>).

While all academics need to publish to advance their career, *women face double caring responsibilities, both in their personal and professional lives*. Unequal distribution of care work is the most consequential reason for women's difficulties in combining parenthood with an academic career (Sümer and Eslen-Ziya, 2022<sub>[298]</sub>). A study from Germany suggests that having children affects women's publishing output while



having minimal effect on men (Lutter and Schröder, 2019<sub>[299]</sub>). A global survey by Times Higher Education found that 44% of women felt that their caring responsibilities have held back their careers, while only 34% of men felt the same (Williams, 2022<sub>[129]</sub>). This became more evident during the COVID-19 pandemic, when female academics with children experienced a significant reduction in their research time (Deryugina, Shurchkov and Stearns, 2021<sub>[300]</sub>). As the majority of personal caring responsibilities fall often on women, they are more likely to also take career breaks for parental leave. Due to the linear and competitive nature of career progression in academia, breaks have a significant influence on advancement as they disrupt the accumulation of research and other outcomes as well as the social capital needed for career advancement. Absence from work can make women academics almost invisible to their colleagues (Nielsen, 2016<sub>[277]</sub>) and women that take “maternity leave are relegated to the institutional side-lines and have to ‘compensate’ for their absence” (Maxwell, Connolly and Ní Laoire, 2018, p. 151<sub>[301]</sub>).

In addition to caring responsibilities outside work, *women in academia also tend to have more “caring responsibilities” than men in their professional life*. Evidence explored in section 2 has already shown that women spend more time than men on teaching (Leišytė et al., 2022<sub>[41]</sub>) and teaching-related activities, such as preparing classes and tutoring (Cabero and Epifanio, 2021<sub>[111]</sub>). Even when controlling for rank, field and department, women do more service work, especially internally facing activities (Guarino and Borden, 2017<sub>[302]</sub>) and work that serves the interest of others (Angervall and Beach, 2017<sub>[303]</sub>). Women academics spend more time advising students and do more teaching-related activities and campus service, while men have more time to spend on research (O’Meara et al., 2017<sub>[110]</sub>). It is not only that women in academia do more of this work, but they are also more frequently asked by students and their colleagues to do it, and they also volunteer more frequently (Babcock et al., 2017<sub>[304]</sub>; O’Meara et al., 2017<sub>[110]</sub>). These findings suggest an unequal allocation of responsibilities, both in terms of time and attention, which underlines the uneven career prospects for women and men in academia.

While much of the evidence presented here has only examined gender identity through a binary lens, there is a population of *non-binary and transgender academics who face significant challenges in their academic lives*. Some policies at both system-level and institutional level, such as funding or communities targeted to one gender (e.g. fellowships for women professors), do not recognise non-binary populations. Furthermore, non-binary and transgender academics face both systemic barriers, in terms of infrastructure and administrative procedures and “micro-aggressions” in their daily work (Estrellado, Breen and Rider, 2019<sub>[305]</sub>; Eldridge, 2020<sub>[306]</sub>), or even exclusion, such as cases of academics losing their tenured position after transitioning (Chen, 2023<sub>[307]</sub>). Transgender and gender non-conforming researchers in comparison to cis-gendered researchers are also more likely to report anxiety and depression (Hall, 2023<sub>[70]</sub>).

A recent study found that a majority of Lesbian, Gay, Bisexual, Transgender, Queer, and Intersex (LGBTQI+) academics report having experienced discrimination because of their gender identity or sexual orientation (Boustani and Taylor, 2020<sub>[308]</sub>). A study from Canada reports that while some LGBTQI+ academics have found supportive environments in their department, many have faced sexism, heteronormativity, and cisnormativity (Burchell, Franz-Odenaal and Joy, 2023<sub>[309]</sub>). Surveys among LGBTQI+ identified academics in the United States found that publication counts were lower for LGBTQI+ academics who did not disclose their identity. Non-LGBTQI+ participants and LGBTQI+ academics who disclosed their identity had similar research productivity to each other. The implication of this study is that academia needs to create more supportive workplace environments, in which people feel comfortable disclosing their identities (Nelson, Mattheis and Yoder, 2022<sub>[310]</sub>).

A limited body of evidence suggests that *academics tend to come from relatively affluent backgrounds*. Socio-economic and family background have been documented in the literature to be significant determinants of degree attainment, which opens the opportunity to pursue an academic career (OECD, 2018<sub>[311]</sub>). A recent study from the United States has looked at the family background of tenured faculty. They were found on average to have grown up in neighbourhoods with higher median household income and to have had parents with an advanced level of education. Around 22% of tenured faculty had at least one parent with a doctoral degree and another 30% had at least one parent with a master’s degree – the

general United States population with a master's degree or higher is 7.4%. The share of highly educated parents among tenured faculty is higher within more elite departments (Morgan et al., 2022<sup>[312]</sup>). In the United Kingdom, only about 14% of academics have a working-class background (Friedman and Laurison, 2019<sup>[313]</sup>). Academics from working-class backgrounds face uneven access to capital, creating further obstacles to their full integration into academia. Cultural capital determines academics' capacity to navigate various social situations and institutional norms (Crew, 2020<sup>[314]</sup>). Academics from less advantaged social backgrounds are more likely to lack relevant social capital and networks that help access employment opportunities, especially in elite institutions (Pifer et al., 2022<sup>[315]</sup>). Crucially, individuals from less advantaged backgrounds have more limited access to financial resources, to support academic training and development, and to provide a safety net, especially at the onset of the career, through a period of precarity (Irving, 2023<sup>[316]</sup>; Crew, 2020<sup>[314]</sup>; Pifer et al., 2022<sup>[315]</sup>). Working-class academics can bring unique perspectives to supporting students, while their approach to pedagogy and research uses methods and paradigms which are frequently non-traditional and oriented towards social justice (Crew, 2020<sup>[314]</sup>; Pifer et al., 2022<sup>[315]</sup>).

*Non-white people are under-represented in academia and face significant obstacles in starting and developing their academic careers.* In the context of the United States, all ethnic groups except Asian Americans are under-represented as a share of academics in comparison to the general and undergraduate population (Matias, Lewis Jr. and Hope, 2021<sup>[317]</sup>). There are also significant gaps in the representation of non-white populations among more tenured positions and leadership roles (Silbert, Puntly and Brodbine Ghoniem, 2022<sup>[271]</sup>). Similar patterns of under-representation, especially of black academics can also be observed in the United Kingdom (Gibney, 2022<sup>[318]</sup>). Black academics are under-represented in editorial boards, experience longer review durations and receive fewer citations (Liu, Rahwan and AlShebli, 2023<sup>[319]</sup>). They are also the ethnic group least likely to have their research outputs submitted for the national research assessment exercise in universities, with submission rates significantly lower than all other ethnic groups (EDAP, 2023<sup>[293]</sup>). While institutions and policymakers have encouraged hiring that brings greater diversity to academia, there are significant challenges with the retention of academics from non-majority ethnic groups (Matias, Lewis Jr. and Hope, 2021<sup>[317]</sup>; Shaw et al., 2021<sup>[320]</sup>). Academics with minority ethnic backgrounds continue to face marginalisation, exclusion, othering, and racism both in the United Kingdom (Bhopal, Brown and Jackson, 2018<sup>[321]</sup>; Zewelde, 2021<sup>[322]</sup>) and in the United States (Doležal, 2022<sup>[323]</sup>; Dupree and Boykin, 2021<sup>[324]</sup>). A further obstacle to addressing the inclusion of various ethnic groups in academia can be the historical connections that exist between higher education institutions and colonialism and the role of science in rationalising a systemic exclusion of ethnic groups at earlier points in history. Such links can still be visible in the statues on campuses, building names, older research literature, and even in some institutional practices (Ball, 2022<sup>[325]</sup>).

*Academia is a challenging environment for academics who have disabilities, chronic illnesses, and those who are neurodivergent,* because of both a lack of necessary accommodations and difficulties in obtaining them. As a consequence, academics from these groups often hesitate to disclose their disability unless it is visible (Lindsay and Fuentes, 2022<sup>[326]</sup>). Academics often face external and self-imposed expectations about an ideal academic worker, leading them to try to prove themselves, even if it is a detriment to their health (Brown and Leigh, 2020<sup>[327]</sup>). This contrasts with non-academic individuals facing similar health challenges who would rather reduce their work (Brown and Leigh, 2018<sup>[328]</sup>). Academics with disability and neurodivergence also face micro-aggressions, discrimination and exclusion, which further undermines their mental health (Lindsay and Fuentes, 2022<sup>[326]</sup>; Pells, 2022<sup>[329]</sup>). Staff identified as disabled have also been proportionally under-represented in terms of research outputs submitted to the university research assessment exercise in the United Kingdom (EDAP, 2023<sup>[293]</sup>).

In recent years there have been an increasing number of attempts to examine diversity - in general and in higher education - through the framework of intersectionality, which accounts for the interplay between multiple identities and reflects the complex relationships between privilege and disadvantage (Nichols and Stahl, 2019<sup>[262]</sup>; Carbado et al., 2013<sup>[330]</sup>). Evidence of the difficulties women face in academia has

highlighted that traditional analyses do not sufficiently take into account other identities that women have (Zacher et al., 2019<sup>[211]</sup>; Silander et al., 2021<sup>[273]</sup>). Similar findings emerge from studies on working-class academics, which show that social class interacts with gender and ethnic background (Crew, 2020<sup>[314]</sup>; Irving, 2023<sup>[316]</sup>). The move towards intersectional perspectives is also reflected in data collection. For example, in Ireland, the Higher Education Authority and Advance HE have founded the National Athena SWAN Ireland Intersectionality Working Group. This initiative has conducted a pilot survey on ethnic background and have made some preliminary observations on the interplay of ethnicity and gender identities (Kempny and Michael, 2021<sup>[268]</sup>). An intersectional approach to policy is likely needed to assure that actions address specific issues facing academics from (multiple) under-represented groups (Täuber, 2022<sup>[331]</sup>).

*Academics regularly face harassment and bullying, with disproportionate effects felt by academics from under-represented groups.* A recent analysis by Loreleigh Keashly found that approximately 25% of academics had experienced bullying in the previous 12 months. Extending the timeframe and accounting for witnessing bullying, nearly all academics have been exposed to bullying at some point of their career. (2019<sup>[332]</sup>). According to Nature's 2021 salary and job survey among scientists, 27% of scientists surveyed had experienced bullying, discrimination, or harassment, while 32% had observed it (Woolston, 2021<sup>[333]</sup>). The prevalence of these behaviours has significant consequences on the retention of academics who experience bullying and therefore may feel marginalised (Swann, 2022<sup>[334]</sup>; Keashly, 2019<sup>[332]</sup>). It has been argued that academic culture is susceptible to this behaviour because the dependency relationships, power differences, and interests of institutions are closely aligning with those in positions of power. A lack of action to address harassment allows inequalities to be perpetuated (Täuber et al., 2022<sup>[335]</sup>).

## Policy and practice examples

In Europe on national and EU levels, *despite widespread efforts, the under-representation of women in academia persists* (EC, 2021<sup>[264]</sup>). While there were many improvements, higher education continues to be a sector with significant inequalities (Clavero and Galligan, 2021<sup>[336]</sup>). It remains unclear which measures are the most effective in bringing improvements (EC, 2018<sup>[104]</sup>). This is also observed in the Nordic countries, some of the countries worldwide with the highest levels of gender equality and most pro-active gender-related policies. The persistence of gender segregation in academia presents a significant challenge to policy making on issues of diversity. A hypothesis from Denmark suggests that gender equality is not achieved because much of the policy is driven by the state and interventions are on the state level, thus there is a lack of institutional responsibility, which they see as a failure of state policy (Nielsen, 2016<sup>[277]</sup>).

The academic literature suggests that policy should try to adjust career appraisal to include indicators that better reflect the contributions of women (Galán-Muros, Bouckaert and Roser, 2023<sup>[337]</sup>). One of the ways to achieve that is to better reflect career breaks by taking into consideration 'academic age' which reflects how much time people spend in academia. An advice paper by the **League of European Research Universities** (LERU) provides a few examples of how member universities have tried to better manage parental and family leave (Hopkins, 2020<sup>[338]</sup>). Attempts have made the hiring and promotion committees more diverse and have promoted contextual recruitment, which promotes candidates with fewer opportunities (Overlaet, 2022<sup>[190]</sup>). While much work is done to create diversity policies, less effort is made in implementing them and putting them into practice (Bourabain, 2020<sup>[294]</sup>).

Gender distribution is the most frequent policy concern in national human resources strategies in European higher education systems (Eurydice and Crosier, 2019<sup>[6]</sup>). Equal opportunities in higher education staffing are covered by regulation in most surveyed OECD countries, mostly as part of the legislation on public sector employees. However, aiming for gender balance is regulated in only seven jurisdictions and in

Japan, which covers it as part of collective bargaining. A similar lack of regulation is visible regarding the inclusion of minorities, which is also regulated only in seven countries (Golden, Troy and Weko, 2021<sup>[32]</sup>).

In the **Flemish Community of Belgium**, the share of women is one of the parameters included in the recently updated formula for allocating research funding to universities. The Special Research Fund (BOF) also requires institutions to show how they will ensure that women and immigrants are adequately represented in the research workforce (OECD, 2019<sup>[12]</sup>).

In 2008, **Germany** launched the initial round of the Women Professors Programme (WPP) seeking to increase the number of women professors in Germany. The WPP offers institutions additional external funding for professorships and institutions use the funds to finance gender-equality policies. Evaluation studies have shown that the proportion of women professors has increased substantially and more than would have been expected without the programme (Löther, 2019<sup>[339]</sup>). The evaluation of the third funding phase (2017-22) has also concluded positive impacts on both participating institutions and overall women's participation in the system. However, the evaluation identified some challenges, including the high complexity of project administration and the short duration of the programme (five years), which limits long-term effects. Furthermore, institutional participation seems to be skewed towards universities, with lower participation from non-university and smaller institutions. Some of the concerns are that smaller institutions lack the institutional capacity to apply for and implement the programme (Biela et al., 2022<sup>[340]</sup>). Data from ETER show that the representation of women academics in universities of applied science in Germany is about 33%, while in universities women make up 41% of academic staff (2023<sup>[266]</sup>). The Federal Ministry for Education and Research (BMBF) has integrated many of these concerns in the new funding phase. The fourth edition of the programme will run for eight years (2023-30), and will allow for co-operation between institutions, thereby combining their capacity, and also simplifying the administrative arrangements (BMBF, 2022<sup>[341]</sup>).

# 7 Internationalisation

This section will explore the intersection of academic careers and staffing policies with internationalisation. As de Wit and Altbach (2020<sup>[342]</sup>) wrote, the understanding of internationalisation in policy has been broadened in the last few years. Mobilities and other activities of internationalisation abroad remain a dominant feature of internationalisation policies. This will also be evident in this section, where the available evidence and data is mostly related to mobilities. However, attention is now increasingly also paid to other internationalisation activities such as making internationalisation a more strategic priority and accessible to more students and staff (Egron-Polak et al., 2015<sup>[343]</sup>). This section will explore five broad topics within internationalisation:

1. Academic international mobility, looking at patterns, drivers, barriers, benefits, and related concerns, examining all three types of international mobility: permanent move, short- and long-term mobility (Morano-Foadi, 2005<sup>[344]</sup>).
2. Internationalisation at home, looking at efforts to provide international experiences within domestic institutions, through the introduction of international elements in formal and informal curricula and the recruitment of international students and staff.
3. Internationalisation of research, looking at transnational collaborations between academics in research and its dissemination.
4. Transnational education and provision, looking at the role of academics in the development and implementation of dual and joint degrees, international branch campuses and franchise provision.
5. Transnational institutional partnerships, looking at the implications for academics of strategic and institutional-level collaborations to embed and support the various internationalisation activities.

## Indicators and data availability

An important factor in accounting for international activity is the association of academics and their activities with countries. Different studies take different approaches, some look at citizenship or nationality, others consider the country of academic training, or just look whether academic has been active in multiple jurisdictions. Each approach has its limits, but lack of definitional clarity is hindering some of the comparative work (Rumbley and de Wit, 2019<sup>[345]</sup>; Huang et al., 2023<sup>[346]</sup>). In the case of international research collaboration, studies have also used the location of the institution and country of the journal or publisher to determine whether a publication is international.

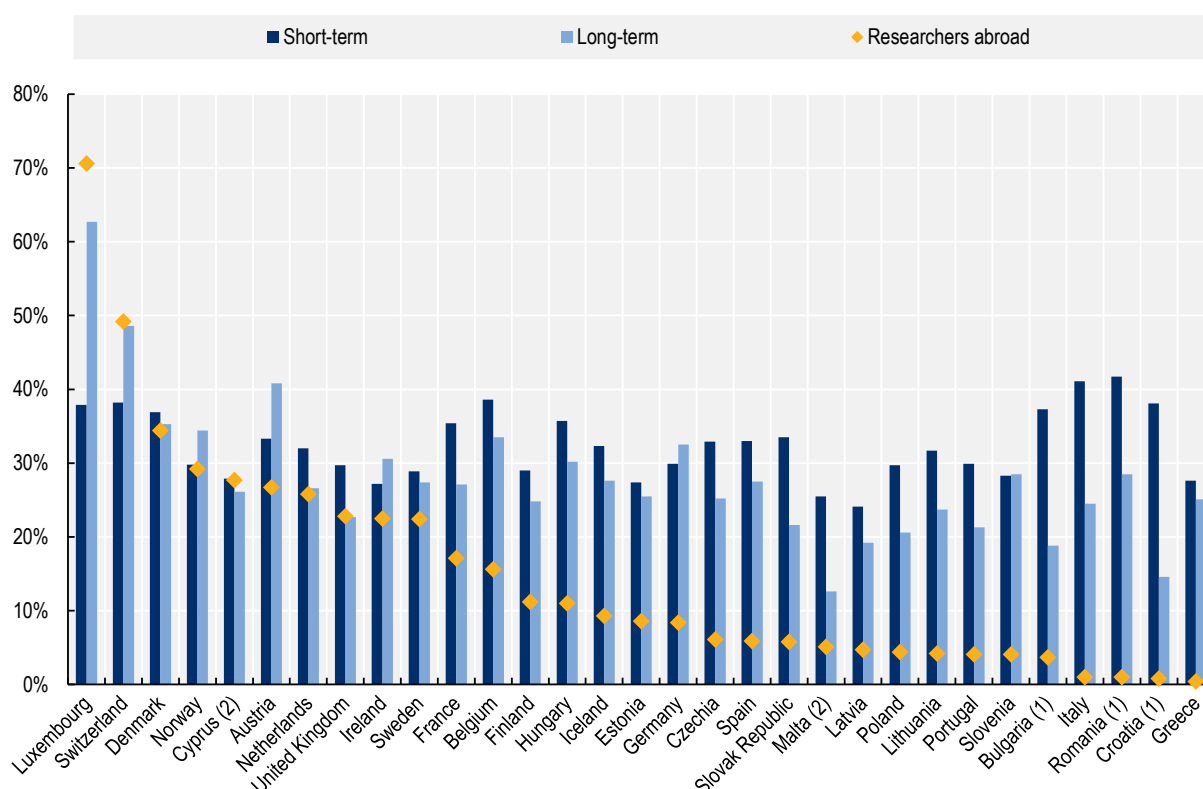
Reliable data on the international mobility of academic staff are scarce, with no countries recording comprehensive data that tracks their migration flows. While some countries, such as Canada (Statistics Canada, 2021<sup>[31]</sup>) or Slovak Republic (Slovak Ministry of Education, 2023<sup>[347]</sup>), provide information on the stock of foreign-born academic staff, such figures provide little insight into the mobility experience of academics.

The most comprehensive data on academics' mobility covering multiple OECD countries is the MORE study, which captures only researchers within higher education, mostly in Europe. The summary of these data is presented in Figure 11, looking at the share of researchers with experience of short- and long-term

international mobility in the past 10 years of their post-PhD career. With few exceptions (Luxembourg, Switzerland, Norway, Austria, Ireland, Germany, and Slovenia), the more dominant form of international experience is short-term mobility. The graph also looks at the share of researchers with citizenship of a given country who, at the time of the study, were working in another country. There are stark differences between countries with the highest share, Luxembourg (71%), Switzerland (49%) and Denmark (37%), compared to Italy, Romania, Croatia, and Greece with between 0-1% of their researchers currently abroad. The tendency among the countries with the lowest share of researchers working currently abroad is more instances of short-term mobilities (EC, 2019<sub>[242]</sub>).

Figure 11. International mobility of European researchers in higher education (2019)

Share of researchers in higher education that were previously internationally mobile or are currently abroad.



Note: Adapted from EC (2019<sub>[242]</sub>), MORE 4 study (indicator tool), <https://www.more-4.eu/indicator-tool> (accessed on 24 July 2023). Mobility includes researchers (R2-R4) who have worked abroad during the past 10 years of their career after PhD, the graph excludes mobility during PhD and PhD level researchers. Short-term mobility for up to 3 months, long-term mobility for 3 or more months. Researchers abroad signify a share of researchers currently employed outside the country (countries) of their citizenship.

1. OECD accession country
2. Not OECD member

The MORE study found a decrease in the share of internationally mobile researchers between 2012 and 2019. For those mobile for three or more months, the share fell from 31% in 2012 to 27% in 2019. For short-term mobility, the decrease has been more dramatic from 41% to 32% in the same period. The MORE4 survey has also looked at the international mobility of doctoral candidates, by asking those currently enrolled in PhD programmes (R1) and those in postdocs or equivalent positions (R2). The survey has found that 16% obtained their PhD outside the country of their citizenship. Another 24% have been

mobile during their PhD for 3 and more months. This share has also increased since 2012, when only 18% have been internationally mobile for a period of more than three months (EC, 2021<sup>[243]</sup>).

Eurostat collects data on the share of staff participating in the Erasmus+ staff mobility actions, although the figures can at best be considered indicative of the shares of participants, given differences in definitions of academic staff by country and substantial missing national data in some cases (Lam and Ferencz, 2021<sup>[348]</sup>). The Erasmus+ participant reports collect a large amount of information and data through an annual survey of mobile staff. So far, these data have mostly been analysed at a relatively high level of aggregation through Erasmus+ annual reports and factsheets, thereby offering little insight for deeper comparative studies (EC, 2021<sup>[349]</sup>).

To explore the potential of these data further, nine Erasmus+ participating countries joined efforts and commissioned the Academic Cooperation Association (ACA) to conduct an exploratory data mining exercise of the data covering the period 2014-19. They found that total staff mobility has nearly doubled in the period, especially substantial was the increase in staff mobility to and from partner countries (those outside Erasmus+ Programme). International mobility of staff for teaching has decreased in the period, while mobility for training remained stable. (Lam and Ferencz, 2021<sup>[348]</sup>). As highlighted in the exploratory report, a more centralised approach to collecting and linking the existing datasets would enable more comparative in-depth analysis.

Another aspect of internationalisation captured in data are research collaborations, comparison between countries can be found in the UNESCO Science report 2021. The publication count was based on Scopus and excluded publications in social sciences, arts, and humanities. While there are limits to the methodology, the results show important patterns and trends. Researchers in all OECD countries produced about 5.6 million publications in the period 2014-16 and about 5.9 million publications in the period 2017-19. The share of international co-authorship between two periods has increased from 45.6% to 49.6%. The overview of the countries in Table 10 includes the share of publications with international co-authors and the list of leading three collaborators for each country. All countries experienced an increase in the number of publications and the number of publications with international co-authors. However the share of publications with international authors has slightly decreased in Bulgaria (OECD accession country) and Costa Rica. The United States was the most common collaborator country (UNESCO, 2021<sup>[16]</sup>).

**Table 10. Publications with international co-authors by country**

Comparison between period 2014-16 and 2017-19

	Share of publications with international co-authors (%)		Top 3 collaborators
	2014-16	2017-19	
Australia	53.9	60.6	United States, China, United Kingdom
Austria	63.9	68.0	Germany, United States, United Kingdom
Belgium	66.3	70.7	United States, United Kingdom, France
Bulgaria (1)	48.9	46.4	Germany, Italy, United States
Canada	52.1	56.3	United States, China, United Kingdom
Chile	64.2	67.4	United States, Spain, United Kingdom
Colombia	48.6	51.0	United States, Spain, Brazil
Costa Rica	76.3	75.6	United States, Spain, Brazil
Croatia (1)	42.7	47.8	Italy, Germany, United Kingdom
Cyprus (2)	69.9	73.6	Greece, United Kingdom, United States
Czechia	42.5	48.0	Germany, United States, United Kingdom
Denmark	61.4	66.7	United States, United Kingdom, Germany
Estonia	61.7	70.5	Germany, Finland, United Kingdom
Finland	60.2	65.7	United States, United Kingdom, Germany
France	54.5	58.9	United States, United Kingdom, Germany

	Share of publications with international co-authors (%)		Top 3 collaborators
	2014-16	2017-19	
Germany	50.2	53.6	United States, United Kingdom, France
Greece	50.7	55.2	United Kingdom, United States, Italy
Hungary	52.2	54.8	Germany, United States, United Kingdom
Iceland	78.5	82.5	United States, Sweden, United Kingdom
Ireland	60.9	65.0	United Kingdom, United States, Germany
Israel	51.2	53.8	United States, Germany, United Kingdom
Italy	46.4	50.0	United States, United Kingdom, Germany
Japan	26.3	29.8	United States, China, Germany
Korea	27.1	28.5	United States, China, Japan
Latvia	39.5	45.1	Germany, Russia, United Kingdom
Lithuania	45.1	54.3	Germany, United States, United Kingdom
Luxembourg	78.2	80.8	Germany, France, United Kingdom
Malta (2)	60.7	62.9	United Kingdom, Italy, Germany
Mexico	41.2	44.1	United States, Spain, United Kingdom
Netherlands	60.7	65.2	United States, United Kingdom, Germany
New Zealand	58.6	63.5	United States, Australia, United Kingdom
Norway	61.5	64.2	United States, United Kingdom, Germany
Poland	30.5	34.3	United States, Germany, United Kingdom
Portugal	52.6	56.8	Spain, United Kingdom, United States
Romania (1)	35.5	36.8	France, Germany, Italy
Slovak Republic	44.8	49.4	Czechia, Poland, Germany
Slovenia	54.2	59.1	Italy, Germany, United States
Spain	50.1	53.8	United States, United Kingdom, Italy
Sweden	63.2	68.4	United States, United Kingdom, Germany
Switzerland	68.4	71.8	United States, Germany, United Kingdom
Türkiye	21.3	24.6	United States, United Kingdom, Germany
United Kingdom	57.6	63.2	United States, Germany, China
United States	36.4	39.9	China, United Kingdom, Germany

Note: Adapted from UNESCO (2021<sup>[16]</sup>), *UNESCO Science Report 2021: the Race Against Time for Smarter Development* (statistical annex), <https://www.unesco.org/reports/science/2021/en/statistics>.

Publication counts are based on data from Scopus (Elsevier), data treatment by Science-Metrix. Publication counts exclude publications in Social sciences, Arts and Humanities. Publication was counted as international if the address field included two different countries, count excluded publications with the field not filled.

1. OECD accession country
2. Not OECD member

The increasing trend of international research collaborations has also been seen in the MORE4 study, with slight increases between 2019 and 2016. In 2019, 63% of researchers collaborated with researchers in their country, 65% with other researchers in EU countries, and 49% with researchers from non-EU countries. Between two survey collections, the share of researchers who collaborated with researchers in another country increased by 2 percentage points in case of EU countries and 3 percentage points for collaborations with researchers outside EU (EC, 2021<sup>[243]</sup>).

There is limited internationally comparative data on internationalisation at home, transnational education and provision, and transnational institutional partnerships. Available evidence on these dimensions is presented in the next sub-section.



## Research and evidence on the topic

Two surveys among institutional representatives have recently captured the variety of internationalisation activities that higher education institutions within the European Higher Education Area conduct. The European Association for International Education (EAIE) received more than 2 000 responses to its 2018 survey, focused on activities related to education, with institutions asked to evaluate each internationalisation activity in terms of whether it is undertaken, and the priority placed on it. The second survey was conducted by the European University Association (EUA) and gathered over 200 responses. This survey focused on research functions to a greater extent than the EAIE survey. Results from both surveys are presented in Table 11, with the internationalisation activities used in the two surveys matched to the extent possible.

**Table 11. Internationalisation activities in European higher education institutions**

1) EAIE Barometer 2018			2) EUA survey 2020	
Internationalisation activity	Undertaken	Priority	Internationalisation activity	Undertaken
Int. mobility of home students	90%	68%	Student credit mobility	95%
			EU research projects	91%
Int. mobility of home staff	84%	39%	Staff mobility	90%
Int. student recruitment	76%	53%	Attracting international degree students	80%
Programmes in non-local language	68%	33%		
Campus internationalisation	68%	26%		
Joint/dual/double degrees	64%	29%	Joint degree programmes	77%
			Co-operation projects in teaching and learning	73%
			Bilateral research collaboration	71%
Courses developing int. awareness	62%	18%		
Int. strategic partnerships	61%	38%		
Int. staff recruitment	53%	20%		
			Multilateral research collaboration (outside EU)	51%
Internationalisation staff training	49%	10%		
Internationalisation of home curriculum	46%	21%		
Int. rankings focused activities	42%	18%		
Distance/online/blended learning	36%	6%		
Capacity building in developing countries	34%	7%		
Engagement with local community	34%	5%		
Branch campuses/Transnational education	17%	4%	Branch campuses	9%
			Shared assets	8%

Note: Table created based on results from EAIE Barometer 2018 survey and EUA survey in 2020 as adopted from 1) Sandström, A. and R. Hudson (2018<sub>[350]</sub>), *The EAIE Barometer: Internationalisation in Europe (second edition)*, <https://www.eaie.org/our-resources/library/publication/Research-and-trends/eaie-barometer-second-edition.html> (accessed on 4 September 2023) and 2) Claeys-Kulik, A., T. Jørgensen and H. Stöber (2020<sub>[351]</sub>), *International strategic institutional partnerships and the European Universities Initiative (Results of the EUA survey)*, <https://eua.eu/downloads/publications/eua%20international%20partnerships%20survey.pdf> (accessed on 4 September 2023). Answers between two surveys were matched by the OECD Secretariat. Responses ranked by share of responders who say their institution is undertaking the activity in the EAIE Barometer survey.

The limited available literature on the subject suggests that *the focus and resources dedicated to encouraging the international mobility of academic staff is modest compared to the emphasis the same institutions place on the international mobility of students*, and it appears that, in many institutions, staff mobility is not an area of policy focus (Colucci et al., 2014<sub>[352]</sub>). This is confirmed by the results of two

surveys presented above, in which student mobility is shown to be the most frequent internationalisation activity among higher education institutions and it has higher priority than staff mobility. The EAIE Barometer shows that while recruitment of international students is not as frequent an activity as the mobility of domestic academics, it is given higher priority by the responding institutions.

More generally, literature on the internationalisation of higher education focuses to a large extent on international research co-operation and international research funding. This probably reflects the scale of international co-operation in research globally and the resources attached. In terms of internationalisation within the area of education, joint degree programmes, activities to internationalise home curricula and strategic institutional partnerships are widespread in European higher education, while transnational provision in the form of branch campuses is relatively limited (Claeys-Kulik, Jørgensen and Stöber, 2020<sup>[351]</sup>; Sandström and Hudson, 2018<sup>[350]</sup>).

*Internationalisation strategies in higher education are becoming more common both on the system and institutional level, notably in Europe.* Within the European Union, member states are encouraged to develop comprehensive international strategies (OECD, 2020<sup>[1]</sup>) and, according to Arnhold et al. (2017<sup>[5]</sup>), internationalisation strategies had already been implemented in most member states by 2016/17. The latter study points to a trend in EU member states to develop more systematic national-level internationalisation strategies, including defined mobility targets (as in Lithuania, Finland and Slovenia), performance-based indicators (Arnhold et al., 2017<sup>[5]</sup>), policies on staff mobility without targets (e.g. Norway and Germany) or a general focus on staff mobility as part of the overall approach to internationalisation of higher education (e.g. France and Estonia) (Racké, Forsthuber and Crosier, 2013<sup>[353]</sup>; OECD, 2020<sup>[1]</sup>; EC, EACEA and Eurydice, 2018<sup>[146]</sup>). Most European higher education institutions have internationalisation strategies, either as standalone documents or as part of general institutional strategies. The EUA survey cited above found that nearly all institutions have a strategy (Claeys-Kulik, Jørgensen and Stöber, 2020<sup>[351]</sup>), while the EAIE Barometer also found that most public institutions have internationalisation in their strategy, although this is less frequent in specialised, smaller, or private institutions (Sandström and Hudson, 2018<sup>[350]</sup>). There is evidence that having a clear strategy for internationalisation can advance institutional pursuit of some internationalisation activities (Ho, Klemenčič and Bello, 2023<sup>[354]</sup>).

Literature reviewed for this report nevertheless also highlights some of the challenges faced by institutions in their pursuit of internationalisation. Internationalisation initiatives are frequently “top-down”, with presidents or chief academic officers often driving efforts to internationalise from an internal perspective and government policy acting as an external driver, along with university rankings and, in Europe, EU policies (Egron-Polak et al., 2015<sup>[343]</sup>). However, for international activities to succeed and become embedded in institutional practice in the long term, *it is important that they secure “buy-in” from academics* (Angouri, 2023<sup>[355]</sup>). While funding was seen as a major obstacle to internationalisation in the EAIE Barometer (39% of responses mention it as challenge), a lack of commitment by some academics was a close second (38%). This might partially be explained by insufficient recognition of the value of internationalisation (Sandström and Hudson, 2018<sup>[350]</sup>). In a survey among academics from multiple European universities conducted in 2017, only a third felt that their international mobility experiences were acknowledged and valued by their university (Cannizzaro, Ball and Rachel–Naseem, 2018<sup>[356]</sup>). With many other elements being considered in performance appraisal, internationalisation is not typically seen as a priority topic to consider (Racké, Forsthuber and Crosier, 2013<sup>[353]</sup>). In a survey among co-ordinators of various EU projects supporting international partnerships in higher education that examined barriers to international co-operation, 44% of respondents mentioned a lack of incentives for staff (Karvounaraki et al., 2018<sup>[357]</sup>).

*Differences in the attractiveness of higher education systems have translated into asymmetric mobility flows among academic staff.* Historically, international mobility of researchers and academic staff was mostly associated with elite academics, but it has increasingly become accessible to many faculty members (Huang et al., 2023<sup>[346]</sup>). However, inequalities remain in the directions in which academics move geographically. On a global level, mobility flows tend to go from the Global South to the Global North

(e.g. from Africa and Asia into OECD countries) and mobility is often one way and disproportionately directed towards elite European and American universities (Docquier and Rapoport, 2012<sup>[358]</sup>; Mills, 2022<sup>[359]</sup>). Within the OECD and Europe in particular, countries with weaker higher education system experience brain drain towards the most elite systems (Khan, 2021<sup>[360]</sup>). The MORE4 survey found particularly high levels of “escape” mobility – where academics are “pushed” away from their environment because of lack of funding or opportunity - in countries such as Italy, Slovenia, Luxembourg, Estonia, and Latvia, due to an absence of opportunities to develop a career in academia at home (EC, 2021<sup>[243]</sup>). The EAIE Barometer found differences between geographical regions within Europe, with institutions in Northern and Western Europe prioritising strategic partnerships and institutions in the Eastern and Southern Europe rather seeking to provide mobility opportunities for their staff (Sandström and Hudson, 2018<sup>[350]</sup>). Such unbalanced flows have spurred debates on the unintended consequences of international staff mobility and its potential drawbacks (EC, 2018<sup>[104]</sup>).

*International mobility is frequently pursued by academics who have already experienced mobility in the past.* A study of international mobility of academic staff supported by the EU’s Erasmus+ programme found that 63% of participants had already undertaken mobility through Erasmus+ (Lam and Ferencz, 2021<sup>[348]</sup>). The MORE studies had similar observations, finding that researchers are either regularly mobile, with frequent participation in both short- and long-term mobilities, or they rarely move (EC, 2021<sup>[243]</sup>). A study by Netz and Jaksztat (2017<sup>[361]</sup>) in Germany found that experience of mobility as a student is a significant predictor of plans and actual participation in international mobility among academic staff.

*Opportunities to engage in international networking appear to be the most important incentive for research-active staff to engage in international mobility* within the EU, with some degree of heterogeneity between researchers by gender, seniority and across countries. The Erasmus+ Higher Education Impact Study (EC, 2019<sup>[362]</sup>) found that the key drivers of mobility for academics are networking and collaboration (93% of surveyed academics with experience of international mobility), developing field knowledge (93%) and the opportunity to experience different teaching and learning methods (89%). As this survey also includes non-research academics, it provides a more complete assessment of drivers of mobility among academics. This was also confirmed by the ACA, which found that professional networking is the most important motivation for international mobility within Erasmus+ (Lam and Ferencz, 2021<sup>[348]</sup>). The MORE4 study found also that key drivers of mobility include opportunities for international networking (87%), research autonomy (85%), working with leading scientists (83%), and career progression (81%) (EC, 2021<sup>[243]</sup>). While these drivers tend to be related to professional development, there are additional factors, such as romantic relationships or other personal reasons, that might motivate academics to be mobile. This was especially observed in the context of Central and Eastern European countries (Luczaj, 2019<sup>[363]</sup>).

However, *personal or family reasons can also act as a major barrier to international mobility.* The Erasmus+ study indicates that personal relationships and family reasons were key barriers to being mobile for 67% of respondents. Other reasons for not engaging in mobility cited include responsibilities in the home institution (64%), difficulties in finding an appropriate foreign hosting institution (51%) and lack of information about the Erasmus+ programme (50%). These patterns were slightly different for non-EU staff who also perceived personal or family reasons as the main hurdle to moving long-term to the EU, but also frequently stressed concerns about visas and the absence of funding for mobility (EC, 2019<sup>[362]</sup>). The MORE4 study suggested that there was a narrowing of the gender gap between women and men who have undertaken long-term mobility from about nine percentage points in 2012 to three percentage points in 2019. However, caring responsibilities continue to inhibit long-term mobility, with 26% of researchers with children having had a long-term mobility experience, in contrast to 37% of researchers without children (EC, 2021<sup>[243]</sup>; OECD, 2021<sup>[9]</sup>).

*Difficulty with return and poor conditions when working abroad are other concerns connected with international mobility.* At an individual level, academics abroad may face difficulties regarding the right to stay, visas, employment, and welfare benefits. The rise of anti-immigrant sentiments has led some countries to introduce new requirements and change eligibility rules for certain benefits (OECD, 2021<sup>[9]</sup>).

For longer mobility, there are serious concerns about returning to the home country, gradual disconnection from local networks and risks around the incompatibility of acquired knowledge with home-country teaching and learning (Netz, Hampel and Aman, 2020<sup>[364]</sup>). The return is especially difficult in higher education systems with academic inbreeding, as a loss of connections can hinder access to certain positions (OECD, 2021<sup>[9]</sup>). There is also a risk that host institutions may run short-term programmes for academics from less developed higher education systems to raise revenue and only superficially engage with visiting colleagues, as was experienced by mobile academics from Kazakhstan (Kuzhabekova et al., 2021<sup>[365]</sup>).

*International mobility fosters the development of international networks with positive consequences for research output and quality.* International mobility is linked to increased levels of international collaboration between academic staff and positive externalities for research productivity and impact (OECD, 2020<sup>[11]</sup>). A systematic review of research published on the effects of international mobility finds robust evidence about the resulting expansion of professional networks. The evidence also suggests a slightly positive effect on research productivity, impact and the subsequent career progression of internationally mobile academic staff (Netz, Hampel and Aman, 2020<sup>[364]</sup>). Survey data on international mobility patterns among researchers working in 16 countries confirm that foreign-born scientists and returnees have larger international research networks than native, non-mobile researchers (Scellato, Franzoni and Stephan, 2015<sup>[366]</sup>). This is also confirmed by the self-reported responses of academics in the Erasmus+ impact study, who reported positive impacts from mobility on networking, the development of skills and recognition in the academic community (EC, 2019<sup>[362]</sup>). A study among Fulbright academics in the United States found similar results, with returning academics having increased collaboration with colleagues at their host institution (Haupt, 2021<sup>[367]</sup>).

*International mobility can help academics to develop professionally and enhance the quality of teaching and learning.* A survey among academics in European universities found that 83% of academics believed that colleagues who had engaged in international staff exchanges had benefitted professionally from this experience (Cannizzaro, Ball and Rachel–Naseem, 2018<sup>[356]</sup>). The survey found two major ways in which mobility can help to enhance the quality of teaching and learning. First, the experience with teaching and observing teaching in different institutional settings can help to challenge academics' own assumptions and practices, thus leading to self-reflection and possible change upon return (Kafarski and Kazak, 2022<sup>[368]</sup>). Second, the course structure and curricula from the institutions visited can become a basis for designing new study programmes in the home institution (Orosz and Craciun, 2018<sup>[369]</sup>). The Erasmus+ impact study also found self-reported perceived positive benefits when it comes to teaching and curriculum development. Academic staff participating in the programme reported making greater use of innovative teaching methods and open educational resources, as well as fostering greater connections with the labour market, with the greatest reported gains among staff from Eastern European countries. Additionally, the Erasmus+ study found perceived benefits in terms of developing intercultural understanding and the improvement of generic transversal social competencies (EC, 2019<sup>[362]</sup>).

These results are largely in line with findings from ACA in their study in nine Erasmus+ countries, which highlights the positive impact of mobility on innovation in teaching practices – an effect reported by over 50% of respondents (Lam and Ferencz, 2021<sup>[348]</sup>). Evidence from interviews with Spanish academics that have been internationally mobile suggests that their teaching has evolved as they were exposed to new teaching practices (Groves, López and Carvalho, 2017<sup>[370]</sup>). In Korea, academics who have gained their PhDs abroad have been key actors in updating curricula and bringing new teaching methods to the programmes in which they teach (Shin, 2012<sup>[371]</sup>). A smaller-scale survey among European academics who participated in Erasmus+ teaching mobility found that their mobility had helped them to adapt to the different needs and expectations of students (55% of surveyed academics that participated in mobility), be more conscious regarding their approach to teaching (53%), understand the needs of international students (52%), and improve their pedagogical competences (47%) (Horváth et al., 2020<sup>[372]</sup>). As illustrated by the discussion above, much existing evidence about internationalisation in teaching and learning relies on self-reporting of impacts by self-selecting populations of academics who have participated in mobility.

More systematic and robust research is needed to clarify the impact of international mobility on teaching and learning.

*Internationalisation at home offers the potential to provide international dimension to the professional practice of a wider section of the academic community* in comparison to the minority of academics that can be physically mobile (Egron-Polak et al., 2015<sup>[343]</sup>). There are three general approaches to internationalisation at home: 1) internationalisation of the curriculum; 2) recruitment of international students; and 3) recruitment of international staff or staff returning from international mobility. A chapter by Ho, Klemenčič and Bello (2023<sup>[354]</sup>) examines these elements based on data from the “Academic Profession in the Knowledge-based Society” (APIKS) survey among academics. The findings find great variation between participating countries in terms of the emphasis placed on different forms of internationalisation at home. Most higher education systems place emphasis on one or only two of the three elements noted above. In the Americas (Argentina, Canada, Chile, Mexico), the focus tends to be on including international perspectives in teaching, while in Europe (Croatia, Estonia, Finland, Germany, Lithuania, Portugal, Russia, Slovenia, Sweden, Switzerland and Türkiye) the strongest emphasis is on promoting the short-term mobility of students and partially on recruitment of international students. There are however differences between European countries in terms of the emphasis they place on including international elements in teaching. The strongest reported emphasis can be observed in Türkiye, Portugal, Slovenia, Estonia, and Croatia, while the lowest scores were reported from Germany, Finland, and Switzerland. There are also significant differences between disciplines, as they have different approaches to including an international or global perspective in teaching (Ho, Klemenčič and Bello, 2023<sup>[354]</sup>). Immigrant academics were found to be more likely to include and emphasise international elements in their courses (McGinn, Ratković and Wolhunter, 2013<sup>[373]</sup>). However, analysts suggest that international experiences on their own are not sufficient to enhance the international dimension of curricula, but need to be complemented by professional learning that can help academics to design and deliver curriculum which is more internationally oriented (Egron-Polak et al., 2015<sup>[343]</sup>).

*International research collaboration is one of the most prominent features of internationalisation* in higher education. The UNESCO Science report 2021 found that nearly half of research publications (49.6%) in OECD countries during the period 2017-19 have an international co-author (as seen in Table 10). The widespread use of electronic communications has made research collaboration across national boundaries much more frequent (Marginson, 2021<sup>[374]</sup>). Aksnes and Sivertsen (2023<sup>[375]</sup>) found in their analysis that the share of publications with co-authors from different countries has increased from 5% in 1980 to 26% in 2021. The UNESCO Science report has presented a similar figure, highlighting that nearly one-quarter (23%) of publications globally in the period 2017-19 have co-authors from different countries (UNESCO, 2021<sup>[16]</sup>).

Patterns of research collaboration seem to be dependent on the scale of the research system, economic development, and relations between countries, smaller countries are more internationally collaborative (Aksnes and Sivertsen, 2023<sup>[375]</sup>). Co-authorship with international partners is particularly common in low-income countries (71%) (UNESCO, 2021<sup>[16]</sup>). As noted, evidence also suggests a strong link between international collaborations and research productivity (Orosz and Craciun, 2018<sup>[369]</sup>). Collaboration and internationalisation are the strongest predictors of high productivity in research, whether it is through international collaboration, publishing abroad or research with international scope (Kwiek, 2015<sup>[376]</sup>). Publications that are products of international collaboration are also more impactful, at least in terms of the citations they receive (Aksnes and Sivertsen, 2023<sup>[375]</sup>). The strong focus on research collaboration could be explained by the evolution of incentive structures, both funding and rankings, which have come to value the share of international faculty and international publications (de Wit and Altbach, 2020<sup>[342]</sup>).

*The growth of transnational education and transnational providers creates new challenges for academic staff.* While there are limited data points, evidence suggests that there has been a considerable growth of transnational education (dual, double, or joint degree programmes) in recent years (Egron-Polak et al., 2015<sup>[343]</sup>). Challenges associated with successfully implementing transnational educational collaboration

include aligning differences between partners, approaches to pedagogy, content differences and student learning behaviours (EC, 2020<sub>[377]</sub>). Management of these programmes also tends to require a higher number of academic and administrative staff per student (Palermo, Bisignano and Mercado, 2018<sub>[378]</sub>). Furthermore, a growing number of universities, frequently from OECD countries, have gone beyond educational collaboration and have opened, or intend to establish, branch campuses abroad. While these campuses offer new educational opportunities, they often face staffing difficulties (Escrivà-Beltran, Muñoz-de-Prat and Villó, 2019<sub>[379]</sub>). Staff willing to transfer from the home campus often need to take on additional roles, as the branch campuses often do not provide the same level of infrastructure to support staff as main campuses (Owens and Lane, 2014<sub>[380]</sub>). Furthermore, academic staff that move are often pushed to align their research focus with local needs and create local impact (Paniagua, Villó and Escrivà-Beltran, 2022<sub>[381]</sub>). A common challenge with both transnational education and branch campuses is the need for staff and curricula to re-adjust to the education system and culture of the host country (Palermo, Bisignano and Mercado, 2018<sub>[378]</sub>).

*Transnational institutional partnerships help to make international collaboration more sustainable and bring potential benefits, but face challenges, notably in terms of recognising staff efforts and achieving the “buy-in” of academic staff.* Transnational institutional partnerships are a form of collaboration between two or more higher education institutions in different countries that are long-term in nature and include more than student exchange or a specific project (Claeys-Kulik, Jørgensen and Stöber, 2020<sub>[351]</sub>). Frequently international co-operation in higher education institutions depends on the actions of individual academics and takes place at the level of faculties or departments meaning that it is not part of an institutional strategy and may lack sustainability. Establishing institution-level partnerships, might be expected to help to make the collaborations more sustainable (EC, 2022<sub>[382]</sub>) and potentially remove the responsibility for sustaining co-operation from individual academics.

The most prominent policy example in this space is the European Universities Initiative (EUI), supported by the EU. The EUI alliances are quite diverse in their background and focus, with some building on existing partnerships and others including institutions that have not been extensively involved in collaboration before. In the medium to long term, the alliances are expected to play an important role in the transformation of EU higher education, but at the time of writing, are mostly concerned with the establishment of governance and legal structures (Charret, 2022<sub>[383]</sub>). A survey conducted by the European University Association (EUA) found that enhancing the quality of teaching and learning is the most frequent expected benefit of alliances (Claeys-Kulik, Jørgensen and Stöber, 2020<sub>[351]</sub>).

While EUI alliances are still in their initial phase, the greatest risk surrounding the ultimate goal of involving large sections of the academic communities in participating institutions in international activities appears to be lack of incentives for academics to become involved in a sustained manner. A study examining the potential implementation of the EUI identified lack of incentives for academics to get involved as the top barrier to organising and implementing the alliances (Karvounaraki et al., 2018<sub>[357]</sub>). Similar concerns were also identified in a survey by the EUA, which found that 72% of respondents felt that it would be challenging to get sustained commitment from academics in institutions participating in the EUI. This share was higher than concerns about student demand (64%), the commitment of administrative staff (62%) or the commitment of leadership (46%) (Claeys-Kulik, Jørgensen and Stöber, 2020<sub>[351]</sub>). A recent report by one of the EUI alliances also highlights challenge with the recognition of the work and efforts of staff (Angouri, 2023<sub>[355]</sub>).

Part of the challenge appears to be that EUI alliances were initially closely associated with institutional leadership and international offices within higher education institutions, with limited involvement from academic staff in the development of the alliances (Frame and Curyło, 2022<sub>[384]</sub>). In general, internationalisation activities face challenges related to academic buy-in, and those concerns should be considered especially in the context of centralised – and thus at least partially “top-down” - policy initiatives from national governments or the EU (Angouri, 2023<sub>[355]</sub>). Even with internal challenges resolved, regulatory barriers remain that can make it challenging for EUI alliances to jointly recruit staff or second

them to partner institution (EC, 2022<sup>[382]</sup>). Despite these challenges, there are also great opportunities associated with EUI alliances, which should provide academics with more chances to collaborate with colleagues in their specific areas of work, share teaching and other resources within their partnership, and be exposed to different teaching and research cultures, inspiring change and innovation (Angouri, 2023<sup>[355]</sup>). The evidence on the engagement and experience of academic staff within EUI alliances is limited at the time of writing and further research will be needed in this area to evaluate how successful the alliances are in involving academic staff and whether the expected benefits are materialised.

A final topic raised in the international literature on internationalisation in higher education concerns *the sustainability of current forms of internationalisation and the need for global co-operation to address challenges*. First, there are concerns about the uneven mobility flows mentioned above and the accessibility of certain transnational spaces, which frequently require resources, and social and cultural capital to access them. Mobility patterns are partially shaped by the fact that academics from less developed higher education systems face barriers to accessing the leading higher education and research institutions (Demeter, 2019<sup>[385]</sup>). A second concern is the environmental costs of physical mobility, as it involves extensive travel, at a time when higher education is trying to reduce its carbon footprint (McCowan, 2020<sup>[120]</sup>).

## Policy and practice examples

Fostering internationalisation has been a major priority for European policy actors since the launch of the European Union's Erasmus programme and the European Credit Transfer System (ECTS) in the late 1980s and the subsequent development of the Bologna Process from 1999 onwards (Enders, 1998<sup>[386]</sup>; EC, 2022<sup>[2]</sup>). **Erasmus+** is the EU's main action to support academic staff mobility within the EU. The programme provides funding for staff to spend a period teaching and training abroad for a duration of up to two months. The **Marie Skłodowska-Curie staff exchange action** is another EU programme funding international mobility. The grants fund the mobility of seconded staff members from one month to one year and target researchers at any career stage, from PhD candidates to postdoctoral researchers, as well as administrative, technical, or managerial staff involved in research and innovation activities. Beyond concerted collaboration through these programmes and existing ad hoc bilateral or multilateral agreements between partner higher education institutions, individual countries or groups of countries have also engaged in several policy initiatives to promote the international mobility of staff (Helms et al., 2015<sup>[387]</sup>; OECD, 2020<sup>[1]</sup>). The recent European Universities Initiative is another example of policy supporting internationalisation within higher education.

In a report on the resourcing of higher education systems in 29 OECD jurisdictions, Golden, Troy and Weko (2021<sup>[32]</sup>) highlight that half of the responding jurisdictions have targeted funding programmes for staff mobility. Several countries provide funds for international academics to visit their higher education and research institutions from abroad for professional reasons (e.g. Centre for International Mobility Scholarships in **Finland**, British Council grants in the **United Kingdom**, and the Fulbright Visiting Scholar Programme in the **United States**). Conversely, many countries also have grants and other programmes funding scholars who wish to go abroad for temporary visits. These include the Top 500 Innovators programme in **Poland**, the Fulbright Scholar Program in the **United States**, the Consejo Nacional de Ciencia y Tecnología (CONACyT) scholarships in **Mexico** and the Kristjan Jaak Scholarship programme in **Estonia** (OECD, 2020<sup>[1]</sup>). Another example is the **Central European Exchange Program for University Studies** (CEEPUS), a multilateral university exchange programme in the Danube region providing mobility grants to students and teachers.

Some countries have also adopted legislation requiring universities to promote international mobility. In **Spain**, the Science, Technology, and Innovation Act states that geographic, inter-sectoral and interdisciplinary mobility is a right for researchers and academic staff. The Act requires universities and

research centres to promote the mobility of their personnel and makes mobility a criterion in the selection and promotion of staff (OECD, 2020<sub>[1]</sub>). In **Sweden**, the Knowledge without Borders – Higher Education in the Era of Globalisation law of 2008 requires universities to promote staff mobility with the government providing almost EUR 2 million of funding for these purposes annually since its implementation (OECD, 2020<sub>[1]</sub>).

Multiple countries have project-based research funding for international teams, in the **United States**, the National Science Foundation-funded Partnerships for International Research and Education (PIRE) programme, international co-operation programmes in **Brazil** managed by CAPES (Coordenação de Aperfeiçoamento de Pessoal de Nível Superior) or the Partenariats Hubert Curien in **France** (PHC) (OECD, 2020<sub>[1]</sub>).

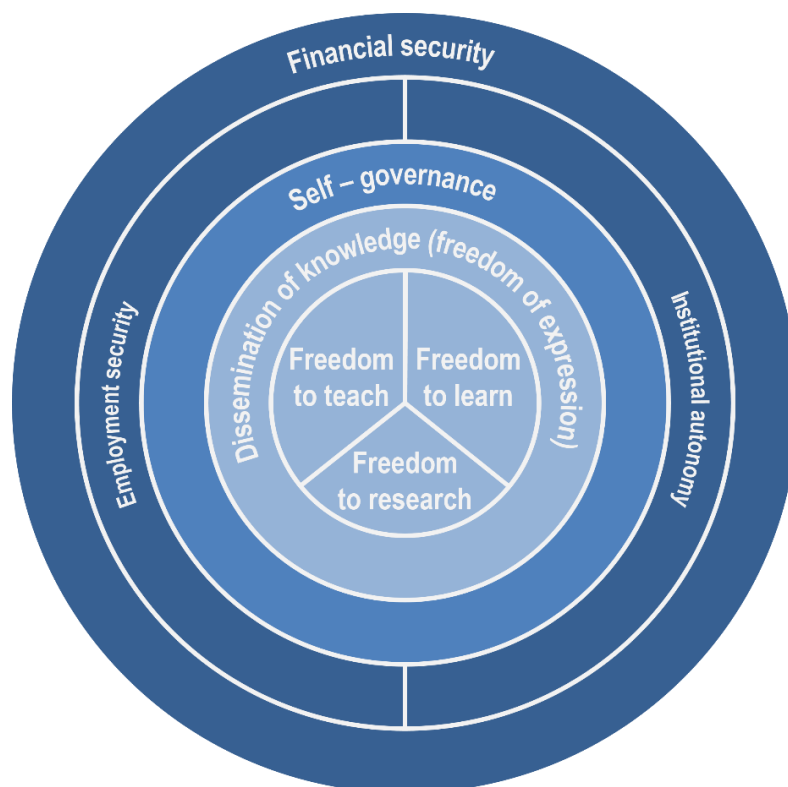
Finally, some countries have specific policies in place to repatriate the diaspora of academics working in other countries (e.g. RAÍCES programme in **Argentina**, the 100 Scholar Programme in **China**, and the Alon Programme in **Israel**) (OECD, 2020<sub>[1]</sub>).



## 8 Academic freedom

This section reviews evidence on the academic freedom of individual academics. The *concept of academic freedom lacks a universally accepted definition* (Matei, 2020<sup>[388]</sup>). For example, in the context of the European Union, the Charter of Fundamental Rights of the European Union recognises academic freedom, but Article 13 of the Charter focuses primarily on freedom in the arts and scientific research (EU, 2012<sup>[389]</sup>). In the more recent European Strategy for Universities, the European Commission employs a broad understanding of academic freedom, encompassing not only freedom for speech, thought, learning and research but also aspects of institutional autonomy and staff participation in governance (EC, 2022<sup>[21]</sup>). The interpretation of freedom also differs. In a negative interpretation, freedom is understood primarily as being free from censorship and state intervention. A positive interpretation of freedom involves, in addition, the existence of conditions in which academics are free to make decisions about what they teach, research and how they disseminate their work and ideas. Some authors argue that this latter interpretation of academic freedom implies academics need to participate in the governance of their institutions and enjoy employment security (Vatansever, 2022<sup>[390]</sup>). This distinction in different approaches to freedom is reflected in the “onion” model of academic freedom developed by Kováts and Rónay, as illustrated in Figure 12.

Figure 12. The “onion” of academic freedom



Source: Kováts, G. and Z. Rónay (2023<sup>[391]</sup>), *How academic freedom is monitored: Overview of methods and procedures*, <https://doi.org/10.2861/45892>.

The core of the model comprises *three “essential” academic freedoms: 1) freedom to teach; 2) freedom to research; and 3) freedom to learn and study.* This includes the right to determine the content and approach for research and teaching. The first layer encompasses freedom of expression and the dissemination of academic work, including the choice of form and venue. The second layer involves academic participation in decision-making, a pre-requisite for academics’ capacity to make decisions about their teaching and research. The third and fourth layers – institutional autonomy, employment security, and financial security – establish conditions that enable academics to express their views without fear of reprisal and to maintain effective control over resource allocation (Kováts and Rónay, 2023<sup>[391]</sup>).

While this model of academic freedom envisions an expansive set of rights for individual academics, *academic freedom comes with a set of obligations and responsibilities.* Academic freedom of expression is distinct from general freedom of expression, which allows anyone a wide scope of self-expression, but in the case of academics, their professional expression is subject to quality requirements and responsibilities associated with the standards and norms of the academic community (Norwegian Ministry of Education and Research, 2022<sup>[392]</sup>). Especially, academics should avoid misleading statements, when communicating outside scholarly spaces and on topics outside of their professional expertise. Furthermore, UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel expects that academics will reflect the contemporary societal challenges (ILO and UNESCO, 2021<sup>[393]</sup>). Academic freedom is not absolute, rather it requires academics to reconcile their freedom with their responsibility towards society and their institution. The principles developed in an earlier OECD publication attempt to resolve this dichotomy by recognising the autonomy of academics in course design, freedom in selecting research topics and approaches, interpreting the results, and publishing them. But at the same time, they must integrate in their work institutional goals, priorities defined at the institution or system level and the need for them to be accountable for the outcomes of their academic activity. System-level authorities and institutions should provide support and conditions for them to meet these expectations (OECD, 2008, p. 176<sup>[394]</sup>).

*Academic freedom concerns the individual rights of members of the academic community,* and it needs to be decoupled from the concept of institutional autonomy which concerns the flexibility to act across a range of fields available to institutions (Matei, 2020<sup>[388]</sup>). This evidence review is primarily focused on individual academic freedom concerning the core freedoms to teach, research, learn, and disseminate work. But it also recognises the strong role the contributing factors like participation in institutional governance, employment security, and financial security have.

As mentioned in the introduction to this review, defining the category of academic staff is challenging, which has implications for *whether academic freedom also applies to certain categories of staff.* For example, it is unclear whether the academic freedom extends to certain categories of assistants and support staff, who do contribute and participate in teaching and research, but are not recognised as academic staff (Kováts and Rónay, 2023<sup>[391]</sup>).

*Academic freedom is increasingly becoming a prominent issue in politics.* In the United States, multiple states have passed or are passing policies restricting topics that can be taught and funded (Kinzelbach et al., 2023<sup>[395]</sup>). In the United Kingdom, the issue was raised in connection to the Higher Education Freedom of Speech Act 2023, causing controversy (Freeman, 2023<sup>[396]</sup>). Elsewhere in Europe, academic freedom has become a prominent issue, notably in the case of a high-profile legal action that the European Commission brought against Hungary. Although the European Court of Justice ruled against Hungary in the case involving the Central European University, the judgement was largely based on trade rules rather than the principles of academic freedom stated in the Charter of Fundamental Rights of the European Union (Kováts and Rónay, 2023<sup>[391]</sup>).

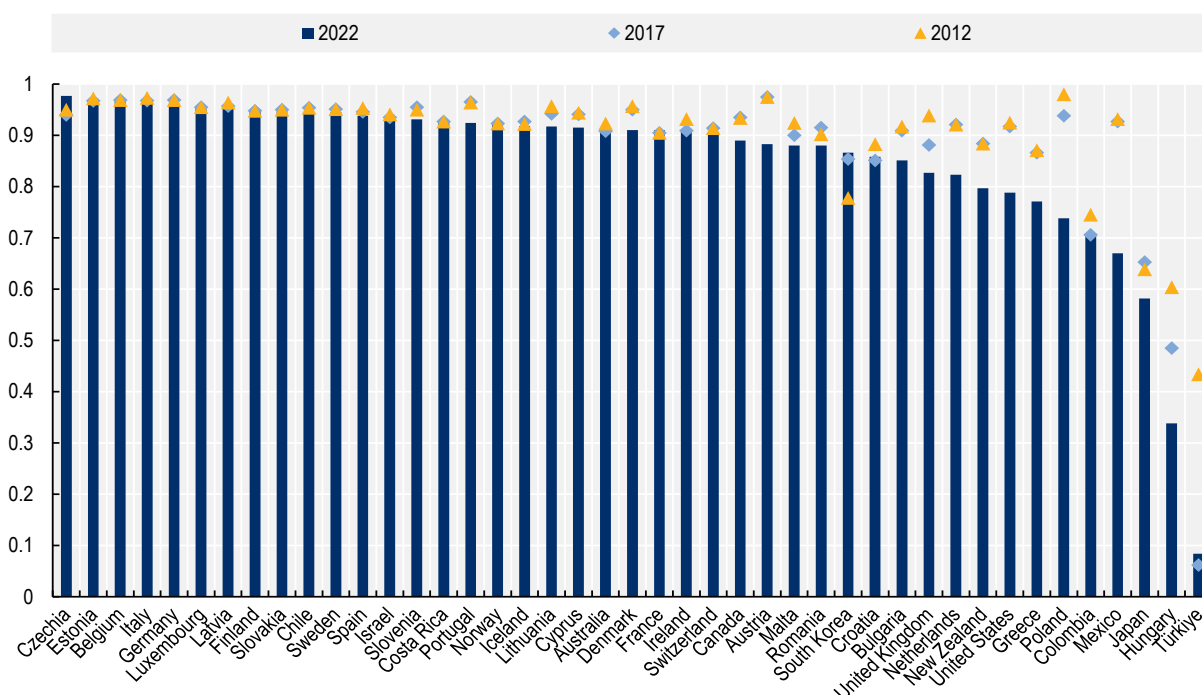
## Indicators and data availability

Matei notes that *academic freedom measures “are multi-dimensional and are a matter of degree”* (Matei, 2018, p. 32<sup>[397]</sup>). No academic or higher education institution have absolute freedom or a complete lack of academic freedom.

The first source of data on academic freedom is the global and longitudinal dataset by Varieties of Democracy (V-Dem), the Academic Freedom Index (AFI), which is based on scoring higher education systems on five indicators by country experts. The two most relevant indicators for academics are: 1) freedom to research and teach, reflecting the existence of restrictions, interference, and incentives for self-censorship; and 2) freedom of academic exchange and dissemination, focusing on academic discourse and academics in public discourse. The other three indicators are more focused on contributory factors: 3) institutional autonomy in terms of external actor’s influence on decisions; 4) campus integrity reflecting the presence of surveillance, intimidation, violence and closures; and 5) freedom of academic and cultural expression, examining censorship and government sanctions (Spannagel and Kinzelbach, 2022<sup>[398]</sup>).

The overall AFI trend indicates a *decline in academic freedom among OECD and EU member countries in the past decade*. The average score among OECD countries went from 0.90 in 2012 to 0.85 a decade later, and among EU member states, the AFI score decreased from 0.93 in 2012 to 0.89 in 2022. Significant declines, as seen in Figure 13, occurred in Türkiye, Hungary, Mexico, Poland, and the United States (Coppedge et al., 2023<sup>[399]</sup>).

Figure 13. Academic Freedom Index in OECD and EU member countries in 2012-22



Note: Adapted from Coppedge et al. (2023<sup>[399]</sup>), *V-Dem Dataset version 13* (dataset), <https://doi.org/10.23696/vdemds23>. A score of 1 would represent absolute observance of academic freedom. Ranked by Academic Freedom Index in 2022.

While the majority of EU and OECD member countries still rank in the top 30% of systems globally, countries such as the United Kingdom, the Netherlands, New Zealand, the United States, Greece, and

Poland are only slightly above the middle of the ranking. Colombia, Mexico, and Japan are slightly below the global middle rank, with Hungary and Türkiye among the bottom 30% in terms of the AFI (Kinzelbach et al., 2023<sup>[395]</sup>). In the two AFI indicators closely related to individual academic freedom (variable: v2cafres\_osp), the freedom to research and teach is reported to have significantly decreased over the past decade in Poland, the Netherlands, Mexico, and Türkiye. Meanwhile, the freedom of academic exchange and dissemination (variable: v2cafexch\_osp) is reported to have substantially declined in Austria, Malta, Poland, the United States, Mexico, Hungary, and Türkiye (Coppedge et al., 2023<sup>[399]</sup>). While measures are taken to ensure national experts use objective criteria, the reliance on expert reporting limits the robustness of the AFI methodology.

An alternative approach to systematically mapping academic freedom based on expert judgement involves analysing regulatory and legal provisions, as demonstrated by Karran, Beiter and Appiagyei-Atua (2017<sup>[400]</sup>) in their research. They investigated the level of detail of provisions and their interpretations within regulation and legislation within EU member states. The analysis looked at five aspects of academic freedom: 1) academic freedom for teaching and research; 2) institutional autonomy; 3) self-governance; 4) job security; and 5) constitution and international agreements. The maximum number of points allocated for each aspect was 20, with varying weights for different indicators. Altogether the authors assessed systems against 37 indicators. The most relevant indicators for individual academics are within the aspect of institutional autonomy, regarding staff appointments, and all the indicators within the job security aspect. Within this aspect, the research team looked at both the de jure and de facto duration of contracts, provisions for contract termination in higher education and other legislation, and provisions for academic advancements (Karran, Beiter and Appiagyei-Atua, 2017<sup>[400]</sup>). While this approach took into consideration many aspects of academic freedom, the focus was on legal provisions and less on operational regulation (Maassen et al., 2023<sup>[401]</sup>).

The results presented in Table 12 suggest that *only a few EU countries have wide-ranging legislative or regulatory provisions for academic freedom*. None of the EU member states are close to full compliance with the full legal protection proposed by the authors. The strongest rate of compliance seems to be around constitutional protections and ratifications of international agreements (aspect 5), while few countries have extensive provisions in higher education legislation (aspect 1). Compliance is even lower in other aspects, with job security and tenure protection (aspect 4) having on average the lowest score among all the aspects covered in the methodology (Karran, Beiter and Appiagyei-Atua, 2017<sup>[400]</sup>).

**Table 12. Legal provision of academic freedom in EU member states in 2015**

	1. Academic freedom for teaching and research	2. Institutional autonomy	3. Self-governance	4. Job security	5. Constitution and international agreements	Total
Greece	5	4.5	10.5	20	15.5	<b>55.5</b>
France	20	7	6.5	15.5	14	<b>63</b>
Italy	10	9	8	11.5	19	<b>57.5</b>
Spain	15	8.5	12	11	20	<b>66.5</b>
Portugal	10	9	11.5	10.5	20	<b>61</b>
Ireland	15	12.5	3	10.5	11.5	<b>52.5</b>
Slovenia	5	8.5	11	10.5	17.5	<b>52.5</b>
Cyprus (2)	10	8	12.5	10	12.5	<b>53</b>
Bulgaria (1)	15	9	14.5	9.5	17.5	<b>65.5</b>
Belgium (3)	10	8.5	7.5	9.25	14	<b>49.25</b>
Sweden	5	6.5	3	8.5	16.5	<b>39.5</b>
Malta (2)	0	10.5	6	8.5	11	<b>36</b>
Germany (4)	17.5	9.25	12.25	8	17.5	<b>64.5</b>
Hungary	5	2.5	9	8	11.5	<b>36</b>

	1. Academic freedom for teaching and research	2. Institutional autonomy	3. Self-governance	4. Job security	5. Constitution and international agreements	Total
Romania (1)	15	8	12.5	5.5	12.5	53.5
Denmark	5	9	6.5	5.5	12.5	38.5
United Kingdom (5)	5	13.5	0	5.5	11	35
Austria	20	12	9	5	17.5	63.5
Lithuania	20	11	6	5	17.5	59.5
Poland	10	9.5	12.5	5	17.5	54.5
Croatia (1)	20	13	14	4.5	17.5	69
Luxembourg	15	9	6	3.5	14	47.5
Netherlands	10	9	5.5	3.5	12.5	44
Latvia	20	10	10.5	3	16.5	60
Finland	15	15	3	3	19	55
Czechia	15	8	11	2	15.5	51.5
Slovak Republic	20	8.5	12.5	1.5	18	60.5
Estonia	0	10.5	4.5	1.5	17.5	34

Note: Adapted from Karran, T., K. Beiter and K. Appiagyei-Atua (2017<sup>[400]</sup>), *Measuring academic freedom in Europe: a criterion referenced approach*, <https://doi.org/10.1080/23322969.2017.1307093>.

Countries ranked by score in 4. Job security.

Each category scored out of 20 points, a full score represents a detailed interpretation of laws and regulatory documents for components of academic freedoms. The total score is the sum of five components with a maximum score of 100.

1. OECD accession country
2. Not OECD member
3. Mean of scores for Wallonia-Brussels Federation and Flemish Community of Belgium
4. Mean of scores for Bavaria and North Rhine-Westphalia
5. United Kingdom is no longer a member of the European Union

In addition to the legislative overview, the same research team has subsequently surveyed academics in EU member countries, with over 4 000 responses. This allowed the authors to contrast de jure protections in the legal and regulatory system with the de facto lived experiences of academics. In their assessment, the level of academic freedom protection as experienced by academics in EU countries is relatively high, with few exceptions. But there are concerns about trends over time, as 45% of surveyed academics reported an erosion in academic freedom protection, another 24% saw it as unchanged, and only 6% suggested that protection has increased. The decline in perceived protections was most pronounced in the aspects of institutional autonomy, self-governance, and job security. About 54% of respondents agreed that employment protections had been eroded. The survey results suggest that areas with the fewest legal provisions are also those that are perceived to have seen the greatest declines in protections in recent years (Karran and Beiter, 2020<sup>[402]</sup>).

Another approach involves self-reported data by institutions and representative bodies, such as rectors' conferences, used by the European Universities Association (EUA) for the "Scorecard" of institutional autonomy. The Scorecard focuses on four aspects of institutional autonomy: organisational, financial, staffing, and academic autonomy. While this measure is comprehensive and involves a range of indicators, it includes a few elements that focus on the academic freedom of individuals. The focus of the Scorecard are higher education institutions, their autonomy, and the limits of the state or private interests to influence them (Pruvot, Estermann and Popkhadze, 2023<sup>[403]</sup>). This focus can create tensions between measures of institutional autonomy and other indicators, such as staffing autonomy and job security, as the Scoreboard rewards systems where decisions and regulations regarding human resources are in the hands of institutions without externally 'imposed' provisions or employment protections. Thus, the Scorecard only captures level of responsibility rather than actual working conditions and protections of individual academic freedom.

A further source of data about academic freedom comes from international monitoring exercises. One example is the Universal Periodic Review of Human Rights created by the United Nations, consisting of self-reported reviews by governments, which are then checked and elaborated with other stakeholders in the country. This rather broad exercise includes many other topics besides academic freedom (Kováts and Rónay, 2023<sup>[391]</sup>). A more detailed monitoring exercise was undertaken by Maassen, Martinsen, Elken, Jungblut, and Lackner (2023<sup>[401]</sup>) for the European Parliament's Science and Technology Options Assessment (STOA) Panel. In the report, the authors build on the data and indicators presented above, combining these with country background notes which reflect recent developments in policy and institutions. While this was only an initial exercise, it provides a wealth of information and there is an ambition to make this exercise regular (Maassen et al., 2023<sup>[401]</sup>).

The last category of data sources is the monitoring of academic freedom infringements, as undertaken by the Scholars at Risk Academic Freedom Monitoring Project, which focuses on serious incidents, including violence. In the period from 2011 through 2021, there were 36 incidents reported in EU member countries (Kováts and Rónay, 2023<sup>[391]</sup>).

This overview of indicators and data related to academic freedom shows great diversity in the approaches adopted: expert assessment (AFI), legislation checks by a research team (Karran, Beiter and Appiagyeyi-Atua), a survey among academics (Karran and Beiter), a survey among institutions and representative bodies (EUA), monitoring of infringements (Scholars at Risk), and case studies (European Parliament). This diversity only highlights the difficulties of measuring academic freedom, with each approach providing a different lens through which to assess this concept, contrasting de jure regulation, and de facto lived experiences and focusing on both core aspects of academic freedom and supporting factors.

## Research and evidence on the topic

Various ranks of countries (and higher education systems) in different data collections suggest that legal protections and institutional autonomy can both contribute to and hinder academic freedom, as there are additional cultural, historical, socio-political, and economic factors which augment the conditions for academic freedom. Estonia, for example, performs highly in terms of institutional autonomy (EUA Scorecard), possibly as a consequence of being among the countries with the fewest legal provisions for academic freedom (Karran et al.), and Estonia is also seen as among the top countries in terms of Academic Freedom Index (AFI). In contrast, in the United Kingdom, England and Scotland are among the systems with the broadest institutional autonomy (EUA) and with the fewest legal provisions related to academic freedom (Karran et al.), but the assessment in AFI is quite low. More regulated systems, such as Spain and Italy, might have more limited institutional autonomy (EUA Scorecard) and many legal provisions (Karran et al.), yet they perform relatively well in terms of AFI.

Institutional representatives have been arguing for policies enhancing institutional autonomy, especially within the European Higher Education Area, and the focus on institutional autonomy has been overshadowing the academic freedoms of individual academics (Matei, 2020<sup>[388]</sup>). The reforms were pursued based on the assumption that this would lead to more effective institutions and potentially improve academic freedom. However, this assumption was not thoroughly investigated, and it appears that the *relationship between institutional autonomy and individual academic freedom depends on national contexts and institutional cultures*. Therefore the assessment of academic autonomy cannot rely solely on legal provisions but must also examine the concept of “living autonomy” and how internal actors use their extended room for manoeuvre within institutions (Maassen, 2020<sup>[404]</sup>). This perspective aligns with findings from other studies, which highlight the relationship between the type of institutional management in place and the opportunities for individual academics to participate in decision-making (Teichler and Höhle, 2013<sup>[405]</sup>). These findings reveal the complex relationship between institutional autonomy and academic

freedom. Not all forms of institutional autonomy are conducive to fostering academic freedom of individual academics and policy needs to decouple the two concepts.

Literature highlights seven areas of threats. The initial six points were adapted from publication on the state of academic freedom in the EU member states (Maassen et al., 2023, pp. 172-175<sub>[401]</sub>). Those areas are complemented below by additional findings and specifications.

1. “Political interference in determining which academic fields and areas are scientific and which are not” has been observed in attempts to limit certain study programmes and research projects, such as gender studies and topics perceived as “woke” (Maassen et al., 2023, pp. 172-175<sub>[401]</sub>). Interference can take various forms, including revoking accreditation, cutting research funding, or limiting access to research data. One recent example is the Individual Freedom Act introduced by the State of Florida, which has banned certain courses and content in state universities - the Act is currently being challenged and its implementation has been put on hold (Hutchens and Fernandez, 2023<sub>[406]</sub>). This directly impacts individual academics in terms of which course they can teach and what content they can cover.
2. “Governmental interference threatening institutional autonomy” involves extensive public steering and changes to *governance structures to involve public authorities and their representatives in day-to-day institutional decision-making*. Monitoring has identified legal changes or at least serious policy discussions about the growing government’s role in institutional decision-making in Croatia, Denmark, Greece, Ireland, Romania, Slovak Republic, and Slovenia (Maassen et al., 2023, pp. 172-175<sub>[401]</sub>).
3. “Institutional leadership and management threats to academic freedom” occur when enhanced institutional autonomy or changes in governance structure result *in more power being given to institutional leaders who abuse it*. This has been associated with the growing managerialism replacing self-governance, threatening the principle of self-governance and in the case of staffing autonomy, also job security (Maassen et al., 2023, pp. 172-175<sub>[401]</sub>). Evidence shows that certain management strategies that higher education institutions have adopted from businesses, such as quality measures, appraisal models, and moving from collegial decisions to more administrative processes, have shrunk the autonomy of academics (Teichler, 2021<sub>[53]</sub>; Puaca, 2022<sub>[407]</sub>).
4. “Civil society threats to academic freedom” became more frequent during the COVID-19 pandemic, *as scientific and academic figures have been harassed for their work* in public health and vaccine promotion (Maassen et al., 2023, pp. 172-175<sub>[401]</sub>). Other areas of contention include research on issues around climate change, identity, and potentially any contribution of research findings for political decision-making (Nogrady, 2022<sub>[408]</sub>). The particular risk is that academics and institutions are increasingly becoming part of the already polarised discourse, which can lead to attacks (Garry, 2023<sub>[409]</sub>).
5. “Private sector threats to academic freedom” include *pressures on academics to reach certain research conclusions and limit dissemination of unfavourable research findings*. Private entities can influence research outputs through funding arrangements, as institutions are pursuing additional funding sources (Maassen et al., 2023, pp. 172-175<sub>[401]</sub>; ILO, 2018<sub>[20]</sub>). Another growing trend has been the use of strategic lawsuits against public participation (SLAPPs) by private companies to marginalise critical academics (SAR Europe, 2022<sub>[410]</sub>; Beaud, 2022<sub>[411]</sub>). Both encroach on the freedom of research and dissemination of the individual academics.
6. “Threats to conditions for academic freedom” include situations in which *legal provisions are weakened in the areas of self-governance and job security*. These changes brought by system-level authorities or institutions make it more difficult for academics to participate in decision-making or put them under pressure because they could be easily dismissed or let go. This is an especially acute issue for academics with more temporary and precarious contracts. Additionally, changes in the funding models, earmarking parts of the budget and making them conditional can lead to

financial insecurity (Maassen et al., 2023, pp. 172-175<sup>[401]</sup>). To conduct their teaching and research academics need access to adequate infrastructure and support including job security, careers and contracts which are not precarious (Vatansever, 2022<sup>[390]</sup>).

7. Threats by foreign actors were identified as a potential issue in the literature. The cases include situations in which *foreign governments and their associated organisations have pressured public authorities, institutions, and academics on what is taught and researched* about their country. The issue of international pressures on research and teaching has been extensively discussed in the context of China's Confucius Institutes. These institutes, supported and governed by the Chinese government, have been established since 2004 all around the world, with hundreds set up in Europe in close partnership with local academic institutions. A series of censorship scandals were reported in 2014 and the institutes' poor record on transparency regarding contracts, hiring and finances, resulted in the non-renewal of contracts for several institutes in Europe (Pamment et al., 2019<sup>[412]</sup>). A survey in the United Kingdom suggests that these pressures are particularly present in fields like political science, international relations, business, or area studies when research or teaching involves authoritarian regimes. However, some of the pressures are also domestic (Prelec et al., 2022<sup>[413]</sup>).

Survey findings from Karran and Beiter suggest that academics in EU countries experience bullying (15%) and psychological pressure (16%) due to their academic views. About one-fifth of academics practice self-censorship as a result (Karran and Beiter, 2020<sup>[402]</sup>). Findings from the United States show even more widespread self-censorship by academics, often due to fear of someone misrepresenting their views. However, differences have been observed between forms of expression and the likelihood that academics will self-censor. On social media and in official meetings, 45% of academics were very or extremely likely to self-censor, in publications, talks or interviews for a general audience, about 36% of academics, and in academic publications only 25% were likely to self-censor (Honeycutt, Stevens and Kaufmann, 2023<sup>[414]</sup>).

Policies concerning academic freedom can be sensitive, as any direct involvement or excessive regulation by the government might be perceived by the academics as constraining the very freedoms they aim to protect. As a result, government's role tends to focus primarily on establishing conditions in which academics have space and protections for their research, teaching, and dissemination activities. Academic freedom is largely dependent on institutional culture, which cannot be externally imposed and dictated from above, but rather needs to be cultivated and nurtured within institutions themselves (Norwegian Ministry of Education and Research, 2022<sup>[392]</sup>).

## Policy and practice examples

**Switzerland** has been notably successful in establishing a more consensual and network-based governance model within higher education, striking a balance between state intervention, robust managerialism, and self-governance (Teichler and Höhle, 2013<sup>[405]</sup>; Bleiklie et al., 2011<sup>[415]</sup>). This approach is ingrained in the current higher education system management, which prioritises co-operation across institutions, their representation, and both federal and cantonal governments (Eurydice, 2022<sup>[416]</sup>).

**Sweden** has recently taken action to promote academic freedom by amending the Higher Education Act in 2021. This amendment requires institutions to promote and safeguard academic freedom in all their activities. This is being followed by a monitoring exercise conducted by the Swedish Higher Education Authority (UKÄ), which will result in a report examining the institutional measures taken to promote and protect academic freedom, as well as institutional culture (Swedish Ministry of Education and Research, 2023<sup>[417]</sup>).

In **Finland**, the Finnish Union of University Researchers and Teachers has prepared guidelines to assist academics in dealing with online harassment (Weckman, 2021<sup>[418]</sup>). In **Denmark**, following a scandal related to research collaborations between higher education and the private sector, Universities Denmark,



together with the Ministry of Higher Education and Science, prepared “principles and recommendations” for research-based collaboration and consultancy that advise institutions on how to navigate complex relationships with private and public bodies in a way that protects research integrity and academic freedom (Universities Denmark, 2021<sup>[419]</sup>).

The staff working document Tackling R&I (research and innovation) from foreign interference by the **European Commission** helps research organisations and higher education institutions to navigate relationships with partners from non-member countries, especially those with interests contrary to the EU. The document covers issues of values, governance, partnerships, and cybersecurity (EC, 2022<sup>[420]</sup>).

## Policy implications

This last section aims to draw on the findings of the evidence review and suggest some possible policy implications.

The challenges identified in the evidence review are not universally present in all OECD higher education systems. There are nevertheless issues that emerge across countries, which would benefit from action at an international level, notably in the areas of protecting certain aspects of basic working conditions for academics, safeguarding academic freedom, addressing incentive structures affecting academic work (university rankings) and asymmetric international mobility flows. International sharing of good practices and comparative work could help countries to address many of the challenges highlighted in this evidence review. There is more scope for possible changes at the level of individual higher education systems, in areas such as system governance and the funding mechanisms that shape institutional and individual behaviours. As some policy examples show, resolving these issues and improving the conditions of academics can be advanced through joint action among higher education institutions, through support by public authorities and engagement in social dialogue. Nevertheless, the core of the work needed to address the working conditions and career opportunities of academic staff will involve commitments and action inside higher education institutions.

A good start for policymakers would be to review the *UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel* (1997<sup>[421]</sup>). While the document is not legally binding and was developed more than 25 years ago, many of its policy recommendations are highly relevant for addressing the challenges recognised in this review. The application of the Recommendation is regularly monitored by a committee of experts appointed by UNESCO and the International Labour Organization (ILO). This monitoring has consistently found that the Recommendation is not universally observed (ILO and UNESCO, 2021<sup>[393]</sup>). An additional reference for policymakers is the summary of points of consensus from the ILO Global Dialogue Forum on Employment Terms and Conditions in Tertiary Education that took place in 2018, which engaged tripartite consultations on several key issues raised in this review (ILO, 2018<sup>[422]</sup>).

As shown in policy and practice examples throughout this evidence review, institutions, stakeholder organisations, public authorities and other actors have already developed many policies covering different aspects of academic careers. The ideas presented below are not new but inspired by existing policy and practice.

### Diversifying incentives – promoting parity of esteem for teaching and research

The evidence review has addressed the prevalent bias towards research in incentives for both higher education institutions and individuals. Addressing this issue would require actions on global, system, institutional, and individual levels. The core ideas would be to boost recognition of non-research activities, develop new metrics and include non-measurable components in career appraisal. Section 3 provides examples of existing efforts to achieve this objective. The ease of collection and comparability of certain research metrics complicates the task of building alternative and equally transparent performance-tracking systems.

On the global level, global university rankings play a dominant role and tend to deploy a very limited set of indicators, often with a strong emphasis on research outputs. Where possible, policy should incentivise and support the use of multi-dimensional rankings, allowing for recognition of excellence in various academic activities, and providing alternative sources of prestige for institutions.

On the system level, recognition for non-research activities can be achieved through policy priorities, strategies, regulations, awards, quality assurance and dedicated additional funding. Specific areas which would benefit from a boost in system-level and institutional policies are recognition of teaching and curriculum development, student guidance and support, international collaboration, co-operation with industry, external engagement, and service. Diversifying measures and incentives for institutional performance is necessary to ease the pressure on institutions to deliver specific types of research output and give them the space to adjust their hiring, promotion, and reward structures to reflect their institutional mission and profile.

For the individual academic, the core incentive system is the performance appraisal model. The evidence review has observed increased activity to reform current practices and make the appraisal models multi-dimensional to provide recognition for a wider range of responsibilities, encompassing not only research and teaching, but also service, external engagement, administrative and leadership roles, and international collaboration. Not all academics need to perform all these duties. Various positions might require a different mix of experience and a different performance track record. Existing efforts are already helping to expand the existing set of available indicators and qualitative measures to collect performance data systematically.

New career appraisal models could consider including a contextual perspective, taking into consideration personal circumstances and background, career breaks, obstacles faced by individuals from under-represented groups, and diverse career paths. These approaches could greatly enhance efforts to promote diversity and flexible career paths. Appraisal models should ideally also adopt a developmental perspective, orienting the career appraisal towards improvement, with a focus on professional learning.

### Promoting stability and predictability

The academic career model could prioritise moving more people towards stable positions, while also creating systems with the fewest possible bottlenecks in career progression. An academic career model could offer stable positions from the outset, with multi-year or unlimited contracts already available for junior and intermediate level positions. Following the UNESCO Recommendation, higher education systems could consider developing a tenure track or functional equivalent (UNESCO, 1997, p. 46<sup>[421]</sup>). The progression between different levels should be transparent and predictable. An important element of predictability is also communicating realistic expectations about the feasibility of career progression, especially towards those in the doctoral and postdoctoral phases.

Employment stability for the individual can only be possible if the institution can make longer-term contractual commitments. This would require institutions to have medium to long-term staffing plans, which are only viable if resourcing levels, and regulation changes are predictable. Public authorities need to assess the balance between core and competitive funding and, where feasible, adopt multi-annual budgeting. Furthermore, public authorities should work closely with institutions and their representatives on policy developments and regulations, system planning and conduct foresight exercises.

Further investigation is required to comprehend the role of public policy in managing and strategising human resources within higher education and to determine an effective model for sharing responsibility between autonomous higher education institutions and public authorities. This could pave the way for systems and institutions to formalise their human resource strategies and long-term plans.

Experience has shown that efforts to create stable and predictable academic careers can lead to a lack of flexibility for higher education employers. Any policy initiatives in this area should carefully consider what

level of flexibility should be kept for public authorities, institutions, and individuals to react to new developments.

## Manageable workload

This review has found unsettling evidence about the actual workloads of academics, with the academic sector in many countries characterised by a culture of long working hours, going well beyond contracted working times. While the commitment of academics to their work is exemplary, this finding also suggests that there are elements of their work which are not well planned. Part of the answer lies with better alignment of incentives and career appraisal with the actual workload, reflecting all the additional labour in supporting students, assisting colleagues, administrative and leadership roles, and contributing to the internal and external community. Additionally, the increased use of competitive funding, digitalisation and internationalisation activities has created new demands on academics, which are not always reflected in the existing workload models. The following step is to adjust academics' responsibilities, so they have manageable workloads and individuals' objectives are aligned with actual work. This would allow academics to better support new policy initiatives (such as European Universities Initiative) and have time for professional learning and for international collaboration. Institutions can be encouraged to adjust contracts through changes to regulation of workload and targeted funding designated for specific activities.

Furthermore, institutions can support their academics in their responsibilities, through different forms of assistance and guidance, including technical or administrative support. One example to highlight is teaching and learning centres or other dedicated centres that aid academics with their teaching and can help develop and update curricula and introduce new pedagogical methods and tools. Institutions should also aim to further enhance the capacity of their academics through professional learning.

Lastly, public authorities, institutions, and stakeholder organisations can do more to promote work-life balance in academia. Consistently, working long hours has an association with poorer health outcomes and consequences on productivity (Wong, Chan and Ngan, 2019<sup>[123]</sup>). Additionally, there is a diversity consideration, as women more frequently assume caring responsibilities in the personal domain. Manageable workloads will promote more humanly sustainable academic careers.

## Academic freedom

The encroachment by various actors on academic freedom could be countered by a series of policies that aim to disperse power. Public authorities can first ensure that decisions about accreditation, registration of new study programmes and research funding are made in a transparent and objective way and with adequate expert input. Second, consensual decision-making and network governance could be encouraged, both on the system and institutional levels. Third, institutions and public authorities can do more to protect individual academics either from threats from civil society or abusive use of strategic lawsuits against public participation (SLAPPs). Fourth, working and contractual conditions for academics should create environments conducive to the exercise of academic freedom. Fifth, authorities can encourage transparency in funding or collaboration agreements with the private sector and foreign partners.

## Observance of existing regulations

Any actions aimed to rectify the working conditions of academics should seek to ensure that academics are given the same labour protections as other employees in the country. These protections can be part of local, industry-level or national regulation or international agreements or legislation, such as EU

Directives<sup>1</sup>. There are examples of countries in which protections under these regulations do not apply to academics (ILO, 2018<sub>[20]</sub>). There are examples of national constitutional and supreme courts blocking proposed legislation governing academic careers precisely because of inconsistencies between this legislation and basic labour protections (EELA, 2019<sub>[39]</sub>). Besides ensuring that academics have the same status, more can be done to inform them about their rights, with clarifications on how international and national regulations should be applied in the context of academia and related monitoring exercises.

---

<sup>1</sup> Council Directive 1999/70/EC of 28 June 1999 concerning the framework agreement on fixed-term work concluded by ETUC, UNICE and CEEP; Council Directive 97/81/EC of 15 December 1997 concerning the Framework Agreement on part-time work concluded by UNICE, CEEP and the ETUC; Directive (EU) 2019/1152 of the European Parliament and of the Council of 20 June 2019 on transparent and predictable working conditions in the European Union; Directive 2003/88/EC of the European Parliament and of the Council of 4 November 2003 concerning certain aspects of the organisation of working time; Directive (EU) 2019/1158 of the European Parliament and of the Council of 20 June 2019 on work-life balance for parents and carers.

# References

- Aarnikoivu, M. et al. (2019), “Working outside academia? Perceptions of early-career, fixed-term researchers on changing careers”, *European Journal of Higher Education*, Vol. 9/2, pp. 172-189, <https://doi.org/10.1080/21568235.2018.1548941>. [78]
- Aarrevaara, T., I. Dobson and J. Wikström (2015), “Changing employment and working conditions”, in Fumasoli, T., G. Goastellec and B. Kehm (eds.), *Academic Work and Careers in Europe: Trends, Challenges, Perspectives*, Springer International Publishing, [https://doi.org/10.1007/978-3-319-10720-2\\_5/COVER](https://doi.org/10.1007/978-3-319-10720-2_5/COVER). [23]
- Abramo, G., D. Aksnes and C. D’Angelo (2021), “Gender differences in research performance within and between countries: Italy vs Norway”, *Journal of Informetrics*, Vol. 15/2, p. 101144, <https://doi.org/10.1016/j.joi.2021.101144>. [290]
- Abramo, G., C. D’Angelo and F. Rosati (2015), “The determinants of academic career advancement: Evidence from Italy”, *Science and Public Policy*, p. scu086, <https://doi.org/10.1093/scipol/scu086>. [181]
- Advance HE (2022), *Equality in higher education: statistical reports 2022*, Advance HE, London, <https://www.advance-he.ac.uk/news-and-views/equality-higher-education-statistical-reports-2022> (accessed on 1 March 2023). [269]
- Aksnes, D. and G. Sivertsen (2023), “Global trends in international research collaboration, 1980-2021”, *Journal of Data and Information Science*, Vol. 8/2, pp. 26-42, <https://doi.org/10.2478/jdis-2023-0015>. [375]
- American Association of University Professors (2017), *Trends in The Academic Labor Force 1975-2015*, American Association of University Professors Research Office, [https://www.aaup.org/sites/default/files/Academic\\_Labor\\_Force\\_Trends\\_1975-2015\\_0.pdf](https://www.aaup.org/sites/default/files/Academic_Labor_Force_Trends_1975-2015_0.pdf) (accessed on 27 February 2023). [36]
- American Association of University Professors (2014), *Contingent Appointments and the Academic Profession | AAUP*, American Association of University Professors, <https://www.aaup.org/report/contingent-appointments-and-academic-profession> (accessed on 24 February 2023). [17]
- Amundsen, B. and I. Bergstrøm (2021), *Norwegian researchers work on average 46 hours per week*, <https://sciencenorway.no/academia-work-work-hours/norwegian-researchers-work-on-average-46-hours-per-week/1948588> (accessed on 19 June 2023). [124]
- Amundsen, G., H. Karlsen and S. Lid (2021), *Underviserundersøkelsen 2021 – hovedrapport [The Teachers’ Survey 2021 - main report]*, NOKUT, Oslo, [https://www.nokut.no/globalassets/studiebarometeret/underviserundersokelsen/underviserundersokelsen-2021\\_hovedrapport\\_10-2021.pdf](https://www.nokut.no/globalassets/studiebarometeret/underviserundersokelsen/underviserundersokelsen-2021_hovedrapport_10-2021.pdf) (accessed on 19 July 2023). [204]

- Angervall, P. and D. Beach (2017), “The Exploitation of Academic Work: Women in Teaching at Swedish Universities”, *Higher Education Policy*, Vol. 31/1, pp. 1-17, <https://doi.org/10.1057/s41307-017-0041-0>. [303]
- Angouri, J. (2023), “Transnational collaboration and mobility in higher education: Looking back – looking forward”, *The Guild Insight Paper*, No. 4, The Guild of European Research Intensive Universities and Bern Open Publishing, <https://doi.org/10.48350/183223>. [355]
- Arnhold, N. et al. (2017), *Report 1 - Academic Careers: Learning from good international practice*, The World Bank, Washington DC, <https://documents1.worldbank.org/curated/en/103901524227639207/pdf/125532-v3-WP-P159642-PUBLIC-Focus-on-performance-World-Bank-support-to-higher-education-in-Latvia.pdf> (accessed on 23 February 2023). [5]
- Ashwin, P. (2020), *Transforming University Education: A Manifesto*, Bloomsbury Publishing, London, <https://doi.org/10.5040/9781350157279>. [186]
- Atta-Owusu, K. and R. Fitjar (2021), “What motivates academics for external engagement? Exploring the effects of motivational drivers and organizational fairness”, *Science and Public Policy*, Vol. 49/2, pp. 201-218, <https://doi.org/10.1093/scipol/scab075>. [179]
- Authemayou, C. (2017), *Pédagogie: le défi de la formation des enseignants-chercheurs [Pedagogy: the challenge of training academics]*, L'Etudiant - Educpros, <https://www.letudiant.fr/educpros/entretiens/pedagogie-le-defi-de-la-formation-des-enseignants-chercheurs.html> (accessed on 3 March 2023). [233]
- Babcock, L. et al. (2017), “Gender Differences in Accepting and Receiving Requests for Tasks with Low Promotability”, *American Economic Review*, Vol. 107/3, pp. 714-747, <https://doi.org/10.1257/aer.20141734>. [304]
- Bahia, S. et al. (2017), “The Bologna process and the search for excellence: between rhetoric and reality, the emotional reactions of teachers”, *Teaching in Higher Education*, Vol. 22/4, pp. 467-482, <https://doi.org/10.1080/13562517.2017.1303471>. [175]
- Bahr, A. et al. (2021), “With #IchBinHanna, German academia protests against a law that forces researchers out”, *Nature Human Behaviour*, Vol. 5/9, pp. 1114-1115, <https://doi.org/10.1038/s41562-021-01178-6>. [81]
- Bak, H. and D. Kim (2015), “Too much Emphasis on Research? An Empirical Examination of the Relationship Between Research and Teaching in Multitasking Environments”, *Research in Higher Education*, Vol. 56/8, pp. 843-860, <https://doi.org/10.1007/s11162-015-9372-0>. [153]
- Balleman, B. (2022), *Temporary university contracts rise again, despite protests*, <https://www.utoday.nl/news/72020/temporary-university-contracts-rise-again-despite-protests> (accessed on 28 February 2023). [87]
- Ball, P. (2022), “Imperialism’s long shadow: the UK universities grappling with a colonial past”, *Nature*, Vol. 610/7932, pp. 593-596, <https://doi.org/10.1038/d41586-022-03253-y>. [325]
- Basilotta-Gómez-Pablos, V. et al. (2022), “Teachers’ digital competencies in higher education: a systematic literature review”, *International Journal of Educational Technology in Higher Education*, Vol. 19/1, <https://doi.org/10.1186/s41239-021-00312-8>. [208]
- Beaud, O. (2022), “Academic Freedom in France: A Concept Neglected and Liberties under Threat”, in De Gennaro, I., H. Hofmeister and R. Lüfter (eds.), *Academic Freedom in European Context*, Palgrave Macmillan, Cham, [https://doi.org/10.1007/978-3-030-86931-1\\_9/COVER](https://doi.org/10.1007/978-3-030-86931-1_9/COVER). [411]
- Bello, S., F. Azubuike and O. Akande (2023), “Reputation disparity in teaching and research productivity and rewards in the context of consequences of institutionalization of Publish or Perish culture in academia”, *Higher Education Quarterly*, Vol. 77/3, pp. 574-584, <https://doi.org/10.1111/hequ.12417>. [149]

- Bennett, D. et al. (2017), “What is required to develop career pathways for teaching academics?”, [102]  
*Higher Education*, Vol. 75/2, pp. 271-286, <https://doi.org/10.1007/s10734-017-0138-9>.
- Bentley, P. and S. Kyvik (2012), “Academic work from a comparative perspective: A survey of [90]  
 faculty working time across 13 countries”, *Higher Education*, Vol. 63/4, pp. 529-547,  
<https://doi.org/10.1007/S10734-011-9457-4/TABLES/7>.
- Berbegal-Mirabent, J., M. Mas-Machuca and F. Marimon (2016), “Is research mediating the [152]  
 relationship between teaching experience and student satisfaction?”, *Studies in Higher  
 Education*, Vol. 43/6, pp. 973-988, <https://doi.org/10.1080/03075079.2016.1201808>.
- Bertrand, C. (2014), *Soutenir la transformation pédagogique dans l’enseignement supérieur* [231]  
*[Supporting pedagogical transformation in higher education]*, Ministry of National Education,  
 Higher Education and Research, [https://www.vie-publique.fr/rapport/34320-soutenir-la-  
 transformation-pedagogique-dans-lenseignement-superieur#panel-4](https://www.vie-publique.fr/rapport/34320-soutenir-la-transformation-pedagogique-dans-lenseignement-superieur#panel-4) (accessed on  
 3 March 2023).
- Bhopal, K., H. Brown and J. Jackson (2018), “Should I Stay or Should I Go? BME Academics and [321]  
 the Decision to Leave UK Higher Education”, in *Dismantling Race in Higher Education*,  
 Springer International Publishing, Cham, [https://doi.org/10.1007/978-3-319-60261-5\\_7](https://doi.org/10.1007/978-3-319-60261-5_7).
- Biela, J. et al. (2022), *Evaluation des Professorinnenprogramms des Bundes und der Länder: [340]  
 Dritte Programmphase und Gesamtevaluation [Assessment of Women Professors Programme  
 of the federal and state governments: Third program phase and overall evaluation]*,  
 technopolis group, [https://www.technopolis-group.com/new/evaluation-of-the-women-  
 professors-programme-german-federal-ministry-for-education-and-research-2020-2022/](https://www.technopolis-group.com/new/evaluation-of-the-women-professors-programme-german-federal-ministry-for-education-and-research-2020-2022/)  
 (accessed on 2 March 2023).
- Bleiklie, I. et al. (2011), “New Public Management, Network Governance and the university as a [415]  
 changing professional organization”, in Christensen, T. and P. Laegried (eds.), *The Ashgate  
 Research Companion to New Public Management*, Ashgate, [https://hal-sciencespo.archives-  
 ouvertes.fr/hal-00972968/document](https://hal-sciencespo.archives-ouvertes.fr/hal-00972968/document) (accessed on 11 April 2023).
- BMBF (2022), *Das Professorinnenprogramm (Women Professor Programme)*, Federal Ministry for [341]  
 Education and Research, [https://www.bmbf.de/bmbf/de/forschung/gleichstellung-und-vielfalt-  
 im-wissenschaftssystem/frauen-im-wissenschaftssystem/das-professorinnenprogramm.html](https://www.bmbf.de/bmbf/de/forschung/gleichstellung-und-vielfalt-im-wissenschaftssystem/frauen-im-wissenschaftssystem/das-professorinnenprogramm.html)  
 (accessed on 2 March 2023).
- BMBWF (2018), *Austrian National Development Plan for Public Universities 2019–2024*, Federal [229]  
 Ministry of Education, Science and Research (BMBWF), [https://bmbwf.gv.at/wissenschaft-  
 hochschulen/universitaeten/der-gesamtoesterreichische-universitaetsentwicklungsplan-2019-  
 2024/](https://bmbwf.gv.at/wissenschaft-hochschulen/universitaeten/der-gesamtoesterreichische-universitaetsentwicklungsplan-2019-2024/) (accessed on 3 March 2023).
- Bol, T., M. de Vaan and A. van de Rijt (2018), “The Matthew effect in science funding”, [180]  
*Proceedings of the National Academy of Sciences*, Vol. 115/19, pp. 4887-4890,  
<https://doi.org/10.1073/pnas.1719557115>.
- Boman, J. et al. (2021), *What comes after a PhD? Findings from the DocEnhance survey of [34]  
 doctorate holders on their employment situation, skills match, and the value of the doctorate*,  
 European Science Foundation, Strasbourg, <https://doi.org/10.5281/ZENODO.7188085>.
- Bourabain, D. (2020), “Everyday sexism and racism in the ivory tower: The experiences of early [294]  
 career researchers on the intersection of gender and ethnicity in the academic workplace”,  
*Gender, Work & Organization*, Vol. 28/1, pp. 248-267, <https://doi.org/10.1111/gwao.12549>.
- Boustani, K. and K. Taylor (2020), “Navigating LGBTQ+ discrimination in academia: where do we [308]  
 go from here?”, *The Biochemist*, Vol. 42/3, pp. 16-20, <https://doi.org/10.1042/BIO20200024>.



- Bozzon, R., A. Murgia and B. Poggio (2018), “Gender and precarious careers in academia and research”, in *Gender and Precarious Research Careers*, Routledge, London, <https://doi.org/10.4324/9781315201245-2>. [276]
- Brechelmacher, A. et al. (2015), “The rocky road to tenure – career paths in academia”, in Tatiana Fumasoli, Gaële Goastellec and Barbara M. Kehm (eds.), *Academic Work and Careers in Europe: Trends, Challenges, Perspectives*, Springer International Publishing, [https://doi.org/10.1007/978-3-319-10720-2\\_2/COVER](https://doi.org/10.1007/978-3-319-10720-2_2/COVER). [14]
- Broadbent, K. and G. Strachan (2016), “It’s difficult to forecast your longer term career milestone’: career development and insecure employment for research academics in Australian universities”, *Labour & Industry: a journal of the social and economic relations of work*, Vol. 26/4, pp. 251-265, <https://doi.org/10.1080/10301763.2016.1243438>. [67]
- Broberg, N. (2023), “Which competencies are needed for innovation? A working taxonomy to support the digital and green transitions and deep-tech innovation”, *OECD Education Working paper*, OECD Publishing, Paris, Forthcoming, <https://doi.org/10.1787/19939019>. [423]
- Broberg, N. and G. Golden (2023), “How are OECD governments navigating the digital higher education landscape?: Evidence from a comparative policy survey”, *OECD Education Working Papers*, No. 303, OECD Publishing, Paris, <https://doi.org/10.1787/93468ccb-en>. [207]
- Broucker, B. and K. De Wit (2015), “New Public Management in Higher Education”, in *The Palgrave International Handbook of Higher Education Policy and Governance*, Palgrave Macmillan UK, London, [https://doi.org/10.1007/978-1-137-45617-5\\_4](https://doi.org/10.1007/978-1-137-45617-5_4). [11]
- Brown, N. and J. Leigh (eds.) (2020), *Ableism in Academia*, UCL Press, London, <https://doi.org/10.14324/111.9781787354975>. [327]
- Brown, N. and J. Leigh (2018), “Ableism in academia: where are the disabled and ill academics?”, *Disability & Society*, Vol. 33/6, pp. 985-989, <https://doi.org/10.1080/09687599.2018.1455627>. [328]
- Bullock, A. and R. Hughes (2016), *Knowledge exchange and the social sciences: a report to ESRC*, University of Cambridge: Centre for Business Research, Cambridge, <https://www.ukri.org/wp-content/uploads/2021/07/ESRC-210721-KnowledgeExchangeAndTheSocialSciences.pdf> (accessed on 1 March 2023). [117]
- Bunescu, L. and M. Gaebel (2018), *National Initiatives in Learning and Teaching in Europe A report from the European Forum for Enhanced Collaboration in Teaching (EFFECT) project*, European University Association, Brussels, <https://eua.eu/downloads/publications/national%20initiatives%20in%20learning%20and%20teaching%20in%20europe.pdf> (accessed on 28 February 2023). [171]
- Burchell, D., T. Franz-Odenaal and P. Joy (2023), ““I never want to leave part of myself at the doorstep”: Experiences of Canadian LGBTQ2S+ postdoctoral scholars in the sciences”, *International Journal of Gender, Science and Technology*, Vol. 14/1, pp. 19-39, <https://genderandset.open.ac.uk/index.php/genderandset/article/view/1137> (accessed on 7 September 2023). [309]
- Cabero, I. and I. Epifanio (2021), “A Data Science Analysis of Academic Staff Workload Profiles in Spanish Universities: Gender Gap Laid Bare”, *Education Sciences*, Vol. 11/7, p. 317, <https://doi.org/10.3390/educsci11070317>. [111]
- Cadez, S., V. Dimovski and M. Zaman Groff (2015), “Research, teaching and performance evaluation in academia: the salience of quality”, *Studies in Higher Education*, Vol. 42/8, pp. 1455-1473, <https://doi.org/10.1080/03075079.2015.1104659>. [150]
- Cannizzaro, S., S. Ball and N. Rachel–Naseem (2018), *Report on a comparative analysis of current practices in Erasmus Staff mobility at European HEIs*, Middlesex University, London. [356]

- Carbado, D. et al. (2013), “Intersectionality”, *Du Bois Review: Social Science Research on Race*, Vol. 10/2, pp. 303-312, <https://doi.org/10.1017/s1742058x13000349>. [330]
- Carlsson, M. et al. (2020), “Gender Bias in Academic Recruitment? Evidence from a Survey Experiment in the Nordic Region”, *European Sociological Review*, Vol. 37/3, pp. 399-410, <https://doi.org/10.1093/esr/jcaa050>. [296]
- Carvalho, T. (2021), “Deteriorating working conditions in academia – the best way to secure meritocracy?”, *INTED2021 Proceedings, INTED Proceedings*, <https://doi.org/10.21125/inted.2021.1861>. [48]
- Casual Academy (2022), *Casualisation in Dutch Academia: Testimonials from the Margins*, Casual Academy, <https://casualacademy.nl/wp-content/uploads/2022/10/Casualisation-in-Dutch-Academia-October-2022.pdf> (accessed on 14 June 2023). [69]
- Chalmers, D. (2011), “Progress and challenges to the recognition and reward of the Scholarship of Teaching in higher education”, *Higher Education Research & Development*, Vol. 30/1, pp. 25-38, <https://doi.org/10.1080/07294360.2011.536970>. [173]
- Charret, A. (2022), *European Universities Initiative faces many barriers*, <https://www.universityworldnews.com/post.php?story=2022011110355163> (accessed on 24 July 2023). [383]
- Chen, K., Z. Hansen and S. Lowe (2019), “Why Do We Inflate Grades?”, *Journal of Human Resources*, Vol. 56/3, pp. 878-921, <https://doi.org/10.3368/jhr.56.3.0518-9493r2>. [66]
- Chen, S. (2023), “Coming out at work: transgender scientists share their stories”, *Nature*, Vol. 618/7966, pp. 871-873, <https://doi.org/10.1038/d41586-023-01908-y>. [307]
- Cidlinská, K. and Z. Zilincikova (2022), “Thinking about leaving an academic career: gender differences across career stages”, *European Journal of Higher Education*, pp. 1-22, <https://doi.org/10.1080/21568235.2022.2157854>. [274]
- Civera, A. et al. (2023), “The Attractiveness of European Higher Education Systems: A Comparative Analysis of Faculty Remuneration and Career Paths”, *Research and Occasional Papers Series*, UC Berkeley: Center for Studies in Higher Education, Berkeley, <https://escholarship.org/uc/item/08x00432> (accessed on 15 June 2023). [108]
- Claeys-Kulik, A., T. Jørgensen and H. Stöber (2020), *International strategic institutional partnerships and the European Universities Initiative (Results of the EUA survey)*, European University Association, Brussels, <https://eua.eu/downloads/publications/eua%20international%20partnerships%20survey.pdf> (accessed on 4 September 2023). [351]
- Clarke, M. (2021), “Employing industry experts as casual academics: value-adding or undervalued?”, *Labour & Industry: a journal of the social and economic relations of work*, Vol. 31/2, pp. 152-170, <https://doi.org/10.1080/10301763.2021.1979888>. [62]
- Clavero, S. and Y. Galligan (2021), “Delivering gender justice in academia through gender equality plans? Normative and practical challenges”, *Gender, Work & Organization*, Vol. 28/3, pp. 1115-1132, <https://doi.org/10.1111/gwao.12658>. [336]
- CoARA (2022), *About - COARA*, <https://coara.eu/about/> (accessed on 28 February 2023). [141]
- Collazo Expósito, L. and J. Granados Sánchez (2020), “Implementation of SDGs in University Teaching: A Course for Professional Development of Teachers in Education for Sustainability for a Transformative Action”, *Sustainability*, Vol. 12/19, p. 8267, <https://doi.org/10.3390/su12198267>. [236]

- Colucci, E. et al. (2014), *Connecting mobility policies and practice: Observations and recommendations on national and institutional developments in Europe*, European University Association, <https://eua.eu/resources/publications/374:connecting-mobility-policies-and-practice-observations-and-recommendations-on-national-and-institutional-developments-in-europe.html> (accessed on 16 March 2023). [352]
- Compagnucci, L. and F. Spigarelli (2020), “The Third Mission of the university: A systematic literature review on potentials and constraints”, *Technological Forecasting and Social Change*, Vol. 161, p. 120284, <https://doi.org/10.1016/j.techfore.2020.120284>. [115]
- Condon, W. et al. (2016), *Faculty Development and Student Learning: Assessing the Connections*, Indiana University Press, Bloomington, <https://www.jstor.org/stable/j.ctt189tv5f> (accessed on 3 February 2023). [210]
- Coppedge, M. et al. (2023), *V-Dem [Country-Date] Dataset v13*, Varieties of Democracy (V-Dem), <https://doi.org/10.23696/vdemds23> (accessed on 7 April 2023). [399]
- Courtois, A. and T. O’Keefe (2015), “Precarity in the ivory cage: Neoliberalism and casualisation of work in the Irish higher education sector”, *Journal for Critical Education Policy Studies*, Vol. 13/1, pp. 43-66, <http://www.jceps.com/archives/2458> (accessed on 14 June 2023). [51]
- Crew, T. (2020), *Higher Education and Working-Class Academics*, Springer International Publishing, Cham, <https://doi.org/10.1007/978-3-030-58352-1>. [314]
- Crowder, M. and M. Mouratidou (2020), “Career transitions from industry to academia”, in *Modern Day Challenges in Academia*, Edward Elgar Publishing, <https://doi.org/10.4337/9781788119191.00009>. [252]
- Cuthill, F. (ed.) (2020), “Research performance and age explain less than half of the gender pay gap in New Zealand universities”, *PLOS ONE*, Vol. 15/1, p. e0226392, <https://doi.org/10.1371/journal.pone.0226392>. [297]
- da Costa Pinto, I., S. Gómez Recio and C. Colella (2022), *Rethinking Academic careers: cultural change as a key bottleneck to be addressed*, YERUN, Brussels, <https://yerun.eu/wp-content/uploads/2022/06/YERUN-RethinkingAcademicVFinalSpreads.pdf> (accessed on 6 July 2023). [193]
- De Angelis, G. and B. Grüning (2020), “Gender Inequality in Precarious Academic Work: Female Adjunct Professors in Italy”, *Frontiers in Sociology*, Vol. 4, p. 87, <https://doi.org/10.3389/FSOC.2019.00087/BIBTEX>. [275]
- de Groot, J. and R. Kouwenaar (2018), *Professionalisation of university lecturers The UTQ and beyond*, Universities of the Netherlands, The Hague, <https://www.universiteitenvannederland.nl/files/documenten/Professionalisation%20of%20university%20lecturers.pdf> (accessed on 5 March 2023). [205]
- de Wit, H. and P. Altbach (2020), “Internationalization in higher education: global trends and recommendations for its future”, *Policy Reviews in Higher Education*, Vol. 5/1, pp. 28-46, <https://doi.org/10.1080/23322969.2020.1820898>. [342]
- Dec, G. et al. (2022), “Role of Academics in Transferring Knowledge and Skills on Artificial Intelligence, Internet of Things and Edge Computing”, *Sensors*, Vol. 22/7, p. 2496, <https://doi.org/10.3390/s22072496>. [220]
- Demeter, M. (2019), “The World-Systemic Dynamics of Knowledge Production: The Distribution of Transnational Academic Capital in the Social Sciences”, *Journal of World-Systems Research*, Vol. 25/1, pp. 111-144, <https://doi.org/10.5195/jwsr.2019.887>. [385]
- Deryugina, T., O. Shurchkov and J. Stearns (2021), “COVID-19 Disruptions Disproportionately Affect Female Academics”, *AEA Papers and Proceedings*, Vol. 111, pp. 164-168, <https://doi.org/10.1257/pandp.20211017>. [300]

- DGESIP (2019), *Les lieux inspirants de l'Enseignement supérieur [Inspirational places of higher education]*, Ministry of National Education, Higher Education and Research, <https://inspiration.dgesip.fr/Espaces/Accueil/> (accessed on 3 March 2023). [232]
- Diogo, S., T. Carvalho and A. Queirós (2022), "Teaching and Research in the Knowledge Society: Exploring Academics' Trade-Offs Through National Comparative Perspectives", in *The Changing Academy – The Changing Academic Profession in International Comparative Perspective, Teaching and Research in the Knowledge-Based Society*, Springer International Publishing, Cham, [https://doi.org/10.1007/978-3-031-04439-7\\_6](https://doi.org/10.1007/978-3-031-04439-7_6). [43]
- Docquier, F. and H. Rapoport (2012), "Globalization, Brain Drain, and Development", *Journal of Economic Literature*, Vol. 50/3, pp. 681-730, <https://doi.org/10.1257/jel.50.3.681>. [358]
- Doležal, J. (2022), *Why Faculty of Color Are Leaving Academe*, [https://www.chronicle.com/article/why-faculty-of-color-are-leaving-academe?cid=gen\\_sign\\_in](https://www.chronicle.com/article/why-faculty-of-color-are-leaving-academe?cid=gen_sign_in) (accessed on 13 July 2023). [323]
- Dupree, C. and C. Boykin (2021), "Racial Inequality in Academia: Systemic Origins, Modern Challenges, and Policy Recommendations", *Policy Insights from the Behavioral and Brain Sciences*, Vol. 8/1, pp. 11-18, <https://doi.org/10.1177/2372732220984183>. [324]
- EC (2022), "Accompanying the documents Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on a European strategy for universities and the Commission Proposal for a Council Recommendation on building bridges for effective European higher education cooperation", *Staff Working Document*, No. 52022SC0006, European Commission, Directorate-General for Research and Innovation, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52022SC0006> (accessed on 4 September 2023). [382]
- EC (2022), *Commission Communication on a European strategy for universities*, European Commission, Strasbourg, <https://education.ec.europa.eu/document/commission-communication-on-a-european-strategy-for-universities> (accessed on 23 February 2023). [2]
- EC (2022), *Tackling R&I foreign interference: staff working document*, European Commission, Directorate-General for Research and Innovation, <https://doi.org/10.2777/513746>. [420]
- EC (2021), *Factsheets and statistics on Erasmus+*, European Commission, Erasmus+ EU programme for education, training, youth and sport, [https://erasmus-plus.ec.europa.eu/resources-and-tools/statistics-and-factsheets?pk\\_source=website&pk\\_medium=link&pk\\_campaign=resources&pk\\_content=resources-facts](https://erasmus-plus.ec.europa.eu/resources-and-tools/statistics-and-factsheets?pk_source=website&pk_medium=link&pk_campaign=resources&pk_content=resources-facts) (accessed on 16 March 2023). [349]
- EC (2021), *MORE4 : support data collection and analysis concerning mobility patterns and career paths of researchers : survey on researchers in European higher education institutions*, European Commission - Directorate-General for Research and Innovation, Luxembourg: Publications Office, <https://op.europa.eu/en/publication-detail/-/publication/487036ad-bdd1-11eb-8aca-01aa75ed71a1/language-en/format-PDF/source-search> (accessed on 6 March 2023). [243]
- EC (2021), *She figures 2021: gender in research and innovation: statistics and indicators*, European Commission - Directorate-General for Research and Innovation, Luxembourg, <https://data.europa.eu/doi/10.2777/06090> (accessed on 1 March 2023). [264]
- EC (2020), *Prospective report on the future of transnational collaboration in European higher education*, Directorate General for Education, Youth, Sport and Culture - European Commission, <https://data.europa.eu/doi/10.2766/098140> (accessed on 4 September 2023). [377]

- EC (2019), “Erasmus+ higher education impact study: Final report”, *European Commission, Directorate-General for Education, Youth, Sport and Culture*, [362]  
<https://op.europa.eu/en/publication-detail/-/publication/94d97f5c-7ae2-11e9-9f05-01aa75ed71a1/language-en/format-PDF/source-282035412> (accessed on 16 March 2023).
- EC (2019), *MORE 4 study*, European Commission, <https://www.more-4.eu/indicator-tool> [242]  
 (accessed on 24 July 2023).
- EC (2018), *MORE3 study: support data collection and analysis concerning mobility patterns and career paths of researchers*, European Commission - Directorate-General for Research and Innovation, Luxembourg, <https://doi.org/doi/10.2777/710643>. [104]
- EC (2000), *Science policies in the European Union : Promoting excellence through mainstreaming gender equality: A report from the ETAN expert working group on women and science.*, European Commission - Directorate-General for Research and Innovation, [263]  
<https://op.europa.eu/en/publication-detail/-/publication/4d456ad0-abb8-41a2-9d21-dbd5381f1f4c/language-en> (accessed on 1 March 2023).
- EC, EACEA and Eurydice (2018), *The European higher education area in 2018: Bologna Process implementation report*, Publications Office of the European Union, Luxembourg. [146]
- EDAP (2023), *REF 2021- Analysis of inclusion for submission, representation in outputs attribution and scoring*, Equality and Diversity Advisory Panel - REF, [293]  
<https://www.ref.ac.uk/publications-and-reports/analysis-of-inclusion-for-submission-representation-in-outputs-attribution-and-scoring/> (accessed on 18 July 2023).
- EELA (2019), *2019/45 Usage of fixed-term employment contracts for professors restricted*, European Employment Lawyers Association, [https://eela.eelc-updates.com/case\\_reports/eelc-2019-317526](https://eela.eelc-updates.com/case_reports/eelc-2019-317526) [39]  
 (accessed on 27 February 2023).
- Egron-Polak, E. et al. (2015), *Internationalisation of higher education*, European Parliament, Brussels, <https://data.europa.eu/doi/10.2861/444393> (accessed on 4 September 2023). [343]
- Enders, J. (1998), “Academic Staff Mobility in the European Community: The ERASMUS Experience”, *Comparative Education Review*, Vol. 42/1, pp. 46-60, [386]  
<https://doi.org/10.1086/447478>.
- Escrivà-Beltran, M., J. Muñoz-de-Prat and C. Villó (2019), “Insights into international branch campuses: Mapping trends through a systematic review”, *Journal of Business Research*, Vol. 101, pp. 507-515, <https://doi.org/10.1016/j.jbusres.2018.12.049>. [379]
- Estrellado, J., A. Breen and G. Rider (2019), *The “Double Burden” Facing Nonbinary Faculty and Graduate Students*, <https://medium.com/national-center-for-institutional-diversity/the-double-burden-facing-nonbinary-faculty-and-graduate-students-1d824f78e080> [305]  
 (accessed on 18 July 2023).
- ETER (2023), *ETER Database*, ETER Project, <https://www.eter-project.com/data-for-download-and-visualisations/database/> [266]  
 (accessed on 2 March 2023).
- EU (2012), *Charter of Fundamental Rights of the European Union*, Official Journal of the European Union, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:12012P/TXT> [389]  
 (accessed on 28 March 2023).
- EUA (2019), “Career paths in teaching - Thematic Peer Group Report”, *Learning and Teaching Paper*, No. 2, European University Association, Brussels, [92]  
<https://eua.eu/resources/publications/808:career-paths-in-teaching-thematic-peer-group-report.html> (accessed on 27 February 2023).

- Eurydice (2023), *Poland: Conditions of service for academic staff working in higher education*, National Education Systems, <https://eurydice.eacea.ec.europa.eu/national-education-systems/poland/conditions-service-academic-staff-working-higher-education> (accessed on 27 February 2023). [135]
- Eurydice (2023), *Spain: Conditions of service for academic staff working in higher education*, National Education Systems, <https://eurydice.eacea.ec.europa.eu/national-education-systems/spain/conditions-service-academic-staff-working-higher-education> (accessed on 27 February 2023). [136]
- Eurydice (2022), *Austria: National reforms in higher education*, National Education Systems, <https://eurydice.eacea.ec.europa.eu/national-education-systems/austria/national-reforms-higher-education> (accessed on 27 February 2023). [83]
- Eurydice (2022), *Latvia: Continuing professional development for academic staff working in higher education*, National Education Systems, <https://eurydice.eacea.ec.europa.eu/national-education-systems/latvia/continuing-professional-development-academic-staff-working-higher-education> (accessed on 20 July 2023). [235]
- Eurydice (2022), *Switzerland: Administration and governance at central and/or regional level*, National Education Systems, <https://eurydice.eacea.ec.europa.eu/national-education-systems/switzerland/administration-and-governance-central-and-or-regional-level> (accessed on 11 April 2023). [416]
- Eurydice and D. Crosier (2019), “Modernisation of higher education in Europe: Academic staff 2017”, *Eurydice Brief*, European Education and Culture Executive Agency/Publications Office of the European Union, <https://data.europa.eu/doi/10.2797/806308> (accessed on 23 February 2023). [6]
- Federal Law Gazette (2021), *Federal Act on the Organisation of Universities and their Studies (Universities Act 2002)*, [https://www.ris.bka.gv.at/Dokumente/ErV/ERV\\_2002\\_1\\_120/ERV\\_2002\\_1\\_120.pdf](https://www.ris.bka.gv.at/Dokumente/ErV/ERV_2002_1_120/ERV_2002_1_120.pdf) (accessed on 3 March 2023). [228]
- Fernández-Zubieta, A., A. Geuna and C. Lawson (2015), “Productivity pay-offs from academic mobility: should I stay or should I go?”, *Industrial and Corporate Change*, Vol. 25/1, pp. 91-114, <https://doi.org/10.1093/icc/dtv034>. [247]
- Feuvre, N. et al. (2018), “The gendered diversification of academic career paths in comparative perspective”, in *Gender and Precarious Research Careers*, Routledge, London, <https://doi.org/10.4324/9781315201245-3>. [279]
- Finkelstein, M. and G. Jones (2019), “Introduction: The Academic Profession Enters a New Global Era”, in Finkelstein, M. and G. Jones (eds.), *Professorial pathways : higher education systems and academic careers in comparative perspective*, Johns Hopkins University Press, Baltimore, [https://books.google.com/books/about/Professorial\\_Pathways.html?id=5G6KDwAAQBAJ](https://books.google.com/books/about/Professorial_Pathways.html?id=5G6KDwAAQBAJ) (accessed on 23 February 2023). [3]
- Flander, A., M. Klemenčič and S. Kočar (2020), *Academic profession in knowledge societies (APIKS) and the conditions of academic work in Slovenia. Findings from the 2018 survey, Findings from the 2018 survey, CMEPIUS Analytical Report.*, Centre of the Republic of Slovenia for Mobility and European Educational and Training Programmes (CMEPIUS), Ljubljana, [https://www.cmepius.si/wp-content/uploads/2021/04/APIKS\\_2020\\_ANG-1.pdf](https://www.cmepius.si/wp-content/uploads/2021/04/APIKS_2020_ANG-1.pdf) (accessed on 19 June 2023). [127]
- Flander, A., N. Rončević and S. Kočar (2020), “How Teaching and Research Nexus in Academic Attitudes, Behaviours and System of Promotion Influences Academic Satisfaction? Case Study of Croatia and Slovenia”, *Higher Education Forum*, Vol. 17, pp. 177-205, <https://doi.org/10.15027/48960>. [106]

- Frame, A. and B. Curylo (2022), “Bringing Erasmus home: the European universities initiative as an example of ‘Everyday Europeanhood’”, *Journal of Contemporary European Studies*, pp. 1-16, <https://doi.org/10.1080/14782804.2022.2134986>. [384]
- Franco-Santos, M. and N. Doherty (2017), “Performance management and well-being: a close look at the changing nature of the UK higher education workplace”, *The International Journal of Human Resource Management*, Vol. 28/16, pp. 2319-2350, <https://doi.org/10.1080/09585192.2017.1334148>. [132]
- Freeman, J. (2023), *What’s going on with the Higher Education (Freedom of Speech) Bill?*, HEPI, London, <https://www.hepi.ac.uk/2023/02/01/whats-going-on-with-the-freedom-of-speech-bill%E2%80%9C/> (accessed on 11 July 2023). [396]
- French Ministry of Higher Education (2021), *Les CIFRE (The CIFRE)*, Ministry of National Education, Higher Education and Research, <https://www.enseignementsup-recherche.gouv.fr/fr/les-cifre-46510> (accessed on 6 March 2023). [259]
- Friedman, S. and D. Laurison (2019), *The class ceiling*, Policy Press, <https://doi.org/10.2307/j.ctv5zftbj>. [313]
- Frølich, N. et al. (2018), *Academic career structures in Europe. Perspectives from Norway, Denmark, Sweden, Finland, the Netherlands, Austria and the UK*, Nordic Institute for Studies in Innovation, Research and Education (NIFU). [200]
- FSO (2022), *External and internal appointments of professors by university and sex, 2019-2021 [Table]*, Federal Statistical Office, Neuchâtel, <https://www.bfs.admin.ch/bfs/en/home/statistics/education-science/educational-staff/tertiary-higher-institutions/universities.html> (accessed on 5 March 2023). [144]
- Fumasoli, T. and G. Goastellec (2015), “Global models, disciplinary and local patterns in academic recruitment processes”, in Fumasoli, T., G. Goastellec and B. Kehm (eds.), *Academic Work and Careers in Europe: Trends, Challenges, Perspectives*, Springer International Publishing, [https://doi.org/10.1007/978-3-319-10720-2\\_4/COVER](https://doi.org/10.1007/978-3-319-10720-2_4/COVER). [246]
- Gaebel, M. et al. (2018), *Learning and teaching in the European Higher Education Area*, European University Association, Brussels, <http://www.eua.eu> (accessed on 27 February 2023). [160]
- Gaebel, M., T. Zhang and R. Iucu (2020), “Advancing Learning and Teaching in the EHEA: Innovation and Links with Research”, in *European Higher Education Area: Challenges for a New Decade*, Springer International Publishing, Cham, [https://doi.org/10.1007/978-3-030-56316-5\\_18](https://doi.org/10.1007/978-3-030-56316-5_18). [159]
- Galán-Muros, V., M. Bouckaert and J. Roser (2023), “The representation of women in academia and higher education management positions”, *UNESCO-IESALC Policy Brief Series*, UNESCO-IESALC, [https://www.iesalc.unesco.org/wp-content/uploads/2023/03/PB-Gender\\_final\\_EN.pdf](https://www.iesalc.unesco.org/wp-content/uploads/2023/03/PB-Gender_final_EN.pdf) (accessed on 12 July 2023). [337]
- Garry, P. (2023), “Threats to Academic Freedom in Higher Education”, *Society*, Vol. 60/2, pp. 176-180, <https://doi.org/10.1007/s12115-023-00821-4>. [409]
- Gibney, E. (2022), “How UK science is failing Black researchers — in nine stark charts”, *Nature*, Vol. 612/7940, pp. 390-395, <https://doi.org/10.1038/d41586-022-04386-w>. [318]
- Gibney, E. (2017), “Teaching load could put female scientists at career disadvantage”, *Nature*, <https://doi.org/10.1038/nature.2017.21839>. [109]
- Gill, R. (2016), “Breaking the silence: The hidden injuries of neo-liberal academia”, *Feministische Studien*, Vol. 34/1, pp. 39-55, <https://doi.org/10.1515/fs-2016-0105>. [101]

- Golden, G., L. Troy and T. Weko (2021), “How are higher education systems in OECD countries resourced?: Evidence from an OECD Policy Survey”, *OECD Education Working Papers*, No. 259, OECD Publishing, Paris, <https://doi.org/10.1787/0ac1fbad-en>. [32]
- Götze, N. and C. Schneijderberg (2022), “Metrical Valorization of Performance (MeVoP): The Funding-Induced Vertical Stratification and the Construction of Post-Humboldtian Research-Teaching Nexus in German Higher Education Institutions”, in *The Changing Academy – The Changing Academic Profession in International Comparative Perspective, Teaching and Research in the Knowledge-Based Society*, Springer International Publishing, Cham, [https://doi.org/10.1007/978-3-031-04439-7\\_4](https://doi.org/10.1007/978-3-031-04439-7_4). [94]
- Government of the Netherlands (2022), *Beleidsbrief Hoger Onderwijs en Wetenschap – Tweede Kamer (Policy letter on higher education and science to House of Representatives)*, <https://www.rijksoverheid.nl/documenten/kamerstukken/2022/06/17/aan-de-tweede-kamer-beleidsbrief-hoger-onderwijs-en-wetenschap> (accessed on 9 July 2022). [79]
- Graham, R. (2018), *The Career Framework for University Teaching: background and overview*, Royal Academy of Engineering, London, <https://www.teachingframework.com/resources/Career-Framework-University-Teaching-April-2018.pdf> (accessed on 6 July 2023). [198]
- Groen-Xu, M. et al. (2023), “Short-term incentives of research evaluations: Evidence from the UK Research Excellence Framework”, *Research Policy*, Vol. 52/6, p. 104729, <https://doi.org/10.1016/j.respol.2023.104729>. [156]
- Grove, J. (2023), *REF 2021: female academics ‘much less likely’ to be submitted*, <https://www.timeshighereducation.com/news/ref-2021-female-academics-much-less-likely-be-submitted#:~:text=Overall%2C%20while%20women%20represented%2042,Advisory%20Panel%20on%2013%20July>. (accessed on 18 July 2023). [292]
- Groves, T., E. López and T. Carvalho (2017), “The impact of international mobility as experienced by Spanish academics”, *European Journal of Higher Education*, Vol. 8/1, pp. 83-98, <https://doi.org/10.1080/21568235.2017.1388187>. [370]
- Guarino, C. and V. Borden (2017), “Faculty Service Loads and Gender: Are Women Taking Care of the Academic Family?”, *Research in Higher Education*, Vol. 58/6, pp. 672-694, <https://doi.org/10.1007/s11162-017-9454-2>. [302]
- Gunn, A. (2018), “Metrics and methodologies for measuring teaching quality in higher education: developing the Teaching Excellence Framework (TEF)”, *Educational Review*, Vol. 70/2, pp. 129-148, <https://doi.org/10.1080/00131911.2017.1410106>. [176]
- Hajdarpasic, A., A. Brew and S. Popenici (2013), “The contribution of academics’ engagement in research to undergraduate education”, *Studies in Higher Education*, Vol. 40/4, pp. 644-657, <https://doi.org/10.1080/03075079.2013.842215>. [103]
- Hall, S. (2023), “A mental-health crisis is gripping science — toxic research culture is to blame”, *Nature*, Vol. 617/7962, pp. 666-668, <https://doi.org/10.1038/d41586-023-01708-4>. [70]
- Harrison, R. et al. (2020), “Evaluating and enhancing quality in higher education teaching practice: a meta- review”, *Studies in Higher Education*, Vol. 47/1, pp. 80-96, <https://doi.org/10.1080/03075079.2020.1730315>. [164]
- Haupt, J. (2021), “Short-Term Internationally Mobile Academics and Their Research Collaborations Upon Return: Insights From the Fulbright U.S. Scholar Program”, *Journal of Studies in International Education*, Vol. 26/4, pp. 511-530, <https://doi.org/10.1177/1028315321990760>. [367]



- Haynes, K., J. Metcalfe and M. Yilmaz (2016), *What do research staff do next?*, Vitae, [249]  
<https://www.vitae.ac.uk/vitae-publications/reports/vitae-what-do-research-staff-do-next-2016.pdf> (accessed on 21 July 2023).
- HEA (2021), *Higher Education Institutional Staff Profiles by Sex and Gender (Dataset)*, HEA - [26]  
 Centre of Excellence for Equality, Diversity, and Inclusion,  
<https://hea.ie/policy/gender/statistics/higher-education-institutional-staff-profiles-by-sex-and-gender/> (accessed on 24 February 2023).
- HEA (2014), *Review of workload allocation models in Irish Higher Education Institutions*, Higher [138]  
 Education Authority, Dublin.
- Heffernan, T. and P. Harpur (2023), “Discrimination against academics and career implications of [170]  
 student evaluations: university policy versus legal compliance”, *Assessment & Evaluation in  
 Higher Education*, pp. 1-12, <https://doi.org/10.1080/02602938.2023.2225806>.
- Hein, J. et al. (2021), “Higher Education Instructors’ Usage of and Learning From Student [167]  
 Evaluations of Teaching – Do Achievement Goals Matter?”, *Frontiers in Psychology*, Vol. 12,  
<https://doi.org/10.3389/fpsyg.2021.652093>.
- Heinrich, E. and R. Bourke (eds.) (2020), *Moving academia beyond the gender binary*, Higher [306]  
 Education Research and Development Society of Australasia, Auckland,  
<https://blogs.surrey.ac.uk/doctoral-college-equality-diversity-inclusion/wp-content/uploads/sites/122/2021/04/eldridge2020.pdf> (accessed on 18 July 2023).
- Helms, R. et al. (2015), “Internationalizing Higher Education Worldwide: National Policies and [387]  
 Programs”, *American Council on Education*,  
[https://www.researchgate.net/publication/313428029\\_Internationalizing\\_Higher\\_Education\\_Worldwide\\_National\\_Policies\\_and\\_Programs](https://www.researchgate.net/publication/313428029_Internationalizing_Higher_Education_Worldwide_National_Policies_and_Programs) (accessed on 16 March 2023).
- Hengel, E. (2017), “Publishing while Female. Are women held to higher standards? Evidence from [283]  
 peer review.”, *Cambridge Working Papers in Economics*, No. 1753, University of Cambridge,  
 Cambridge, <https://doi.org/10.17863/CAM.17548>.
- HESA (2023), *Table 23 - Academic staff starters and leavers 2014/15 to 2021/22 [Table]*, Higher [244]  
 Education Statistics Agency, London, <https://www.hesa.ac.uk/data-and-analysis/staff/table-23>  
 (accessed on 5 March 2023).
- HESA (2022), *Figure 3 - All staff (excluding atypical) by mode of employment and hourly paid [27]  
 marker 2021/22 (Dataset)*, Higher Education Staff Statistics, London,  
<https://www.hesa.ac.uk/data-and-analysis/sb264/figure-3> (accessed on 24 February 2023).
- Hitch, D., P. Mahoney and S. Macfarlane (2017), “Professional development for sessional staff in [60]  
 higher education: a review of current evidence”, *Higher Education Research & Development*,  
 Vol. 37/2, pp. 285-300, <https://doi.org/10.1080/07294360.2017.1360844>.
- Hnatkova, E. et al. (2022), “Labour market perspectives for PhD graduates in Europe”, *European [251]  
 Journal of Education*, Vol. 57/3, pp. 395-409, <https://doi.org/10.1111/ejed.12514>.
- Honeycutt, N., S. Stevens and E. Kaufmann (2023), *The Academic Mind in 2022: What Faculty [414]  
 Think About Free Expression and Academic Freedom on Campus*, The Foundation for  
 Individual Rights and Expression, Philadelphia, <https://www.thefire.org/research-learn/academic-mind-2022-what-faculty-think-about-free-expression-and-academic-freedom>  
 (accessed on 11 April 2023).
- Hopkins, A. (2020), “Family Leave for Researchers at LERU Universities”, *Advice Paper*, No. 28, [338]  
 LERU Thematic Group Equality, Diversity & Inclusion,  
<https://www.leru.org/files/Publications/LERU-Family-Leave-Paper-Final.pdf> (accessed on  
 19 July 2023).

- Horváth, L. et al. (2020), *Teach with Erasmus+ Research Report*, ELTE Eötvös Loránd University Department of Erasmus+ and International Programmes, Budapest, <https://teachwitherasmus.eu/sites/default/files/2020-04/TWEResearchReport.pdf> (accessed on 24 July 2023). [372]
- Ho, S., M. Klemenčič and E. Bello (2023), “International Dimensions in Teaching and Learning”, in Çalikoğlu, A., G. Jones and Y. Kim (eds.), *Internationalization and the Academic Profession*, Springer, Cham, [https://doi.org/10.1007/978-3-031-26995-0\\_2](https://doi.org/10.1007/978-3-031-26995-0_2). [354]
- Hovdhaugen, E. and H. Gunnes (2019), “What ETER tells us about gender balance among academic staff in European HEIs”, *ETER brief*, No. 6, European Tertiary Education Register (ETER), <http://www.eter-project.com> (accessed on 1 March 2023). [267]
- Huang, F. et al. (2023), “Academics with International Educational and Research Experiences: Differences Across Countries?”, in *The Changing Academy – The Changing Academic Profession in International Comparative Perspective*, *Internationalization and the Academic Profession*, Springer International Publishing, Cham, [https://doi.org/10.1007/978-3-031-26995-0\\_6](https://doi.org/10.1007/978-3-031-26995-0_6). [346]
- Huang, J. et al. (2020), “Historical comparison of gender inequality in scientific careers across countries and disciplines”, *Proceedings of the National Academy of Sciences*, Vol. 117/9, pp. 4609–4616, <https://doi.org/10.1073/pnas.1914221117>. [291]
- Hungarian National Assembly (2016), *Act CCIV of 2011 on National Higher Education*, [https://www.mab.hu/wp-content/uploads/Nftv\\_angol\\_2Sept2016\\_EMMI-forditas.pdf](https://www.mab.hu/wp-content/uploads/Nftv_angol_2Sept2016_EMMI-forditas.pdf) (accessed on 27 February 2023). [134]
- Hurlburt, S. and M. McGarrah (2016), *The Shifting Academic Workforce: Where Are the Contingent Faculty?*, TIAA Institute, <https://www.air.org/sites/default/files/downloads/report/Shifting-Academic-Workforce-November-2016.pdf> (accessed on 27 February 2023). [58]
- Hutchens, N. and F. Fernandez (2023), *Florida’s Universities Can’t Have It Both Ways*, <https://www.insidehighered.com/views/2023/03/20/academic-freedom-policies-should-mean-something-opinion> (accessed on 11 July 2023). [406]
- Hüther, O. and G. Krücken (2018), *Higher Education in Germany—Recent Developments in an International Perspective*, Springer International Publishing, Cham, <https://doi.org/10.1007/978-3-319-61479-3>. [80]
- Hyland, K. (2023), “Academic publishing and the attention economy”, *Journal of English for Academic Purposes*, Vol. 64, p. 101253, <https://doi.org/10.1016/j.jeap.2023.101253>. [157]
- ILO (2018), *Consensus points of the Forum*, International Labour Organization, Geneva, [https://www.ilo.org/sector/Resources/publications/WCMS\\_644689/lang--en/index.htm](https://www.ilo.org/sector/Resources/publications/WCMS_644689/lang--en/index.htm) (accessed on 7 September 2023). [422]
- ILO (2018), “Employment terms and conditions in tertiary education”, *Issues paper for discussion at the Global Dialogue Forum on Employment Terms and Conditions in Tertiary Education*, International Labour Office - Sectoral Policies Department, Geneva, [https://www.ilo.org/sector/Resources/publications/WCMS\\_638341/lang--en/index.htm](https://www.ilo.org/sector/Resources/publications/WCMS_638341/lang--en/index.htm) (accessed on 24 February 2023). [20]
- ILO and UNESCO (2021), *Final report: Fourteenth Session of the Joint ILO–UNESCO Committee of Experts on the Application of the Recommendations concerning Teaching Personnel*, ILO, UNESCO, [https://www.ilo.org/wcmsp5/groups/public/---ed\\_dialogue/---sector/documents/meetingdocument/wcms\\_839719.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/meetingdocument/wcms_839719.pdf) (accessed on 13 June 2023). [393]

- Irving, E. (2023), *Oxford University's other diversity crisis*, [316]  
<https://www.economist.com/1843/2023/03/01/oxford-universitys-other-diversity-crisis>  
 (accessed on 13 July 2023).
- ISE (2020), *Position on precarity of academic careers*, Initiative for Science in Europe (ISE), [54]  
<https://initiative-se.eu/wp-content/uploads/2021/02/Research-Precarity-ISE-position.pdf>  
 (accessed on 15 June 2023).
- Iversen, E. (2023), "How to monitor and analyse the labour-market placement of trained PhDs using linked datasets", *RISIS Policy Brief Series*, No. 13, Research infrastructure for research and innovation policy studies (RISIS), [15]  
<https://doi.org/10.5281/zenodo.8004816>.
- Jaeger, A. and M. Eagan (2010), "Examining Retention and Contingent Faculty Use in a State System of Public Higher Education", *Educational Policy*, Vol. 25/3, pp. 507-537, [64]  
<https://doi.org/10.1177/0895904810361723>.
- Janger, J. and K. Nowotny (2013), "Career Choices in Academia", *WWWforEurope Working Paper*, No. 36, Austrian Institute of Economic Research (WIFO), Vienna, [105]  
<https://ideas.repec.org/b/wfo/wstudy/46922.html> (accessed on 27 February 2023).
- Jayman, M., J. Glazzard and A. Rose (2022), "Tipping point: The staff wellbeing crisis in higher education", *Frontiers in Education*, Vol. 7, [71]  
<https://doi.org/10.3389/feduc.2022.929335>.
- Jessani, N. et al. (2020), "Academic incentives for enhancing faculty engagement with decision-makers—considerations and recommendations from one School of Public Health", *Humanities and Social Sciences Communications*, Vol. 7/1, [177]  
<https://doi.org/10.1057/s41599-020-00629-1>.
- Jones, G. (2023), "The professoriate and public policy", in *Assessing the Contributions of Higher Education*, Edward Elgar Publishing, [114]  
<https://doi.org/10.4337/9781035307173.00022>.
- Jongbloed, B. 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*, Directorate General for Education, Youth, Sport and Culture - European Commission, [52]  
<https://doi.org/10.2766/885757>.
- Kafarski, K. and J. Kazak (2022), "Erasmus Staff Mobility in the Building of a European Network: The Case of a Central European University", *Sustainability*, Vol. 14/9, p. 4949, [368]  
<https://doi.org/10.3390/su14094949>.
- Kaiser, U. et al. (2018), "Experience matters: The role of academic scientist mobility for industrial innovation", *Strategic Management Journal*, Vol. 39/7, pp. 1935-1958, [255]  
<https://doi.org/10.1002/smj.2907>.
- Kallio, K., T. Kallio and G. Grossi (2017), "Performance measurement in universities: ambiguities in the use of quality versus quantity in performance indicators", *Public Money & Management*, Vol. 37/4, pp. 293-300, [184]  
<https://doi.org/10.1080/09540962.2017.1295735>.
- Karran, T. and K. Beiter (2020), "Academic freedom in the European Union: legalities and realities", in Bergan, S., T. Gallagher and I. Harkavy (eds.), *Academic freedom, institutional autonomy and the future of democracy*, UNESCO, Council of Europe Publishing, Strasbourg, [402]  
<https://rm.coe.int/prems-025620-eng-2508-higher-education-series-no-24/1680a19fdf>  
 (accessed on 10 April 2023).
- Karran, T., K. Beiter and K. Appiagyeyi-Atua (2017), "Measuring academic freedom in Europe: a criterion referenced approach", *Policy Reviews in Higher Education*, Vol. 1/2, pp. 209-239, [400]  
<https://doi.org/10.1080/23322969.2017.1307093>.
- Karvounaraki, A. et al. (2018), *Mapping of European transnational collaborative partnerships in higher education*, Publications Office of the European Union, Luxembourg, [357]  
<https://dx.doi.org/10.2760/560460> (accessed on 4 September 2023).

- Keashly, L. (2019), “Workplace Bullying, Mobbing and Harassment in Academe: Faculty Experience”, in *Special topics and particular occupations, professions and sectors, Handbooks of Workplace Bullying, Emotional Abuse and Harassment*, Springer Singapore, Singapore, [https://doi.org/10.1007/978-981-10-5154-8\\_13-1](https://doi.org/10.1007/978-981-10-5154-8_13-1). [332]
- Kemper, J., P. Ballantine and C. Hall (2020), “Sustainability worldviews of marketing academics: A segmentation analysis and implications for professional development”, *Journal of Cleaner Production*, Vol. 271, p. 122568, <https://doi.org/10.1016/j.jclepro.2020.122568>. [221]
- Kempny, M. and L. Michael (2021), *Race Equality in the Higher Education Sector*, Higher Education Authority, Dublin, <https://hea.ie/assets/uploads/2021/10/HEA-Race-Equality-in-the-Higher-Education-Sector-Analysis-commissioned-by-the-Higher-Education-Authority-1.pdf> (accessed on 1 March 2023). [268]
- Kezar, A. (2019), *The Gig Academy*, Johns Hopkins University Press, <https://doi.org/10.1353/book.68032>. [22]
- Khan, J. (2021), “European academic brain drain: A meta-synthesis”, *European Journal of Education*, Vol. 56/2, pp. 265-278, <https://doi.org/10.1111/ejed.12449>. [360]
- Kinman, G. and S. Johnson (2019), “Special section on well-being in academic employees.”, *International Journal of Stress Management*, Vol. 26/2, pp. 159-161, <https://doi.org/10.1037/str0000131>. [130]
- Kinzelbach, K. et al. (2023), *2023 Academic Freedom Index 2023 Update*, FAU Erlangen-Nürnberg and V-Dem Institute, Erlangen-Nürnberg, <https://doi.org/10.23696/vdemds23>. [395]
- Klopper, C. and B. Power (2014), “The Casual Approach to Teacher Education: What Effect Does Casualisation Have for Australian University Teaching?”, *Australian Journal of Teacher Education*, Vol. 39/4, <https://doi.org/10.14221/ajte.2014v39n4.1>. [77]
- Kováts, G. and Z. Rónay (2023), *How academic freedom is monitored: Overview of methods and procedures*, European Parliament, Brussels, <https://doi.org/10.2861/45892>. [391]
- Koza, Z. et al. (2023), “Who Controls the National Academic Promotion System: An Analysis of Power Distribution in Poland”, *SAGE Open*, Vol. 13/2, p. 215824402311779, <https://doi.org/10.1177/21582440231177974>. [182]
- Křmářová, J. (2011), “The third mission of higher education institutions: conceptual framework and application in the Czech Republic”, *European Journal of Higher Education*, Vol. 1/4, pp. 315-331, <https://doi.org/10.1080/21568235.2012.662835>. [113]
- Kreshpaj, B. et al. (2020), “What is precarious employment? A systematic review of definitions and operationalizations from quantitative and qualitative studies on JSTOR”, *Scandinavian Journal of Work, Environment & Health*, Vol. 46/3, pp. 235-247, <https://www.jstor.org/stable/27004193?seq=2> (accessed on 24 February 2023). [18]
- Kuzhabekova, A. et al. (2021), “A Critical Perspective on Short-Term International Mobility of Faculty: An Experience from Kazakhstan”, *Journal of Studies in International Education*, Vol. 26/4, pp. 454-471, <https://doi.org/10.1177/10283153211016270>. [365]
- Kwiek, M. (2019), “Social stratification in Higher Education: What it means at the micro-level of the individual academic scientist”, *Higher Education Quarterly*, Vol. 73/4, pp. 419-444, <https://doi.org/10.1111/hequ.12221>. [13]
- Kwiek, M. (2015), “The European research elite: a cross-national study of highly productive academics in 11 countries”, *Higher Education*, Vol. 71/3, pp. 379-397, <https://doi.org/10.1007/s10734-015-9910-x>. [376]

- Kwiek, M. and D. Antonowicz (2014), “The Changing Paths in Academic Careers in European Universities: Minor Steps and Major Milestones”, in *Academic Work and Careers in Europe: Trends, Challenges, Perspectives*, Springer International Publishing, Cham, [https://doi.org/10.1007/978-3-319-10720-2\\_3](https://doi.org/10.1007/978-3-319-10720-2_3). [44]
- Kwiek, M. and W. Roszka (2020), “GENDER DISPARITIES IN INTERNATIONAL RESEARCH COLLABORATION: A STUDY OF 25,000 UNIVERSITY PROFESSORS”, *Journal of Economic Surveys*, Vol. 35/5, pp. 1344-1380, <https://doi.org/10.1111/joes.12395>. [287]
- Lam, Q. and I. Ferencz (2021), “Erasmus+ staff mobility comparative data analysis: An exploratory study of the participants’ motivation, perceived impact, recognition and satisfaction”, ACA, [https://www.erasmusplus.it/wp-content/uploads/2021/04/TCA-Report-12-March-2021\\_FINAL.pdf](https://www.erasmusplus.it/wp-content/uploads/2021/04/TCA-Report-12-March-2021_FINAL.pdf) (accessed on 16 March 2023). [348]
- Last, K. et al. (2022), “Association between women’s authorship and women’s editorship in infectious diseases journals: a cross-sectional study”, *The Lancet Infectious Diseases*, Vol. 22/10, pp. 1455-1464, [https://doi.org/10.1016/S1473-3099\(22\)00367-X](https://doi.org/10.1016/S1473-3099(22)00367-X). [281]
- Lauwers, G. (2020), “The Lack of Legal Protection of Union Rights on Termination of Fixed Term Academics at Public Universities in the Flemish Community of Belgium. Admissibility Issues of an Application Based on the Framework Agreement on Fixed-term Work at Public Universities in the Assessment by the Supreme Administrative Court of Belgium”, *Białostockie Studia Prawnicze*, Vol. 25/4, pp. 209-231, <https://doi.org/10.15290/bsp.2020.25.04.15>. [40]
- Leal Filho, W. et al. (2021), “Handling climate change education at universities: an overview”, *Environmental Sciences Europe*, Vol. 33/1, <https://doi.org/10.1186/s12302-021-00552-5>. [223]
- Leathwood, C. and B. Read (2020), “Short-term, short-changed? A temporal perspective on the implications of academic casualisation for teaching in higher education”, *Teaching in Higher Education*, Vol. 27/6, pp. 756-771, <https://doi.org/10.1080/13562517.2020.1742681>. [63]
- Leišytė, L. (2016), “New public management and research productivity – a precarious state of affairs of academic work in the Netherlands”, *Studies in Higher Education*, Vol. 41/5, pp. 828-846, <https://doi.org/10.1080/03075079.2016.1147721>. [107]
- Leišytė, L. et al. (2022), “The Teaching-Research Nexus in the Lithuanian Higher Education Compared to Other European Higher Education Systems”, in *The Changing Academy – The Changing Academic Profession in International Comparative Perspective, Teaching and Research in the Knowledge-Based Society*, Springer International Publishing, Cham, [https://doi.org/10.1007/978-3-031-04439-7\\_8](https://doi.org/10.1007/978-3-031-04439-7_8). [41]
- Leprévost, F. (2020), *Universities and Civilizations: Worldwide Academic Competition and Geopolitics*, Wiley-ISTE. [97]
- LERU (2021), *Statement-Concerns and recommendations on the use of student satisfaction in measuring teaching quality*, League of European Research Universities (LERU), Leuven, [https://www.leru.org/files/Publications/Student-Satisfaction-Surveys-Statement\\_12.2021.pdf](https://www.leru.org/files/Publications/Student-Satisfaction-Surveys-Statement_12.2021.pdf) (accessed on 28 February 2023). [165]
- LERU (2017), *Academic career maps in Europe*, League of European Research Universities, <https://www.leru.org/academic-career-maps-in-europe> (accessed on 21 July 2023). [241]
- Levander, S. (2020), “Construction of educational proficiency in academia: peer review of educational merits in academic recruitment in Sweden”, *Education Inquiry*, Vol. 13/2, pp. 151-168, <https://doi.org/10.1080/20004508.2020.1843234>. [162]
- Levander, S., E. Forsberg and M. Elmgren (2019), “The meaning-making of educational proficiency in academic hiring: a blind spot in the black box”, *Teaching in Higher Education*, Vol. 25/5, pp. 541-559, <https://doi.org/10.1080/13562517.2019.1576605>. [163]

- Limas, J. et al. (2022), “The Impact of Research Culture on Mental Health & Diversity in STEM”, *Chemistry – A European Journal*, Vol. 28/9, <https://doi.org/10.1002/chem.202102957>. [75]
- Lindsay, S. and K. Fuentes (2022), “It Is Time to Address Ableism in Academia: A Systematic Review of the Experiences and Impact of Ableism among Faculty and Staff”, *Disabilities*, Vol. 2/2, pp. 178-203, <https://doi.org/10.3390/disabilities2020014>. [326]
- Liu, F. et al. (2023), “Gender inequality and self-publication are common among academic editors”, *Nature Human Behaviour*, Vol. 7/3, pp. 353-364, <https://doi.org/10.1038/s41562-022-01498-1>. [282]
- Liu, F., T. Rahwan and B. AlShebli (2023), “Non-White scientists appear on fewer editorial boards, spend more time under review, and receive fewer citations”, *Proceedings of the National Academy of Sciences*, Vol. 120/13, <https://doi.org/10.1073/pnas.2215324120>. [319]
- Liu, T. (ed.) (2022), “The adaptation of academics to the Covid-19 crisis in terms of work time allocation”, *PLOS ONE*, Vol. 17/8, p. e0273246, <https://doi.org/10.1371/journal.pone.0273246>. [121]
- Löther, A. (2019), “Is It Working? An Impact Evaluation of the German “Women Professors Program””, *Social Sciences*, Vol. 8/4, p. 116, <https://doi.org/10.3390/socsci8040116>. [339]
- Lozano, S. (ed.) (2018), “Gender disparities in high-quality research revealed by Nature Index journals”, *PLOS ONE*, Vol. 13/1, p. e0189136, <https://doi.org/10.1371/journal.pone.0189136>. [288]
- Luczaj, K. (2019), “Foreign-born scholars in Central Europe: a planned strategy or a ‘dart throw’?”, *Journal of Higher Education Policy and Management*, Vol. 42/6, pp. 602-616, <https://doi.org/10.1080/1360080x.2019.1682955>. [363]
- Lundine, J. et al. (2018), “The gendered system of academic publishing”, *The Lancet*, Vol. 391/10132, pp. 1754-1756, [https://doi.org/10.1016/s0140-6736\(18\)30950-4](https://doi.org/10.1016/s0140-6736(18)30950-4). [280]
- Lutter, M. and M. Schröder (2019), “Is There a Motherhood Penalty in Academia? The Gendered Effect of Children on Academic Publications in German Sociology”, *European Sociological Review*, Vol. 36/3, pp. 442-459, <https://doi.org/10.1093/esr/jcz063>. [299]
- Maassen, P. (2020), “Perspectives on institutional autonomy in a European higher education context”, in Bergan, S., T. Gallagher and I. Harkavy (eds.), *Academic freedom, institutional autonomy and the future of democracy*, Council of Europe Publishing, Strasbourg. [404]
- Maassen, P. et al. (2023), *State of play of academic freedom in the EU Member States: Overview of de facto trends and developments*, European Parliament, Brussels, <https://data.europa.eu/doi/10.2861/466486> (accessed on 4 April 2023). [401]
- Macfarlane, B. (2022), “The academic sabbatical as a symbol of change in higher education: from rest and recuperation to hyper-performativity”, *Journal of Higher Education Policy and Management*, Vol. 45/3, pp. 335-348, <https://doi.org/10.1080/1360080x.2022.2140888>. [227]
- Macfarlane, B. (2011), “Prizes, pedagogic research and teaching professors: lowering the status of teaching and learning through bifurcation”, *Teaching in Higher Education*, Vol. 16/1, pp. 127-130, <https://doi.org/10.1080/13562517.2011.530756>. [100]
- Machado-Taylor, M., K. White and O. Gouveia (2013), “Job Satisfaction of Academics: Does Gender Matter?”, *Higher Education Policy*, Vol. 27/3, pp. 363-384, <https://doi.org/10.1057/hep.2013.34>. [278]
- Madsen, E. et al. (2022), “Author-level data confirm the widening gender gap in publishing rates during COVID-19”, *eLife*, Vol. 11, <https://doi.org/10.7554/elife.76559>. [289]
- Malee Bassett, R. (2021), “Tertiary Education Systems and Diversification: Adapting the Wisdom of Burton Clark to the World Bank’s Support for Effective and Inclusive Reforms”, *Centre for Global Higher Education working paper series*, No. 65, CGHE, Oxford, <https://www.researchcghe.org/perch/resources/publications/working-paper-65.pdf> (accessed on 18 July 2023). [4]

- Marginson, S. (2021), “What drives global science? The four competing narratives”, *Studies in Higher Education*, Vol. 47/8, pp. 1566-1584, <https://doi.org/10.1080/03075079.2021.1942822>. [374]
- Marginson, S. (2018), “High participation systems of higher education”, in Cantwell, B., S. Marginson and A. Smolentseva (eds.), *High Participation Systems of Higher Education*, Oxford University Press, Oxford, <https://doi.org/10.1093/oso/9780198828877.003.0001> (accessed on 23 February 2023). [10]
- Marginson, S. (2016), “The worldwide trend to high participation higher education: dynamics of social stratification in inclusive systems”, *Higher Education*, Vol. 72/4, pp. 413-434, <https://doi.org/10.1007/s10734-016-0016-x>. [49]
- Marginson, S. (2013), “University Rankings and Social Science”, *European Journal of Education*, Vol. 49/1, pp. 45-59, <https://doi.org/10.1111/ejed.12061>. [158]
- Marshall, N. (2012), “The Use Of Sessional Teachers In Universities: Faculty Of The Built Environment, University Of New South Wales Australia”, *Journal of International Education Research (JIER)*, Vol. 8/3, pp. 197-206, <https://doi.org/10.19030/jier.v8i3.7101>. [61]
- Matei, L. (2020), “Charting Academic Freedom in Europe”, in Curaj, A., L. Deca and R. Pricopie (eds.), *European Higher Education Area: Challenges for a New Decade*, Springer International Publishing, [https://doi.org/10.1007/978-3-030-56316-5\\_28/COVER](https://doi.org/10.1007/978-3-030-56316-5_28/COVER). [388]
- Matei, L. (2018), “Three Ideas of Academic Freedom”, in Ignatieff, M. and S. Roch (eds.), *Academic Freedom: The Global Challenge*, Central European University Press, Budapest, <http://real.mtak.hu/73757/1/af-bookweb.pdf> (accessed on 4 April 2023). [397]
- Matias, J., N. Lewis Jr. and E. Hope (2021), *Universities Say They Want More Diverse Faculties. So Why Is Academia Still So White?*, <https://fivethirtyeight.com/features/universities-say-they-want-more-diverse-faculties-so-why-is-academia-still-so-white/> (accessed on 13 July 2023). [317]
- Maxwell, N., L. Connolly and C. Ní Laoire (2018), “Informality, emotion and gendered career paths: The hidden toll of maternity leave on female academics and researchers”, *Gender, Work & Organization*, <https://doi.org/10.1111/gwao.12306>. [301]
- McComb, V., N. Eather and S. Imig (2020), “Casual academic staff experiences in higher education: insights for academic development”, *International Journal for Academic Development*, Vol. 26/1, pp. 95-105, <https://doi.org/10.1080/1360144x.2020.1827259>. [56]
- McCowan, T. (2023), “The climate crisis as a driver for pedagogical renewal in higher education”, *Teaching in Higher Education*, Vol. 28/5, pp. 933-952, <https://doi.org/10.1080/13562517.2023.2197113>. [225]
- McCowan, T. (2020), “The impact of universities on climate change: a theoretical framework”, *Centre for Global Higher Education working paper series*, No. 55, CGHE, Oxford, <https://www.researchcghe.org/perch/resources/publications/final-working-paper-55.pdf> (accessed on 18 July 2023). [120]
- McGinn, M., S. Ratković and C. Wolhunter (2013), “Global Connectedness and Global Migration: Insights from the International Changing Academic Profession Survey”, *Brock Education Journal*, Vol. 22/2, <https://doi.org/10.26522/brocked.v22i2.342>. [373]
- McKiernan, E. et al. (2019), “Use of the Journal Impact Factor in academic review, promotion, and tenure evaluations”, *eLife*, Vol. 8, <https://doi.org/10.7554/elife.47338>. [140]
- McNaughtan, J., H. García and K. Nehls (2017), “Understanding the Growth of Contingent Faculty”, *New Directions for Institutional Research*, Vol. 2017/176, pp. 9-26, <https://doi.org/10.1002/ir.20241>. [21]
- Melin, G. et al. (2018), *Research careers at universities and large companies: Ten case studies from Denmark, the Netherlands and Sweden*, technopolis group, <http://www.technopolis-group.com> (accessed on 24 February 2023). [42]

- Meliou, E. and A. Lopes (2022), *Academic profession, contingent employment and career pathways during a crisis*, Society for Research into Higher Education, <https://srhe.ac.uk/wp-content/uploads/2022/08/Meliou-Lopes-Report.pdf> (accessed on 24 February 2023). [57]
- Mills, D. (2022), “Academic mobility in higher education”, *WHEC2022 background document*, No. 5, UNESCO, Barcelona, <https://cdn.eventscase.com/www.whec2022.org/uploads/users/699058/uploads/695ef48fc7b76fc24024c74f84f274a684b629245b8bff68bfbd1bbe21a1520fa8842cd3cb041b0c3c8e017ece02142ada4f.628334bd9c226.pdf> (accessed on 24 July 2023). [359]
- Ministry of Education (2017), “Kultur for kvalitet i høyere utdanning [Culture for quality in higher education]”, *Meld. St.*, No. 16, Kunnskapsdepartementet [Ministry of Education - Norway], Oslo, <https://www.regjeringen.no/no/dokumenter/meld.-st.-16-20162017/id2536007/> (accessed on 28 February 2023). [199]
- Mitacs (2023), *Projects*, Mitacs, <https://www.mitacs.ca/en/projects> (accessed on 23 July 2023). [258]
- Mitchell, K. and J. Martin (2018), “Gender Bias in Student Evaluations”, *PS: Political Science & Politics*, Vol. 51/03, pp. 648-652, <https://doi.org/10.1017/s104909651800001x>. [169]
- Moosa, I. (2018), *Publish or Perish*, Edward Elgar Publishing, <https://doi.org/10.4337/9781786434937>. [147]
- Morano-Foadi, S. (2005), “Scientific Mobility, Career Progression, and Excellence in the European Research Area1”, *International Migration*, Vol. 43/5, pp. 133-162, <https://doi.org/10.1111/j.1468-2435.2005.00344.x>. [344]
- Morgan, A. et al. (2022), “Socioeconomic roots of academic faculty”, *Nature Human Behaviour*, Vol. 6/12, pp. 1625-1633, <https://doi.org/10.1038/s41562-022-01425-4>. [312]
- Mortier, A., K. Levecque and L. Wille (2020), “PhD Holders and Job Contracts : Is One Better off in the Non-Academic Sector?”, *ECOOM Briefs*, No. 30, Expertisecentrum Onderzoek en Ontwikkelingsmonitoring (Centre for Research & Development Monitoring - ECOOM), Ghent, <https://biblio.ugent.be/publication/8683632> (accessed on 14 June 2023). [35]
- Moulin, T. (2020), “Mental Health in Academia: The Role of Workplace Relationships”, *Frontiers in Psychology*, Vol. 11, <https://doi.org/10.3389/fpsyg.2020.562457>. [72]
- Mulà, I. et al. (2017), “Catalysing Change in Higher Education for Sustainable Development”, *International Journal of Sustainability in Higher Education*, Vol. 18/5, pp. 798-820, <https://doi.org/10.1108/ijshe-03-2017-0043>. [224]
- Müller, L. and C. Schneijderberg (2020), “The Emergence of the Organizational Academic Profession: Vertical differentiation of German universities and the research-teaching nexus”, *Higher Education Forum*, Vol. 17, pp. 43-68, <http://dx.doi.org/10.15027/48954>. [95]
- Nadolny, A. and S. Ryan (2013), “McUniversities revisited: a comparison of university and McDonald’s casual employee experiences in Australia”, *Studies in Higher Education*, Vol. 40/1, pp. 142-157, <https://doi.org/10.1080/03075079.2013.818642>. [55]
- Nakano, S., A. Beaupré-Lavallée and O. Bégin-Caouette (2021), “Accountability Measures in Higher Education and Academic Workload: A Ten-year Comparison”, *Brock Education Journal*, Vol. 30/2, p. 116, <https://doi.org/10.26522/brocked.v30i2.872>. [126]
- Narayan, A. (2019), “The development and use of performance measures in New Zealand tertiary education institutions”, *Accounting History*, Vol. 25/2, pp. 193-218, <https://doi.org/10.1177/1032373219842383>. [174]
- NCUP (2023), *The role of the UK professoriate*, National Conference of University Professors, <http://www.ncup.org.uk/wp-content/uploads/2023/02/NCUP-Professoriate-Survey-2022-FINAL-REPORT-online.pdf> (accessed on 20 June 2023). [161]



- Nelson, J., A. Mattheis and J. Yoder (2022), “Nondisclosure of queer identities is associated with reduced scholarly publication rates”, *PLOS ONE*, Vol. 17/3, p. e0263728, <https://doi.org/10.1371/journal.pone.0263728>. [310]
- Netz, N., S. Hampel and V. Aman (2020), “What effects does international mobility have on scientists’ careers? A systematic review”, *Research Evaluation*, Vol. 29/3, pp. 327-351, <https://doi.org/10.1093/reseval/rvaa007>. [364]
- Netz, N. and S. Jaksztat (2017), “Explaining Scientists’ Plans for International Mobility from a Life Course Perspective”, *Research in Higher Education*, Vol. 58/5, pp. 497-519, <https://doi.org/10.1007/s11162-016-9438-7>. [361]
- Nichols, S. and G. Stahl (2019), “Intersectionality in higher education research: a systematic literature review”, *Higher Education Research & Development*, Vol. 38/6, pp. 1255-1268, <https://doi.org/10.1080/07294360.2019.1638348>. [262]
- Nielsen, M. (2016), “Reasons for Leaving the Academy: a Case Study on the ‘Opt Out’ Phenomenon among Younger Female Researchers”, *Gender, Work & Organization*, Vol. 24/2, pp. 134-155, <https://doi.org/10.1111/gwao.12151>. [277]
- Nogrady, B. (2022), “Online harassment: a toolkit for protecting yourself from abuse”, *Nature*, Vol. 609/7925, pp. 205-207, <https://doi.org/10.1038/d41586-022-02766-w>. [408]
- Nogueira, M., R. Heywood-Roos and S. Phillips (2015), *Career Tracking of Doctorate Holders*, European Science Foundation, [https://www.esf.org/fileadmin/user\\_upload/esf/Career\\_Tracking\\_Pilot\\_Report\\_2015-05-28.pdf](https://www.esf.org/fileadmin/user_upload/esf/Career_Tracking_Pilot_Report_2015-05-28.pdf) (accessed on 27 February 2023). [68]
- Norton, A., I. Cherastidtham and W. Mackey (2018), *Mapping Australian higher education 2018*, Grattan Institute, <http://www.grattan.edu.au/>. (accessed on 27 February 2023). [38]
- Norwegian Ministry of Education and Research (2022), *Academic freedom of expression*, Norwegian Ministry of Education and Research, Oslo, <https://www.regjeringen.no/en/dokumenter/nou-2022-2/id2905589/?ch=1> (accessed on 11 April 2023). [392]
- Nyamapfene, A. (2018), *Teaching-only Academics in a Research Intensive University: From an undesirable to a desirable academic identity*, University of Exeter, Exeter, <https://ore.exeter.ac.uk/repository/bitstream/handle/10871/34169/NyamapfeneA.pdf> (accessed on 16 June 2023). [98]
- O’Meara, K. et al. (2017), “Asked More Often: Gender Differences in Faculty Workload in Research Universities and the Work Interactions That Shape Them”, *American Educational Research Journal*, Vol. 54/6, pp. 1154-1186, <https://doi.org/10.3102/0002831217716767>. [110]
- Ödalen, J. et al. (2018), “Teaching university teachers to become better teachers: the effects of pedagogical training courses at six Swedish universities”, *Higher Education Research & Development*, Vol. 38/2, pp. 339-353, <https://doi.org/10.1080/07294360.2018.1512955>. [234]
- OECD (2023), *Advancing Digital Maturity in Croatia’s Higher Education System*, Higher Education, OECD Publishing, Paris, <https://doi.org/10.1787/c3c8d452-en>. [215]
- OECD (2023), *Ensuring Quality Digital Higher Education in Hungary*, Higher Education, OECD Publishing, Paris, <https://doi.org/10.1787/5f44fd6f-en>. [213]
- OECD (2023), *Is Education Losing the Race with Technology?: AI’s Progress in Maths and Reading*, Educational Research and Innovation, OECD Publishing, Paris, <https://doi.org/10.1787/73105f99-en>. [218]
- OECD (2023), *OECD Skills Outlook 2023: Skills for a Resilient Green and Digital Transition*, OECD Publishing, Paris, <https://doi.org/10.1787/27452f29-en>. [217]

- OECD (2023), *Shaping Digital Education: Enabling Factors for Quality, Equity and Efficiency*, OECD Publishing, Paris, <https://doi.org/10.1787/bac4dc9f-en>. [214]
- OECD (2022), “Distribution of academic staff by primary function (2020)”, in *Education at a Glance 2022: OECD Indicators*, OECD Publishing, Paris, <https://doi.org/10.1787/cd4873d1-en>. [89]
- OECD (2022), “Distribution of instructional and research academic staff by seniority level (2020)”, in *Education at a Glance 2022: OECD Indicators*, OECD Publishing, Paris, <https://doi.org/10.1787/73b0c95b-en>. [24]
- OECD (2022), “Education Database: Educational personnel by institution (Edition 2022)”, *OECD Education Statistics* (database), <https://doi.org/10.1787/3687e4db-en> (accessed on 27 September 2023). [25]
- OECD (2022), “Education Database: Enrolment by age (Edition 2022)”, *OECD Education Statistics* (database), <https://doi.org/10.1787/287fff35-en> (accessed on 27 September 2023). [50]
- OECD (2022), “Share of women among academic staff (2005, 2015, 2020)”, in *Education at a Glance 2022: OECD Indicators*, OECD Publishing, Paris, <https://doi.org/10.1787/e0a93f61-en>. [265]
- OECD (2022), “What is the profile of academic staff and what is the student-academic staff ratio?”, in *Education at a Glance 2022: OECD Indicators*, OECD Publishing, Paris, <https://doi.org/10.1787/bb6ee273-en>. [7]
- OECD (2021), “Reducing the precarity of academic research careers”, *OECD Science, Technology and Industry Policy Papers*, No. 113, OECD Publishing, Paris, <https://doi.org/10.1787/0f8bd468-en>. [9]
- OECD (2020), *Resourcing Higher Education: Challenges, Choices and Consequences*, Higher Education, OECD Publishing, Paris, <https://doi.org/10.1787/735e1f44-en>. [1]
- OECD (2019), *Benchmarking Higher Education System Performance*, Higher Education, OECD Publishing, Paris, <https://doi.org/10.1787/be5514d7-en>. [12]
- OECD (2019), *OECD Review of Higher Education, Research and Innovation: Portugal*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264308138-en>. [137]
- OECD (2018), “Indicator B7 How equitable are entry and graduation in tertiary education?”, in *Education at a Glance 2018: OECD Indicators*, OECD Publishing, Paris, <https://doi.org/10.1787/eag-2018-20-en>. [311]
- OECD (2018), *OECD Handbook for Internationally Comparative Education Statistics 2018: Concepts, Standards, Definitions and Classifications*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264304444-en>. [8]
- OECD (2018), *OECD Reviews of Innovation Policy: Austria 2018*, OECD Reviews of Innovation Policy, OECD Publishing, Paris, <https://doi.org/10.1787/9789264309470-en>. [82]
- OECD (2008), “The Academic Career: Adapting to Change”, in *Tertiary Education for the Knowledge Society: Volume 1 and Volume 2*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264046535-11-en>. [394]
- Olaskoaga-Larrauri, J., L. Guerenabarrena-Cortazar and E. Cilleruelo-Carrasco (2021), “Academic staff attitudes and barriers to integrating sustainability in the curriculum at Spanish universities (Actitudes del profesorado y barreras a la sostenibilización curricular en la universidad española)”, *Culture and Education*, Vol. 33/2, pp. 373-396, <https://doi.org/10.1080/11356405.2021.1905957>. [222]
- Olsson, T. et al. (2018), *Implementation Of Reward Systems For Excellence In University Teaching: – Critical Aspects From A Nordic Perspective*, <http://www.diva-portal.org/smash/record.jsf?pid=diva2%3A1479147&dswid=-6098> (accessed on 7 June 2023). [196]

- Oravec, J. (2017), “The manipulation of scholarly rating and measurement systems: constructing excellence in an era of academic stardom”, *Teaching in Higher Education*, Vol. 22/4, pp. 423-436, <https://doi.org/10.1080/13562517.2017.1301909>. [183]
- Orosz, K. and D. Craciun (2018), *Benefits and costs of transnational collaborative partnerships in higher education*, Directorate General for Education, Youth, Sport and Culture - European Commission, <https://data.europa.eu/doi/10.2766/53660> (accessed on 4 September 2023). [369]
- Overlaet, B. (2022), “A Pathway towards Multidimensional Academic Careers A LERU Framework for the Assessment of Researchers”, *LERU position paper*, League of European Research Universities (LERU), Leuven, <https://www.leru.org/publications/a-pathway-towards-multidimensional-academic-careers-a-leru-framework-for-the-assessment-of-researchers> (accessed on 1 March 2023). [190]
- Owens, T. and J. Lane (2014), “Cross-Border Higher Education: Global and Local Tensions Within Competition and Economic Development”, *New Directions for Higher Education*, Vol. 2014/168, pp. 69-82, <https://doi.org/10.1002/he.20114>. [380]
- Palermo, O., A. Bisignano and S. Mercado (2018), “The Design of International Dual Degree Programmes as Effective Transnational Education Experiences”, in Tsiligiris, V. and W. Lawton (eds.), *Exporting Transnational Education*, Springer International Publishing, Cham, [https://doi.org/10.1007/978-3-319-74739-2\\_4](https://doi.org/10.1007/978-3-319-74739-2_4). [378]
- Pamment, J. et al. (2019), “Hybrid Threats: Confucius Institutes”, in Aday, S. et al. (eds.), *Hybrid Threats. A Strategic Communications Perspective*, NATO Strategic Communications Centre of Excellence, Riga, [https://stratcomcoe.org/cuploads/pfiles/confucius\\_institutes.pdf](https://stratcomcoe.org/cuploads/pfiles/confucius_institutes.pdf) (accessed on 11 April 2023). [412]
- Paniagua, J., C. Villó and M. Escrivà-Beltran (2022), “Cross-Border Higher Education: The Expansion of International Branch Campuses”, *Research in Higher Education*, Vol. 63/6, pp. 1037-1057, <https://doi.org/10.1007/s11162-022-09674-y>. [381]
- Papenfuss, J. et al. (2019), “Interacting pedagogies: A review and framework for sustainability education”, *Journal of Sustainability Education*, Vol. 20, <http://susted.com/wordpress/wp-content/uploads/2019/04/Papenfuss-JSE-April-2019-General-Issue-PDF.pdf> (accessed on 20 July 2023). [226]
- Parreira do Amaral, M. (2022), “Imagining and Transforming Higher Education. Knowledge Production in the New Geopolitics of Knowledge”, in *Geopolitical Transformations in Higher Education, Educational Governance Research*, Springer International Publishing, Cham, [https://doi.org/10.1007/978-3-030-94415-5\\_3](https://doi.org/10.1007/978-3-030-94415-5_3). [96]
- Paterlini, M. (2022), “Career reform aims to improve security for Italian researchers”, *Nature Italy* 2022, <https://www.nature.com/articles/d43978-022-00094-1> (accessed on 27 February 2023). [84]
- Pekkola, E. (2014), “Akateeminen professio ja akateeminen työ [Academic profession and academic work]”, in Pekkola, E., J. Kirvistö and V. Kohtamäki (eds.), *Korkeakouluhallinto: johtaminen, talous ja politiikka [Higher education administration: management, economics and politics]*, <https://researchportal.tuni.fi/en/publications/akateeminen-professio-ja-akateeminen-ty%C3%B6> (accessed on 21 July 2023). [239]
- Pekşen, S. et al. (2021), “The Determinants of External Engagement of Hard Scientists: A Study of Generational and Country Differences in Europe”, *Higher Education Policy*, Vol. 34/1, pp. 18-41, <https://doi.org/10.1057/S41307-020-00214-W/METRICS>. [116]
- Pells, R. (2022), “How science can do better for neurodivergent people”, *Nature*, <https://doi.org/10.1038/d41586-022-04248-5>. [329]
- Perkmann, M. et al. (2021), “Academic engagement: A review of the literature 2011-2019”, *Research Policy*, Vol. 50/1, p. 104114, <https://doi.org/10.1016/j.respol.2020.104114>. [250]

- Peterson, H. (2015), “Is managing academics “women’s work”? Exploring the glass cliff in higher education management”, *Educational Management Administration & Leadership*, Vol. 44/1, pp. 112-127, <https://doi.org/10.1177/1741143214563897>. [272]
- Pfeifer, H. (2016), “How to be a Good Academic Citizen: The Role and Importance of Service in Academia”, *Journal of Criminal Justice Education*, Vol. 27/2, pp. 238-254, <https://doi.org/10.1080/10511253.2015.1128706>. [178]
- Pifer, M. et al. (2022), “Paradise, Nearly Forty Years Later: The Liminal Experiences of Working-Class Academics”, *Innovative Higher Education*, Vol. 48/1, pp. 105-125, <https://doi.org/10.1007/s10755-022-09601-0>. [315]
- Prelec, T. et al. (2022), “Is academic freedom at risk from internationalisation? Results from a 2020 survey of UK social scientists”, *The International Journal of Human Rights*, Vol. 26/10, pp. 1698-1722, <https://doi.org/10.1080/13642987.2021.2021398>. [413]
- Privot, E., T. Estermann and N. Popkhadze (2023), *University Autonomy in Europe IV: The Scorecard 2023*, European University Association, Brussels, <https://eua.eu/downloads/publications/eua%20autonomy%20scorecard.pdf> (accessed on 7 April 2023). [403]
- Puaca, G. (2022), “Institutional autonomy, managerialism and the conditions for academic freedom in Swedish higher education”, in Watermeyer, R., R. Raaper and M. Olssen (eds.), *Handbook on Academic Freedom*, Edward Elgar Publishing, <https://doi.org/10.4337/9781788975919.00013>. [407]
- Püttmann, V. and S. Thomsen (2022), “The Third Mission in the Academic Profession: Empirical Insights into Academic Identities”, *IZA Discussion Papers*, No. 15280, Institute of Labor Economics (IZA), Bonn, <https://docs.iza.org/dp15280.pdf> (accessed on 12 July 2023). [119]
- Racké, C., B. Forsthuber and D. Crosier (2013), “Staff Mobility in Higher Education: National Policies and Programmes”, <https://eacea.ec.europa.eu/education/eurydice/focus-on/documents/156EN.pdf> (accessed on 16 March 2023). [353]
- Ramsay, C. and C. Brua (2017), “Understanding Professors of Practice: Leveraging Expertise, Empowering Potential”, *Journal of Faculty Development*, Vol. 31/3, pp. 25-30, <https://eric.ed.gov/?id=EJ1155892> (accessed on 21 July 2023). [254]
- Rawat, S. and S. Meena (2014), “Publish or perish: Where are we heading?”, *Journal of research in medical sciences : the official journal of Isfahan University of Medical Sciences*, Vol. 19/2, pp. 87-9, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3999612/> (accessed on 19 June 2023). [155]
- Rivera, L. (2017), “When Two Bodies Are (Not) a Problem: Gender and Relationship Status Discrimination in Academic Hiring”, *American Sociological Review*, Vol. 82/6, pp. 1111-1138, <https://doi.org/10.1177/0003122417739294>. [295]
- Rosa, R. (2021), “The trouble with ‘work–life balance’ in neoliberal academia: a systematic and critical review”, *Journal of Gender Studies*, Vol. 31/1, pp. 55-73, <https://doi.org/10.1080/09589236.2021.1933926>. [128]
- Rumbley, L. and H. de Wit (2019), “International Faculty Mobility”, in *Intelligent Internationalization*, BRILL, [https://doi.org/10.1163/9789004418912\\_006](https://doi.org/10.1163/9789004418912_006). [345]
- Sabzalieva, E. and A. Valentini (2023), “ChatGPT and Artificial Intelligence in higher education”, *Quick start guide*, UNESCO-IESALC, Paris, [https://www.iesalc.unesco.org/wp-content/uploads/2023/04/ChatGPT-and-Artificial-Intelligence-in-higher-education-Quick-Start-guide\\_EN\\_FINAL.pdf](https://www.iesalc.unesco.org/wp-content/uploads/2023/04/ChatGPT-and-Artificial-Intelligence-in-higher-education-Quick-Start-guide_EN_FINAL.pdf) (accessed on 20 July 2023). [219]

- Sá, E., D. Dias and M. Sá (2017), “Towards the university entrepreneurial mission: Portuguese academics’ self-perspective of their role in knowledge transfer”, *Journal of Further and Higher Education*, Vol. 42/6, pp. 784-796, <https://doi.org/10.1080/0309877x.2017.1311998>. [118]
- Saenen, B. et al. (2021), *Reimagining Academic Career Assessment: Stories of innovation and change*, European University Association, Brussels, [https://eua.eu/downloads/publications/eua-dora-sparc\\_case%20study%20report.pdf](https://eua.eu/downloads/publications/eua-dora-sparc_case%20study%20report.pdf) (accessed on 28 February 2023). [142]
- Saenen, B. et al. (2019), *Research Assessment in the Transition to Open Science: 2019 EUA Open Science and Access Survey Results*, European University Association, Brussels, <https://eua.eu/downloads/publications/research%20assessment%20in%20the%20transition%20to%20open%20science.pdf> (accessed on 28 February 2023). [139]
- Sandnes, F. (2018), “Do Norwegian academics who publish more earn higher salaries?”, *Scientometrics*, Vol. 115/1, pp. 263-281, <https://dl.acm.org/doi/10.5555/3197795.3197849> (accessed on 20 June 2023). [151]
- Sandström, A. and R. Hudson (2018), *The EAIE Barometer: Internationalisation in Europe (second edition)*, The European Association for International Education, <https://www.eaie.org/our-resources/library/publication/Research-and-trends/eaie-barometer-second-edition.html> (accessed on 4 September 2023). [350]
- Sang, K. et al. (2015), “‘Being an academic is not a 9–5 job’: long working hours and the ‘ideal worker’ in UK academia”, *Labour & Industry: a journal of the social and economic relations of work*, Vol. 25/3, pp. 235-249, <https://doi.org/10.1080/10301763.2015.1081723>. [122]
- Sanz-Menéndez, L. and L. Cruz-Castro (2018), “University academics’ preferences for hiring and promotion systems”, *European Journal of Higher Education*, Vol. 9/2, pp. 153-171, <https://doi.org/10.1080/21568235.2018.1515029>. [143]
- SAR Europe (2022), *Recommendation to include academics in any legislative proposal designed to combat strategic lawsuits against public participation (SLAPPs)*, Scholars at Risk, Maynooth, <https://sareurope.eu/wp-content/uploads/2022/06/SAR-Europe-SLAPP-Recommendation.pdf> (accessed on 11 July 2023). [410]
- Saroyan, A. (2022), “Fostering creativity and critical thinking in university teaching and learning: Considerations for academics and their professional learning”, *OECD Education Working Papers*, No. 280, OECD Publishing, Paris, <https://doi.org/10.1787/09b1cb3b-en>. [202]
- Sarrico, C. (2022), “The expansion of doctoral education and the changing nature and purpose of the doctorate”, *Higher Education*, Vol. 84/6, pp. 1299-1315, <https://doi.org/10.1007/s10734-022-00946-1>. [45]
- Sarsons, H. et al. (2021), “Gender Differences in Recognition for Group Work”, *Journal of Political Economy*, Vol. 129/1, pp. 101-147, <https://doi.org/10.1086/711401>. [286]
- Scellato, G., C. Franzoni and P. Stephan (2015), “Migrant scientists and international networks”, *Research Policy*, Vol. 44/1, pp. 108-120, <https://doi.org/10.1016/j.respol.2014.07.014>. [366]
- Scherer, R. et al. (2021), “Profiling teachers’ readiness for online teaching and learning in higher education: Who’s ready?”, *Computers in Human Behavior*, Vol. 118, p. 106675, <https://doi.org/10.1016/j.chb.2020.106675>. [216]
- Schimanski, L. and J. Alperin (2018), “The evaluation of scholarship in academic promotion and tenure processes: Past, present, and future”, *F1000Research*, Vol. 7, p. 1605, <https://doi.org/10.12688/f1000research.16493.1>. [93]
- Schmalings, K. and S. Gallo (2023), “Gender differences in peer reviewed grant applications, awards, and amounts: a systematic review and meta-analysis”, *Research Integrity and Peer Review*, Vol. 8/1, <https://doi.org/10.1186/s41073-023-00127-3>. [285]

- Seppala, N. and C. Smith (2019), “Teaching awards in higher education: a qualitative study of motivation and outcomes”, *Studies in Higher Education*, Vol. 45/7, pp. 1398-1412, <https://doi.org/10.1080/03075079.2019.1593349>. [172]
- Serraino, G. (ed.) (2022), “The impact of working in academia on researchers’ mental health and well-being: A systematic review and qualitative meta-synthesis”, *PLOS ONE*, Vol. 17/5, p. e0268890, <https://doi.org/10.1371/journal.pone.0268890>. [76]
- Sharmini, S. and R. Spronken-Smith (2019), “The PhD – is it out of alignment?”, *Higher Education Research & Development*, Vol. 39/4, pp. 821-833, <https://doi.org/10.1080/07294360.2019.1693514>. [203]
- Shin, J. (2012), “International Mobility of Faculty and Its Impacts on Korean Higher Education”, in *Mobility and Migration in Asian Pacific Higher Education*, Palgrave Macmillan US, New York, [https://doi.org/10.1057/9781137015082\\_5](https://doi.org/10.1057/9781137015082_5). [371]
- Silander, C. et al. (2021), “Nordic research on gender equality in academic careers: a literature review”, *European Journal of Higher Education*, Vol. 12/1, pp. 72-97, <https://doi.org/10.1080/21568235.2021.1895858>. [273]
- Silbert, A., M. Puntty and E. Brodbine Ghoniem (2022), *The Women’s Power Gap at Elite Universities: Scaling the Ivory Tower*, Eos Foundation, <https://www.womenspowergap.org/higher-education/scaling-the-ivory-tower/> (accessed on 13 July 2023). [271]
- Simon, E. and G. Pleschová (2012), “Creating Successful Teacher Development Programmes”, in Simon, E. and G. Pleschová (eds.), *Teacher Development in Higher Education*, Routledge, <https://doi.org/10.4324/9780203096826-26>. [209]
- Simula, B. and T. Scott (2020), “The Impact of Pressures to Produce on Knowledge Production and Evaluation in the Modern Academy”, *Social Sciences*, Vol. 9/5, p. 64, <https://doi.org/10.3390/socsci9050064>. [154]
- Slovak Ministry of Education (2023), *VS Portal*, Ministry of Education, Science, Research and Sport of the Slovak Republic, <https://www.portalvs.sk/regzam/> (accessed on 16 March 2023). [347]
- Slovak Ministry of Education (2023), *Výročná správa o stave vysokého školstva za rok 2021 [Annual report on state of higher education for 2021]*, Ministry of Education, Science, Research and Sport of Slovak Republic, <https://www.minedu.sk/vyrocne-spravy-o-stave-vysokeho-skolstva/> (accessed on 28 February 2023). [145]
- Smith, J. et al. (2022), “Exploring Mental Health and Well-Being Among University Faculty Members: A Qualitative Study”, *Journal of Psychosocial Nursing and Mental Health Services*, Vol. 60/11, pp. 17-25, <https://doi.org/10.3928/02793695-20220523-01>. [73]
- Smolentseva, A. (2023), “Contributions of higher education to society: towards conceptualisation”, in *Assessing the Contributions of Higher Education*, Edward Elgar Publishing, <https://doi.org/10.4337/9781035307173.00011>. [112]
- Söderlind, J. (2020), *A metric culture in academia: The influence of performance measurement on the academic culture of Swedish universities*, KTH Royal Institute of Technology, Stockholm, <https://www.diva-portal.org/smash/get/diva2:1461211/FULLTEXT01.pdf> (accessed on 23 June 2023). [188]
- Spannagel, J. and K. Kinzelbach (2022), “The Academic Freedom Index and Its indicators: Introduction to new global time-series V-Dem data”, *Quality and Quantity*, pp. 1-21, <https://doi.org/10.1007/S11135-022-01544-0/FIGURES/5>. [398]
- Spence, C. (2018), “‘Judgement’ versus ‘metrics’ in higher education management”, *Higher Education*, Vol. 77/5, pp. 761-775, <https://doi.org/10.1007/s10734-018-0300-z>. [187]

- Squazzoni, F. et al. (2021), “Peer review and gender bias: A study on 145 scholarly journals”, *Science Advances*, Vol. 7/2, <https://doi.org/10.1126/sciadv.abd0299>. [284]
- Statistics Canada (2021), *University and College Academic Staff System: Data Element Manual for Survey Respondents*, [https://www.statcan.gc.ca/en/statistical-programs/instrument/3101\\_Q1\\_V4#e24](https://www.statcan.gc.ca/en/statistical-programs/instrument/3101_Q1_V4#e24) (accessed on 24 February 2023). [31]
- Steenkamp, N. and R. Roberts (2018), “Does workload and institutional pressure on accounting educators affect academia at Australian universities?”, *Accounting & Finance*, Vol. 60/1, pp. 471-506, <https://doi.org/10.1111/acfi.12340>. [133]
- Stephenson, G. et al. (2020), *Teaching, Research and the Canadian Professoriate: Findings from the 2018 APIKS survey*, Research Institute for Higher Education, Hiroshima University, <https://doi.org/10.15027/48953>. [99]
- Stephenson, G. et al. (2022), “Canadian Universities and Incentives for Teaching or Research: Institutional Oversight and Supports”, in Huang, F., T. Aarrevaara and U. Teichler (eds.), *Teaching and Research in the Knowledge-Based Society*, Springer International Publishing, [https://doi.org/10.1007/978-3-031-04439-7\\_3/COVER](https://doi.org/10.1007/978-3-031-04439-7_3/COVER). [37]
- Sümer, S. and H. Eslen-Ziya (2022), “Academic women’s voices on gendered divisions of work and care: ‘Working till I drop . . . then dropping’”, *European Journal of Women’s Studies*, Vol. 30/1, pp. 49-65, <https://doi.org/10.1177/13505068221136494>. [298]
- Swann, J. (2022), “Academic bullying and diversity: challenges and solutions”, *FEBS Letters*, Vol. 596/22, pp. 2855-2858, <https://doi.org/10.1002/1873-3468.14504>. [334]
- Swedish Ministry of Education and Research (2023), *Swedish Higher Education Authority to conduct case studies on academic freedom*, Government Offices of Sweden, <https://www.government.se/press-releases/2023/01/swedish-higher-education-authority-to-conduct-case-studies-on-academic-freedom/> (accessed on 11 April 2023). [417]
- Täuber, S. (2022), “Women Academics’ Intersectional Experiences of Policy Ineffectiveness in the European Context”, *Frontiers in Psychology*, Vol. 13, <https://doi.org/10.3389/fpsyg.2022.810569>. [331]
- Täuber, S. et al. (2022), “Harassment as a consequence and cause of inequality in academia: A narrative review”, *eClinicalMedicine*, Vol. 49, p. 101486, <https://doi.org/10.1016/j.eclinm.2022.101486>. [335]
- TCD (2019), *Procedures for progression within the Assistant Professor grade*, <https://www.tcd.ie/hr/assets/pdf/procedure46a-asst-prof-progression.pdf> (accessed on 1 March 2023). [189]
- Teelken, C. (2018), “Teaching assessment and perceived quality of teaching: a longitudinal study among academics in three European countries”, *European Journal of Higher Education*, Vol. 8/4, pp. 382-399, <https://doi.org/10.1080/21568235.2018.1490661>. [166]
- Teichler, U. (2021), “Are Academics Driven by Managerialism? Governance and the Changing Role of Academics on the Way Towards a Knowledge Society”, *Acta Paedagogica Vilnensia*, Vol. 46, pp. 13-26, <https://doi.org/10.15388/actpaed.2021.46.1>. [53]
- Teichler, U., T. Aarrevaara and F. Huang (2022), “Conclusion: What We Know About the Teaching-Research Nexus in the Knowledge-Based Society”, in *The Changing Academy – The Changing Academic Profession in International Comparative Perspective, Teaching and Research in the Knowledge-Based Society*, Springer International Publishing, Cham, [https://doi.org/10.1007/978-3-031-04439-7\\_13](https://doi.org/10.1007/978-3-031-04439-7_13). [91]
- Teichler, U. and E. Höhle (eds.) (2013), *The Work Situation of the Academic Profession in Europe: Findings of a Survey in Twelve Countries*, Springer Netherlands, Dordrecht, <https://doi.org/10.1007/978-94-007-5977-0>. [405]

- Teichler, U., E. Höhle and A. Jacob (2017), “The Academic Profession in Germany”, in [253]  
*Challenges and Options: The Academic Profession in Europe*, Springer International  
 Publishing, Cham, [https://doi.org/10.1007/978-3-319-45844-1\\_7](https://doi.org/10.1007/978-3-319-45844-1_7).
- Ter Bogt, H. and R. Scapens (2012), “Performance Management in Universities: Effects of the [185]  
 Transition to More Quantitative Measurement Systems”, *European Accounting Review*, pp. 1-  
 47, <https://doi.org/10.1080/09638180.2012.668323>.
- Thompson, G. (2021), *The Global Report on the Status of Teachers 2021*, Education [33]  
 International, [https://www.ei-ie.org/en/item/25403:the-global-report-on-the-status-of-teachers-  
 2021](https://www.ei-ie.org/en/item/25403:the-global-report-on-the-status-of-teachers-2021) (accessed on 24 February 2023).
- Tijssen, R., W. Lamers and A. Yegros (2017), “UK universities interacting with industry: patterns [245]  
 of research collaboration and inter-sectoral mobility of academic researchers”, *Centre for  
 Global Higher Education working paper series*, No. 14, CGHE, Oxford,  
<https://www.researchcghe.org/perch/resources/publications/wp14.pdf> (accessed on  
 21 July 2023).
- Tohmo, T. and J. Viinikainen (2017), “Does intersectoral labour mobility pay for academics?”, [248]  
*Scientometrics*, Vol. 113/1, pp. 83-103, <https://doi.org/10.1007/S11192-017-2477-9/TABLES/9>.
- UCU (2022), *Workload survey 2021 - Data report*, University and College Union, London, [125]  
[https://www.ucu.org.uk/media/12905/UCU-workload-survey-2021-data-  
 report/pdf/WorkloadReportJune22.pdf](https://www.ucu.org.uk/media/12905/UCU-workload-survey-2021-data-report/pdf/WorkloadReportJune22.pdf) (accessed on 27 February 2023).
- UCU (2021), *Precarious work in higher education: Insecure contracts and how they have changed [28]  
 over time*, University and College Union, London,  
[https://www.ucu.org.uk/media/10899/Precarious-work-in-higher-education-May-20/pdf/ucu\\_he-  
 precarious-report\\_may20.pdf](https://www.ucu.org.uk/media/10899/Precarious-work-in-higher-education-May-20/pdf/ucu_he-precarity-report_may20.pdf) (accessed on 3 March 2023).
- UCU (2019), *Counting the costs of casualisation in higher education*, University and College [59]  
 Union, London, [https://www.ucu.org.uk/media/10336/Counting-the-costs-of-casualisation-in-  
 higher-education-Jun-19/pdf/ucu\\_casualisation\\_in\\_HE\\_survey\\_report\\_Jun19.pdf](https://www.ucu.org.uk/media/10336/Counting-the-costs-of-casualisation-in-higher-education-Jun-19/pdf/ucu_casualisation_in_HE_survey_report_Jun19.pdf) (accessed on  
 14 June 2023).
- UHR (2022), *Deanskolen 2023 [Dean’s School 2023]*, [https://www.uhr.no/temasider/uhr-  
 dekanskolen/](https://www.uhr.no/temasider/uhr-dekanskolen/) (accessed on 12 January 2023). [237]
- UHR (2021), *NOR-CAM-A toolbox for recognition and rewards in academic careers*, Universities [201]  
 Norway, Oslo, [https://www.uhr.no/en/news-from-uhr/nor-cam-a-toolbox-for-recognition-and-  
 rewards-in-academic-careers.5780.aspx](https://www.uhr.no/en/news-from-uhr/nor-cam-a-toolbox-for-recognition-and-rewards-in-academic-careers.5780.aspx) (accessed on 1 March 2023).
- UKÄ (2022), *Antal personer 2022 (Number of People 2022)*, Swedish Higher Education Authority [30]  
 (UKÄ), Stockholm, [https://www.uka.se/integrationer/hogskolan-i-  
 siffror/statistik?statq=https://statistik-api.uka.se/api/totals/121](https://www.uka.se/integrationer/hogskolan-i-siffror/statistik?statq=https://statistik-api.uka.se/api/totals/121) (accessed on 15 June 2023).
- UKRI (2020), *UKRI Future Leaders Fellowships Career breaks and flexible working*, Guidance for [260]  
 reviewers, [https://www.ukri.org/wp-content/uploads/2020/10/UKRI-28102020-FLF-Career-  
 breaks-and-flexible-working-FINAL-1.pdf](https://www.ukri.org/wp-content/uploads/2020/10/UKRI-28102020-FLF-Career-breaks-and-flexible-working-FINAL-1.pdf) (accessed on 6 March 2023).
- UKRI (2016), *Career breaks and flexible working: for reviewers and applicants*, UK Innovation and [261]  
 Research, [https://www.ukri.org/publications/career-breaks-and-flexible-working-for-reviewers-  
 and-applicants/](https://www.ukri.org/publications/career-breaks-and-flexible-working-for-reviewers-and-applicants/) (accessed on 6 March 2023).
- UM (2023), *Recognition & Rewards*, [https://www.maastrichtuniversity.nl/about-um/recognition-  
 rewards](https://www.maastrichtuniversity.nl/about-um/recognition-rewards) (accessed on 6 July 2023). [194]
- U-Multirank (2022), *U-Multirank Gender Monitor 2022: Gender disparities in higher education*, U- [270]  
 Multirank, [https://www.umultirank.org/press-media/press-releases/umultirank-gender-monitor-  
 2022/](https://www.umultirank.org/press-media/press-releases/umultirank-gender-monitor-2022/) (accessed on 1 March 2023).



- UNESCO (2021), *UNESCO Science Report 2021: the Race Against Time for Smarter Development*, UNESCO Publishing, Paris. [16]
- UNESCO (1997), *Recommendation concerning the Status of Higher-Education Teaching Personnel* | UNESCO, UNESCO, Paris, <https://en.unesco.org/about-us/legal-affairs/recommendation-concerning-status-higher-education-teaching-personnel> (accessed on 13 June 2023). [421]
- Universities Denmark (2021), *Principles and recommendations for research-based collaboration and consultancy*, Universities Denmark, Copenhagen, <https://dkuni.dk/faelles/principles-and-recommendations-for-research-based-collaboration-and-consultancy/> (accessed on 11 April 2023). [419]
- Universities of the Netherlands (2022), *Collective Labour Agreement for Dutch Universities: 1 April 2022 - 31 March 2023*, Universities of the Netherlands, The Hague, [https://www.universiteitenvannederland.nl/files/documenten/CAO/2022/UNL-18575-07-CAO%20Nederlandse%20Universiteiten%202022%20%28EN%29%20\(2\).pdf](https://www.universiteitenvannederland.nl/files/documenten/CAO/2022/UNL-18575-07-CAO%20Nederlandse%20Universiteiten%202022%20%28EN%29%20(2).pdf) (accessed on 28 February 2023). [86]
- Universities of the Netherlands (2022), *Fixed-term employment contracts per job category [dataset]*, Universities of the Netherlands, The Hague, <https://public.tableau.com/app/profile/petra.pieck/viz/shared/K68B4SK6Q> (accessed on 5 March 2023). [29]
- Universities of the Netherlands (2022), *Number of academic teaching staff with University Teaching Qualification (UTQ) [dataset]*, Universities of the Netherlands, [https://public.tableau.com/app/profile/petra.pieck/viz/W\\_006ENGBKOCirkel/Graph](https://public.tableau.com/app/profile/petra.pieck/viz/W_006ENGBKOCirkel/Graph) (accessed on 5 March 2023). [206]
- University of Graz (2023), *UNISTART*, Employee and organisation development, <https://personalressort.uni-graz.at/en/abteilungen/staff-and-organisational-development/unistart/> (accessed on 3 March 2023). [230]
- Urbina-Garcia, A. (2020), “What do we know about university academics’ mental health? A systematic literature review”, *Stress and Health*, Vol. 36/5, pp. 563-585, <https://doi.org/10.1002/smi.2956>. [131]
- Utrecht University (2021), *Recognition and Rewards Vision*, Utrecht University, <https://www.uu.nl/sites/default/files/UU-Recognition-and-Rewards-Vision.pdf> (accessed on 1 March 2023). [192]
- Uttl, B., C. White and D. Gonzalez (2017), “Meta-analysis of faculty’s teaching effectiveness: Student evaluation of teaching ratings and student learning are not related”, *Studies in Educational Evaluation*, Vol. 54, pp. 22-42, <https://doi.org/10.1016/j.stueduc.2016.08.007>. [168]
- van Dalen, H. and K. Henkens (2012), “Intended and Unintended Consequences of a Publish-or-Perish Culture: A Worldwide Survey”, *SSRN Electronic Journal*, <https://doi.org/10.2139/ssrn.1983205>. [148]
- Vatanever, A. (2022), “Introduction”, in *Academic Freedom and Precarity in the Global North*, Routledge, London, <https://doi.org/10.4324/9781003256984-1>. [390]
- VSNU (2015), *Collective Labour Agreement (cao) of Dutch universities, 1 January 2015 – 1 July 2016 inclusive*, Association of Universities in the Netherlands, The Hague, <http://www.vsnunl> (accessed on 28 February 2023). [85]
- VSNU et al. (2019), *Room for everyone’s talent*, VSNU, NFU, KNAW, NWO and ZonMw, <https://www.universiteitenvannederland.nl/recognitionandrewards/wp-content/uploads/2019/11/Position-paper-Room-for-everyone%E2%80%99s-talent.pdf> (accessed on 1 March 2023). [191]

- Walakira, L. and S. Wright (2017), “Working Papers on University Reform The mobile academic A survey of mobility among Marie Skłodowska-Curie doctoral fellows”, *Working Paper*, No. 25, Aarhus University: Danish School of Education, Aarhus, <http://edu.au.dk/forskning/omraader/epoke/>. (accessed on 1 March 2023). [257]
- Wardell, S. (2021), *Academic life: What does a “lecturer” do*, Twitter: @Unlazy\_Susan, [https://twitter.com/Unlazy\\_Susan/status/1409276731786027009/photo/1](https://twitter.com/Unlazy_Susan/status/1409276731786027009/photo/1) (accessed on 7 August 2023). [88]
- Weckman, T. (2021), *Know Your Rights: Guidelines for dealing with online harassment*, Finnish Union of University Researchers and Teachers, <https://tieteentekijat.fi/en/know-your-rights-guidelines-for-dealing-with-online-harassment/> (accessed on 11 April 2023). [418]
- Whitchurch, C., W. Locke and G. Marini (2019), “A delicate balance: optimising individual aspirations and institutional missions in higher education”, *Centre for Global Higher Education working paper series*, No. 45, CGHE, Oxford, <https://www.researchcghe.org/perch/resources/publications/to-publish-wp45.pdf> (accessed on 21 July 2023). [238]
- Williams, R. (2021), “The effect of casual teaching on student satisfaction: evidence from the UK”, *Education Economics*, Vol. 30/1, pp. 91-111, <https://doi.org/10.1080/09645292.2021.1958168>. [19]
- Williams, T. (2022), *THE work-life balance survey 2022*, <https://www.timeshighereducation.com/depth/work-life-balance-survey-2022> (accessed on 19 June 2023). [129]
- Wilson, F. (ed.) (2021), “Differential retention contributes to racial/ethnic disparity in U.S. academia”, *PLOS ONE*, Vol. 16/12, p. e0259710, <https://doi.org/10.1371/journal.pone.0259710>. [320]
- Wilson, M. et al. (2014), “Navigating the Career Transition from Industry to Academia”, *Industry and Higher Education*, Vol. 28/1, pp. 5-13, <https://doi.org/10.5367/ihe.2014.0189>. [256]
- Winka, K. and Å. Ryegård (2021), *Pedagogiska meriteringsmodeller vid Sveriges universitet och högskolor 2021 [Pedagogical qualification models at Sweden’s universities and colleges in 2021]*, Umeå University, Umeå, <https://umu.diva-portal.org/smash/get/diva2:1608541/FULLTEXT02.pdf> (accessed on 6 July 2023). [195]
- Wong, K., A. Chan and S. Ngan (2019), “The Effect of Long Working Hours and Overtime on Occupational Health: A Meta-Analysis of Evidence from 1998 to 2018”, *International Journal of Environmental Research and Public Health*, Vol. 16/12, p. 2102, <https://doi.org/10.3390/ijerph16122102>. [123]
- Woolston, C. (2021), “Discrimination still plagues science”, *Nature*, Vol. 600/7887, pp. 177-179, <https://doi.org/10.1038/d41586-021-03043-y>. [333]
- Woolston, C. (2020), “Postdoc survey reveals disenchantment with working life”, *Nature*, Vol. 587/7834, pp. 505-508, <https://doi.org/10.1038/d41586-020-03191-7>. [46]
- Woolston, C. (2019), “PhDs: the tortuous truth”, *Nature*, Vol. 575/7782, pp. 403-406, <https://doi.org/10.1038/d41586-019-03459-7>. [47]
- Xiaotao Ran, F. and D. Xu (2018), “Does Contractual Form Matter?”, *Journal of Human Resources*, Vol. 54/4, pp. 1081-1120, <https://doi.org/10.3368/jhr.54.4.0117.8505r>. [65]
- Ylijoki, O. and L. Henriksson (2015), “Tribal, proletarian and entrepreneurial career stories: junior academics as a case in point”, *Studies in Higher Education*, Vol. 42/7, pp. 1292-1308, <https://doi.org/10.1080/03075079.2015.1092129>. [240]
- Záborská, K. et al. (2017), “Burnout among university faculty: the central role of work–family conflict”, *Educational Psychology*, Vol. 38/6, pp. 800-819, <https://doi.org/10.1080/01443410.2017.1340590>. [74]

- Zacher, H. et al. (2019), “Academic career development: A review and research agenda”, *Journal of Vocational Behavior*, Vol. 110, pp. 357-373, <https://doi.org/10.1016/j.jvb.2018.08.006>. [211]
- Zewolde, S. (2021), “Racism and Othering in International Higher Education: Experiences of Black Africans in England”, *Centre for Global Higher Education working paper series*, No. 62, CGHE, <https://www.researchcghe.org/perch/resources/publications/working-paper-62.pdf> (accessed on 13 July 2023). [322]
- Zhang, T. (2022), *National Developments in Learning and Teaching in Europe*, European University Association, Brussels, [https://eua.eu/downloads/publications/lotus%20report\\_2022\\_fin2.pdf](https://eua.eu/downloads/publications/lotus%20report_2022_fin2.pdf) (accessed on 2 March 2023). [197]
- Ziamba, E. and M. Eisenhardt (2021), “The Effect of the Covid-19 Pandemic on ICT Usage by Academics”, *Journal of Computer Information Systems*, Vol. 62/6, pp. 1154-1168, <https://doi.org/10.1080/08874417.2021.1992806>. [212]

## Resourcing Higher Education Project



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

### For more information

**Contact:** Simon Roy, Team Leader, [simon.roy@oecd.org](mailto:simon.roy@oecd.org)

---

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

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document, as well as any data and any map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

The statistical data for Israel are supplied by and are under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Note by Türkiye:

The information in this document with reference to “Cyprus” relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Türkiye recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Türkiye shall preserve its position concerning the “Cyprus issue”.

Note by all the European Union Member States of the OECD and the European Union:

The Republic of Cyprus is recognised by all members of the United Nations with the exception of Türkiye. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

This document was produced with the financial assistance of the European Union. The views expressed herein can in no way be taken to reflect the official opinion of the European Union.

---

The use of this work, whether digital or print, is governed by the Terms and Conditions to be found at <http://www.oecd.org/termsandconditions>.