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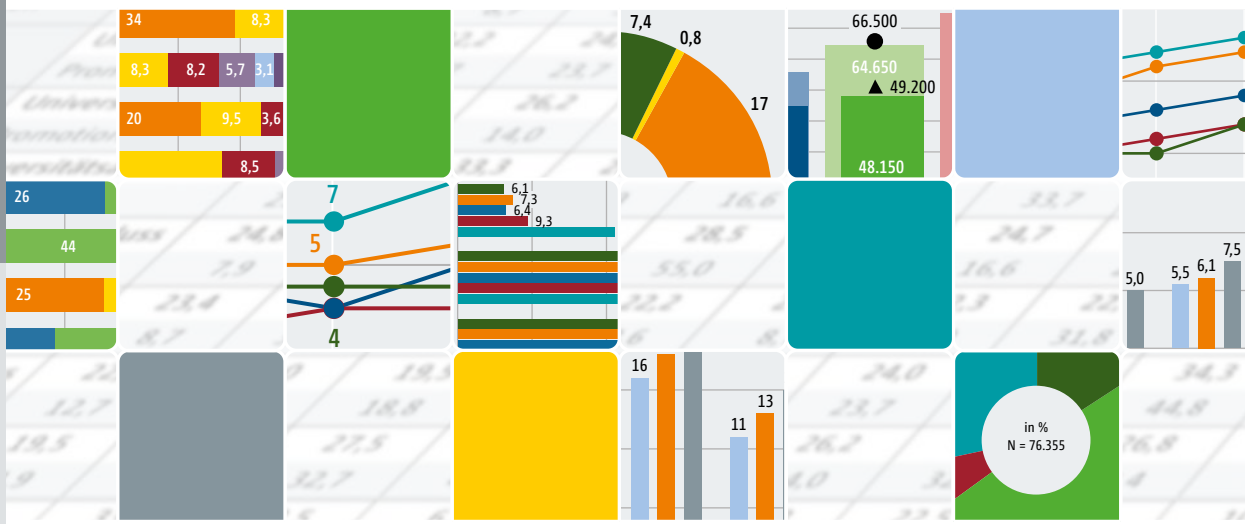
National Report on Early Career Researchers 2025



Statistical Data and Research Findings on Doctoral Candidates and Doctorate Holders in Germany

Overview of key results

2025

wbv

The National Report 2025 was compiled by an independent scientific consortium under the direction of the Institute for Innovation and Technology (iit) in the VDI/VDE-IT.

The iit was represented on the consortium by Dr. Rasmus Bode, Dr. Melanie Erckrath, Dr. Nicolas Winterhager, Nadine Birner, Julia Froese and Dr. Alexandra Shajek.

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German Centre for Higher Education Research and Science Studies *(DZHW)*, represented by Dr. Kolja Briedis

Institute for Higher Education Research Halle-Wittenberg *(HoF)*, represented by Dr. des. Robert Aust

International Center for Higher Education Research Kassel *(INCHER-Kassel)*, represented by Prof. Dr. Guido Bünstorf and Dr. Johannes König

Federal Statistical Office Germany *(Destatis)*, represented by Pia Brugger

Other bodies involved in the National Report 2025
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Moreover, the consortium coordinated the collaboration with a steering committee, composed of representatives from the following institutions:
- Federal Ministry of Education and Research *(BMBF)*
- German Research Foundation *(DFG)*
- The ministries of higher education and science of the federal states, represented by the Brandenburg Ministry of Science, Research and Culture *(MWFK)*
- German Rectors' Conference *(HRK)*
- Standing Conference of the Ministers of Education and Cultural Affairs
- German Council of Science and Humanities (WR)

Supporting studies for the National Report on Early Career Researchers 2025
The National Report 2025 was based on supporting studies. The following played a part in conducting the supporting studies:

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Dr. Melanie Erckrath, Dr. Cornelia van Scherpenberg, Dr. Anne Busch, Dr. Valentin Wagner, Dr. Sebastian Jakob (Institut für Innovation und Technik, iit)

Published by
Konsortium BuWiK (National Report Consortium)

The summary is based on the publication entitled:
BuWiK 2025 – Bundesbericht Wissenschaftlerinnen und Wissenschaftler in einer frühen Karrierephase
Statistische Daten und Forschungsbefunde zu Promovierenden und Promovierten in Deutschland
(National Report on Early Career Researchers 2025
Statistical Data and Research Findings on Doctoral Candidates and Doctorate Holders in Germany)
Bielefeld 2025, 300 pages, €49.90 (D)
ISBN 978-3-7639-7823-6, order no. 6004603b

Overall production and publisher
wbv Publikation
A division of wbv Media GmbH & Co. KG,
Auf dem Esch 4, 33619 Bielefeld,
service@wbv.de, 2025

Conceptual design
Marion Schnepf

Layout
Andreas Koch

Translation
Caroline Hörl, Great British Translations, Forstern

Printed in Germany

This publication is available for free download at **buwik.de**

The project on which this report is based was funded by the Federal Ministry of Education and Research.

SPONSORED BY THE

Federal Ministry of Education and Research

Konsortium BuWiK

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Introduction

Early career researchers contribute significantly to scientific and societal progress and innovation even during their qualification phases, such as doctoral and post-doctoral studies. At the same time, their qualification is essential to meet the growing demand for highly skilled professionals in the modern knowledge society. It is thus especially important to report on the situation of early career researchers.

The purpose of the National Report on Early Career Researchers (Bundesbericht Wissenschaftlerinnen und Wissenschaftler in einer frühen Karrierephase – BuWiK) is to process and analyse current findings and data relating to early career academics in Germany and to make such data available for research. This report serves as a source of foundational empirical knowledge for the academic community, as well as a resource for Germany's federal and state governments, scientific institutions and funding organisations. Furthermore, this report offers a valuable point of reference for early career researchers themselves.

The National Report 2025 comprises four sections (**A** to **D**). **Section A** outlines the general conditions for the qualification of early career researchers and describes the methodologies used in the report. **Section B** presents statistical data and the latest research findings on the number of early career researchers (**Chapter B1**), their working and employment conditions (**Chapter B2**), qualification requirements during their doctoral studies and transitions into further training (**Chapter B3**) and the career paths and prospects of young academics after completing their doctorate (**Chapter B4**). It also covers fixed-term contracts in academic employment (**Chapter B5**), the compatibility of family life and an academic career (**Chapter B6**) and the international status and international mobility of early career researchers (**Chapter B7**). Finally, **Chapter B8** examines the impact of the pandemic on early career researchers.

Previous National Reports each focused on a different aspect of early career researchers:

- International comparison of professional qualifications (2008)
- Career prospects and career trajectories following doctoral studies (2013)
- The compatibility of family life and an academic career (2017)
- Career paths pursued by doctorate holders (2021)

The central topic of the National Report 2025 is "Establishing tenure track professorships". **Section C** of the report describes the development of the joint programme by the federal government and federal states and the corresponding science policy discourse (**Chapter C1**). Subsequently, it examines the impact of introducing and establishing the tenure track professorship in Germany on the following:

- The staff structure and career system at universities (**Chapter C2**),
- The further development of the regulatory framework (**Chapter C3**) and
- Established decision-making processes and procedures at universities (**Chapter C4**).

Furthermore, the attractiveness of the tenure track professorship career path is examined in an international comparison (**Chapter C5**), contrasting the situation in Germany with that in Austria, Switzerland and the Netherlands.

Section D concludes the report by identifying research desiderata (**Chapter D1**), outlining perspectives for the further development of data and concepts (**Chapter D2**) and proposing ideas for expanding the report in the future (**Chapter D3**).

As this is a national report, the following statements focus on developments throughout Germany. As in previous reports, the perspective of individual universities, non-university research institutes (NURI) and the specific situation in Germany's federal states can only be considered on a case-by-case basis. Typically, data on the universities and NURI is presented in summarised form. Where feasible and appropriate, the findings continue to be shown separately by sex, training and career phase, and subject group.

A General conditions for the qualification and methodological explanations

A1 Expenditure on research and development and staff

- **More expenditure on research and development:** In Germany, the state, industry and higher education sector combined spent 121.2 billion euros on research and development (R&D) in 2022. This marks the third consecutive year of growth in Germany, maintaining an R&D intensity of 3.1%. **Table 1** breaks down the R&D expenditure by sectors. As in previous years, the business enterprise sector accounts for the largest share by far of expenditure in Germany, constituting 2.1% of the country's GDP in 2022.
- **Universities and NURI are the main providers of training and support for early career researchers:** A major part of research activities are carried out by early career researchers at universities and non-university research institutes. Universities and NURI are the main providers of training and support for early career researchers in Germany. However, early career researchers are not just trained to work at universities and NURI. The demand for qualified academic staff is still significantly higher in employment fields outside the higher education sector than at universities and NURI. Over the course of their career, most early career researchers leave universities and NURI permanently to take up employment in other sectors, particularly the private sector. Therefore, maintaining and strengthening the academic qualifications of early career researchers is crucial to Germany's innovative capacity and competitiveness.

Table 1: Internal absolute expenditure on research and development in Germany, in millions of euros and in % of GDP[1] (2005 to 2022)

Year	Government, private non-profit sector				Universities		Industry		Total	
	Total		Science organisations[2]							
	R&D expenditure in millions of euros	Share of GDP in %	R&D expenditure in millions of euros	Share of GDP in %	R&D expenditure in millions of euros	Share of GDP in %	R&D expenditure in millions of euros	Share of GDP in %	R&D expenditure in millions of euros	Share of GDP in %
2005	7,867	0.3	5,801	0.3	9,361	0.4	38,651	1.7	55,879	2.4
2010	10,354	0.4	7,671	0.3	12,731	0.5	46,929	1.8	70,014	2.7
2015	12,486	0.4	9,542	0.3	15,344	0.5	60,952	2.0	88,782	2.9
2019	15,022	0.4	11,207	0.3	19,173	0.6	75,830	2.2	110,025	3.2
2020	15,589	0.5	11,693	0.3	19,962	0.6	71,032	2.1	106,583	3.1
2021	16,761	0.5	12,179	0.3	20,661	0.6	75,761	2.1	113,184	3.1
2022	17,605	0.5	12,800	0.3	22,007	0.6	81,809	2.1	121,421	3.1

1 As of April 2024.
2 Institutes for science, research and development funded jointly by the federal government and the federal states: the Fraunhofer Society for the Promotion of Applied Research (FhG), the Helmholtz Association of German Research Centres (HGF), the Max Planck Society for the Advancement of Science (MPG) and the Gottfried Wilhelm Leibniz Society of Sciences (Leibniz Association, WGL).

Source: Federal Statistical Office (various): Ausgaben, Einnahmen und Personal der öffentlichen und öffentlich geförderten Einrichtungen für Wissenschaft, Forschung und Entwicklung – Fachserie 14, Reihe 3.6, Wiesbaden; for NURI: Federal Statistical Office (2024), Ausgaben, Einnahmen und Personal der öffentlichen und öffentlich geförderten Einrichtungen für Wissenschaft, Forschung und Entwicklung, special evaluation, Wiesbaden

A2 Qualification and advancement

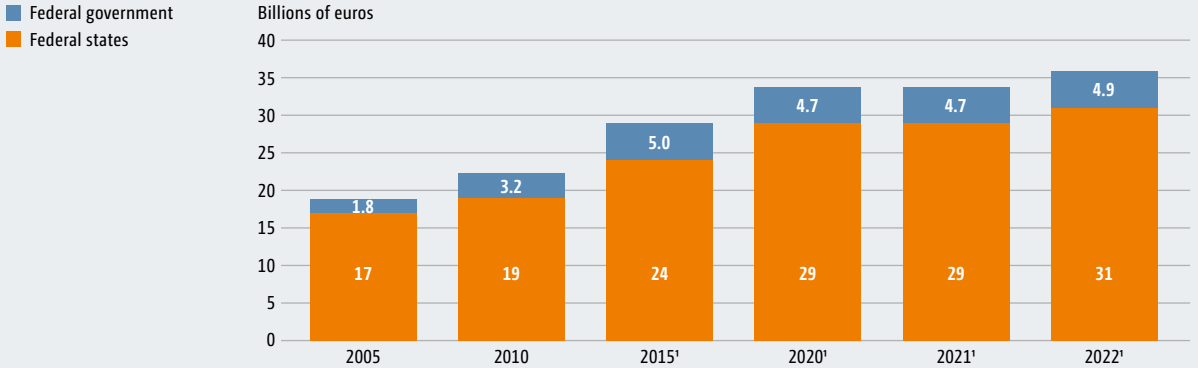
- **Granting universities of applied sciences (UAS) the right to award doctorates:** In the 2022/23 winter semester there were 423 universities in Germany. These are categorised into 182 universities and equivalent higher education institutions (i.e. colleges of education, theology and art), and 241 UAS and colleges of public administration. Until 2015, the right to award doctorates was held exclusively by universities and equivalent institutions. In 2016, Fulda University of Applied Sciences in Hesse was the first UAS to obtain the right to award doctorates. As of 2023, eight of the 16 federal states had granted UAS a special right to confer doctorates.

- **NURI also play a major role in academic qualification:** NURI are involved in academic qualification by means of cooperation agreements for doctoral programs. Four major scientific organisations are crucial in this regard: the Max Planck Society for the Advancement of Science (MPG), the Fraunhofer Society for the Promotion of Applied Research (FhG), the Helmholtz Association of German Research Centres (HGF) and the Gottfried Wilhelm Leibniz Society of Sciences (WGL).

  Apart from these four scientific institutes, NURI also include – according to the definition of the term in this report – federal government and federal state research institutes, scientific libraries, science museums and academies (unless they are part of WGL) and other publicly funded, non-profit organisations dedicated to science, research and development.

- **The financial situation for training and promoting early career researchers is improving in nominal terms:** Primary funding for state universities comes almost exclusively from the budgets of the federal states. These funds are the most important foundation for the qualification and advancement of early career researchers. They rose significantly in nominal terms from 19 billion euros to 35 billion euros between 2005 and 2022 (**Fig. 1**). NURI are financed through federal budgets or by joint research funding from the federal government and the federal states. In addition to basic funding, universities and NURI receive third-party funding, which supports various activities, including training early career researchers. For the most part, this involves initiatives and programmes offered by the German Research Foundation (DFG), the federal government, the private sector, the EU and various foundations. Furthermore, third-party funding, current basic funding (universities) and institutional funding (NURI) have all risen substantially in nominal terms since 2005.

Fig. 1: Public expenditure on the higher education sector over time (2005 to 2023) by governmental body (in billions of euros)



1 Provisional data. The data for these reporting years of the Report on Educational Finance is based on budgetary statistics and not on annual accounting results of government budgets and is therefore considered provisional.

Source: Federal Statistical Office (various), Report on Educational Finance, Wiesbaden; own representation

- **The Tenure Track Programme of the federal government and the federal states:** The career and qualification conditions for early career researchers have figured prominently in university reform initiatives in recent years. The Tenure Track Programme of the federal government and the federal states was adopted in 2016 with the aim of promoting early career scientists by establishing tenure track professorships throughout Germany as a separate career path. Of the 1,000 tenure track professorships granted, a total of 971 professorships had been awarded for the first time by the end of the appointment period of the second allocation round (31 May 2023).
- **Initiative for Excellence and Excellence Strategy:** The Excellence Strategy, which was adopted indefinitely in 2016 by the federal government and the federal states as the successor to the Excellence Initiative, has two funding mechanisms: Clusters of Excellence and Universities of Excellence. Since 2019, a total of 533 million euros has been earmarked for these initiatives each year. From 2026, which will see the start of the second round of funding for the Clusters of Excellence, the annual budget for the overall programme will increase to 687 million euros. Integrating the advancement of early career researchers into the research structures of the Clusters of Excellence creates structured doctoral opportunities and development opportunities for doctoral holders. Moreover, financed by the Universities of Excellence programme, universities and consortia (composed of universities and/or NURI) can improve conditions and facilitate career progression for young academics as part of their structural profile.
- **Programme to promote the recruitment and development of professorial staff at universities of applied sciences ("FH-Personal"):** Since 2021, the federal government and the federal states have supported UAS in developing and implementing university- and site-specific concepts to attract and train professors. This funding initiative was launched following recommendations made by the German Council of Science and Humanities in 2016, which identified difficulties in recruiting professors and advised that measures be taken in terms of staff structure, recruitment, qualification and personnel management. Overall, 98 UAS are funded by "FH-Personal", selected from the 241 UAS through a competitive process. The federal government and the federal states have allocated a total budget of up to 431 million euros to finance the programme, subject to the approval of resources by the legislative bodies. The programme indirectly supports early career researchers by creating additional career opportunities for young academics at UAS.
- **Higher Education Pact 2020 and the Future Contract for Strengthening Studying and Teaching in Higher Education:** In the context of the Higher Education Pact 2020 – to date the most extensive funding programme for the German higher education system – the federal and state governments provided 39 billion euros between 2007 and 2023 to increase university capacities. As a result, the federal-state agreement on the Future Contract for Strengthening Studying and Teaching in Higher Education aims to improve the quality of study programmes and teaching. The federal government and the federal states together allocated approximately 3.8 billion euros each year in 2021 and 2022 for this purpose. The extensive funding, which has been approved indefinitely, will create additional employment opportunities for early career researchers at universities.
- **Pact for Research and Innovation (PFI I-IV):** The fourth funding phase of the PFI, adopted in 2019, is set to run from 2021 to 2030 and applies to the DFG, the FhG, the HGF, the MPG and the WGL. The initiatives are specifically intended for early career researchers, aiming to attract – and retain – the best and the brightest. In this regard, there is a

general obligation to identify and offer early career researchers development paths both within and outside the world of academia.

- **Programme for Female Professors:** Adopted in 2008 by the federal government and the federal states, the Programme for Female Professors intends to increase the number of women in professorial positions in order to achieve greater parity at German universities and to sustainably reinforce equal opportunities structures at universities through targeted measures. The fourth phase of the "Programme for Female Professors 2030" began in 2023 and will continue until 2030, endowed with a total funding volume of 320 million euros (split equally between the federal government and the federal states). The key objectives of the underlying federal-state agreement include the following: to further increase the percentage of women and establish parity in top academic positions and at executive levels, to facilitate career planning in science and art and, finally, to encourage the career advancement and development of early career female researchers as they transition from postdoc to professorship.
- **The German Law on Fixed-Term Employment Contracts in the Science and Research Sector (WissZeitVG):** Approved in 2007, the WissZeitVG regulates the conditions for concluding fixed-term employment contracts with academic and artistic staff at universities and NURI in Germany. The law was amended in 2016 following an initial evaluation. In particular, the amendment was intended to offer early career researchers more stable and longer-term prospects by linking the duration of fixed-term employment contracts to the purpose of the temporary status. An evaluation of the 2016 amendment was published in 2022. Among other findings, the evaluation revealed that the practice of issuing fixed-term contracts at universities and NURI continues to be strongly influenced by lengthy periods with fixed-term contracts, late decisions on whether to remain in academia and a high proportion of short-term contracts for less than one year. Moreover, the percentage of temporary third-party funding in universities has also increased significantly. On 27 March 2024, the Federal Cabinet passed a further reform to the WissZeitVG aimed at facilitating advance planning and reliability for academics and researchers in the qualification phase.

A3 Current key topics

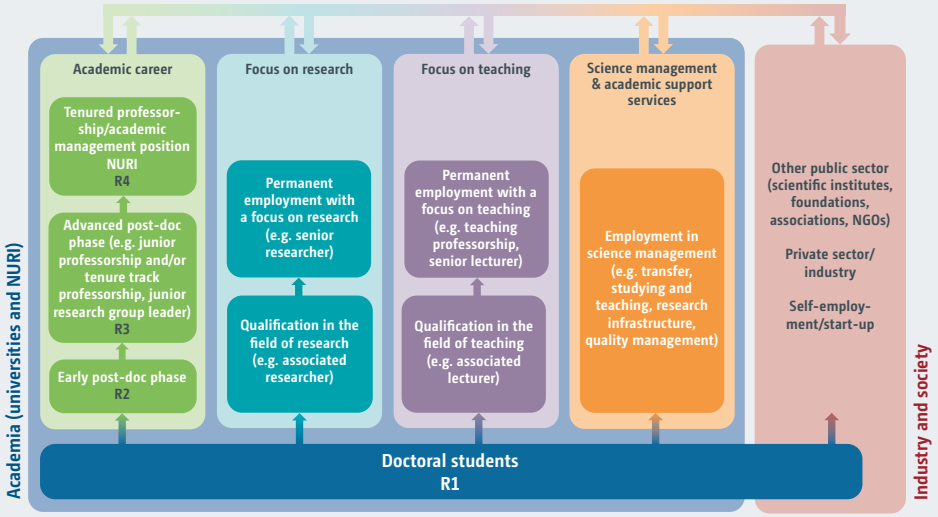
- **Career prospects and employment conditions in academia:** Over the last four years, several trains of thought have dominated the discourse on career prospects and employment conditions. These include proposals to reform the WissZeitVG, addressing the fixed-term employment conditions of non-professorial staff (including doctoral students and doctorate holders), which are often described as "precarious", improving personnel structures within the academic system and tackling the looming shortage of highly qualified professionals. The two central aspects of the discussion continue to be the high percentage of fixed-term employment contracts among early career researchers and the resulting lack of predictability in their academic career progression.
- **Equal opportunities and the compatibility of family life and an academic career:** Issues related to equal opportunities for women and men, promoting diversity in general and the compatibility of family life and an academic career are still subject to intense debate. Calls to improve the compatibility of family life and an academic career stem from the recognition that the uncertain employment prospects and mobility expectations faced by early career researchers are difficult to reconcile with the decision to have children.

- **Ensuring the quality of academic qualifications:** Since the National Report on Early Career Researchers 2021, discussions surrounding accusations of plagiarism in dissertations submitted by public figures, the practice of doctorates in medicine and ensuring the quality of industrial doctorates have declined significantly. Over the last four years, however, the debate has focused on the increasing diversity of doctoral studies in Germany, including granting UAS in various federal states the right to confer doctorates. Another topic that is increasingly gaining traction is science communication. The pandemic highlighted this form of dialogue between science and society, revealing associated quality standards and the requirements for developing expertise.
- **Internationalisation:** The debate on international developments in academia and the internationalisation of universities mainly refers to academics and researchers as a whole, rather than specifically to early career researchers. The debate focuses on shifts in the global landscape of science policy and conflicts that challenge research security in Germany. In response, higher education policymakers want to expand international consortia with selected partners, while considering the advantages and disadvantages of international collaboration more carefully. The latter applies particularly to dealings with autocratic states such as the People's Republic of China. Moreover, academics and politicians have condemned Russia's war of aggression against Ukraine. Scientific cooperation with Russian institutes has been suspended and research funding frozen. At the same time, measures have been implemented to support researchers from Ukraine.
- **Covid-19 pandemic:** The restrictions necessitated by the pandemic transformed how universities and NURI work, at least temporarily. Early career researchers were affected by delays in research projects, due to difficulties in accessing libraries and research facilities or laboratory closures. Juggling the demands of family and work – a formidable challenge experienced by society as a whole, especially families with dependent children – also hindered the productivity and publication activities of early career researchers.

A4 The definition of early career researchers

- **New terminology for early career researchers:** The term "junior scholars" faced public criticism for some time. Therefore, the consortium has decided to stop using the term in favour of "early career researchers".
- **No change in the basic concept of the old and new terminology:** The core definition of the new term, early career researchers, does not differ from that of "junior scholars". Early career researchers primarily include researchers who are undertaking doctoral studies or who, having obtained their doctorate, are pursuing an academic career at universities and NURI with the goal of securing a management position in academia (usually a tenured professorship). According to the parliamentary resolution of 18 June 2009, the current report, like its predecessors, focuses primarily on this group.
- **The National Report on Early Career Researchers 2025 takes doctoral students and doctorate holders as the starting point for the analyses:** The early career phase refers to researchers in the doctoral phase (R1) or in an early postdoc phase (R2). The advanced postdoc phase or establishment phase (R3), which includes junior and tenure track professors, as well as junior research group leaders, is not considered part of the early career phase. However, the R3 phase remains an important part of an academic career and is thus also included in the analyses in this report (see **Section C**).

Fig. 2: Career paths following a doctorate (ideal/typical)



Source: own representation, based on current career models and diagrams of universities and NURI in Germany

- **Varied career paths of doctorate holders both within and outside the science system:** **Figure 2** shows the phases in academic careers with reference to the EU Framework for Research Careers (2023) as well as the wide range of career options available to early career researchers within and outside the science system.

A5 Data and classifications

- The National Report prioritises key topics, which are analysed on the basis of **data from official statistics.** These statistics undergo regular validity checks, are continuously updated and, owing to their wide thematic scope, provide a variety of key indicators to monitor early career researchers.
- Where certain issues cannot be addressed using data from official statistical sources, this report draws on the results of **regular surveys and longitudinal data sets.** These mainly include findings from the IAB-INCHER project of earned doctorates (IIPED), along with the National Academics Panel Study (Nacaps), the Scientists Survey and the Student Life Cycle Panel (SLC), which are prepared by the German Centre for Research on Higher Education and Science Studies (DZHW).
- Furthermore, in cases where neither official data nor regular surveys or data sets were available on key topics, **individual studies and other data sources** were consulted.

B The results of monitoring early career researchers

B1 Basic information

- Official statistics and other data sources provide insight into the **number of early career researchers** and identify the potential for early career researchers in Germany. **Table 2 presents the figures for the different groups and career stages.** The column entitled "Data sources/notes" refers to the tables and figures in the full version of the National Report on Early Career Researchers 2025.
- **There is a notable decline in the proportion of women progressing up the qualification and career ladder in academia.** This phenomenon is referred to as the "leaky pipeline". The leaky pipeline still exists (**Fig. 3**). Compared to the National Report 2021, however, it appears that the proportion of women has increased at all levels, especially in first-time W2 appointments (from 34% to 46%). Clear gender disparities are now found only among habilitations and first-time W3 appointments. Nonetheless, the proportion of women in first-time W3 appointments rose significantly between 2018 and 2022 (from 27% to 36%).

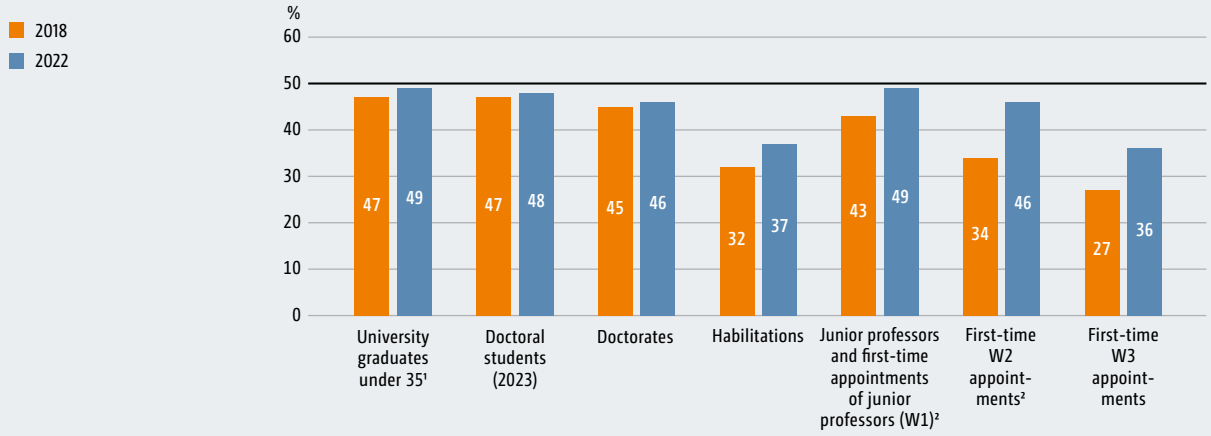
Table 2: Number of academics and potential for early career researchers in 2022

Group of academics and researchers/ potential for early career researchers	Under 35	Under 40	40 to 45	No age restriction	Data sources/notes
University graduates without a doctorate[1]	1,493,000	–	–	6,567,000	Table B1
Doctoral students	146,644	–	–	204,945	Fig B4; Federal Statistical Office (2024): Doctoral student statistics (both reference year 2023)
Doctorate holders	–	247,000	127,000	–	Table B2
Academic and artistic staff (excluding professors, main occupation) with ongoing habilitations (R2 and R3)	–	3,242	1,250	5,267	Fig. B10
Academic and artistic staff (main occupation, excluding professors) with habilitations		1,966		–	Table B14
Junior professorships (R3)	–	–	–	1,800	Fig. B17
Tenure track professorships (R3)	–	–	–	1,336	Fig. B21
Junior research group leaders (at universities) (R3)	–	–	–	981	Fig. B22
Junior research group leaders (at the four major NURI) (R3)	–	–	–	650	Table B5
Emmy Noether junior research groups (R3)	–	–	–	409	Table B6
Academic and artistic staff (excluding professors) working in universities (main occupation) (R1–R3)	44,331[2]	32,427[3]	12,834[3]	227,074	Table B7; Federal Statistical Office (2024): Staff at institutions of higher education, special evaluation, Wiesbaden
Academic staff for research and development at public sector scientific institutes (R1–R3)	25,930[4]	10,328[3]	4,554[3]	76,355	Table B9
Academics and researchers in industry	–	–	–	314,353	Table B10

1 With university degrees entitling the holders to undertake doctoral studies.
2 Doctorate not yet awarded.
3 Doctorate holders.
4 Without a doctorate.

Source: See references to figures and tables; own representation

Fig. 3: Proportion of female researchers and their potential in 2018 und 2022, by career phase (in %)

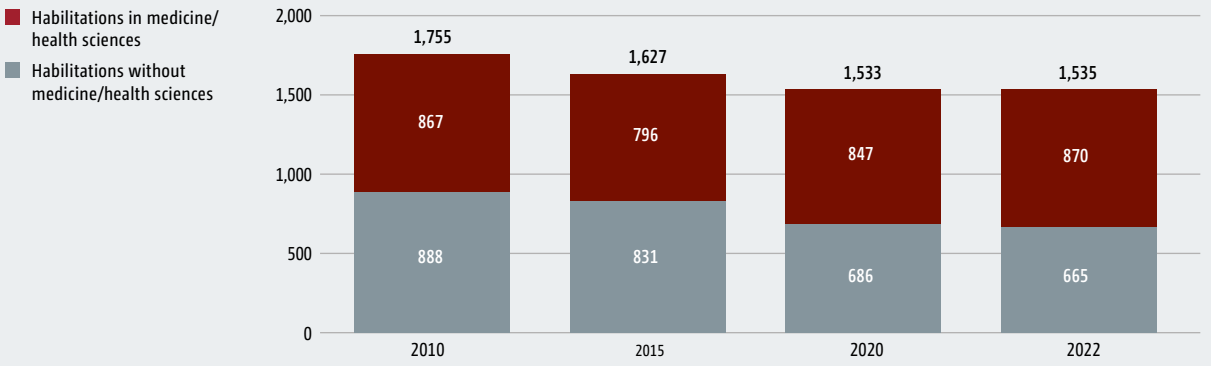


1 University degree (excluding teacher's degree): German "Magister" degree, multi-subject master's, licentiate, state examination, diploma (U), interpreter (U), translator (U), master's at universities (compulsory final examination); arts degree: diploma (art academy), master's at art academies (final examination required); university of applied science degree: diploma (UAS), interpreter (UAS), translator (UAS), master's at universities of applied sciences (final examination required).

2 Including tenure track at universities, colleges of theology and education. Here not including colleges of art and music. First-time W2 appointments, both fixed-term and permanent.

Source: For university degrees: Federal Statistical Office, GENESIS-Online, Examinations at universities, table: 21321-0004; for doctoral students: Federal Statistical Office (2024), Statistical Report – Doctoral student statistics, reporting year 2023, table: 21352-08, Wiesbaden; for doctorate holders: Federal Statistical Office (2023), Statistical Report – Examination statistics, graduation year 2022, table: 21321-02, Wiesbaden; for habilitations: Federal Statistical Office, GENESIS-Online, habilitation statistics, table: 21351-0001; for junior professors, W2 and W3 professors: Federal Statistical Office (2023), Staff at universities, special evaluation, Wiesbaden; own representation. Data for 2018 was taken from the National Report 2021 (p. 107).

Fig. 4: Completed habilitations over time (2010 to 2022)



Source: For 2022: Federal Statistical Office, GENESIS-Online, habilitation statistics, table: 21351-0001; for the other years: Federal Statistical Office (various), Staff at universities – Fachserie 11, Reihe 4.4, Wiesbaden; own representation

- **The number of habilitations has decreased continuously over time** (**Fig. 4**). Medicine/ health sciences are the exception, with relatively consistent numbers of habilitations since 2010.

B2 Working and employment conditions

- **96% of early career researchers are employed on temporary contracts:** 99.7% of doctoral candidates (R1) and 90% of doctorate holders among academic and artistic staff working in universities as their main occupation (under 35 and under 40, excluding professors) are on fixed-term contracts. The share of these contracts decreases in later career stages (**Table 3**). Differences between groups can be observed in the R3 phase: 62% of doctorate holders aged 40 to 45 are employed on temporary contracts, along with 72% of junior research group leaders and 44% of those under 45 years of age with habilitations.
- **Fewer academics and researchers under the age of 45 are on fixed-term contracts at NURI than at universities.** In 2022, this figure was 80%. Meanwhile, the share of fixed-term contracts for personnel under 35 years without a doctorate is 88%, compared to 76% among doctorate holders under 40 and 45% among doctorate holders aged 40 to 45.
- **The average contractual term is now longer than in the National Report 2021:** Doctoral students indicated that they had an average term of around 29.6 months in 2019, well above that in 2016 (22.1 months). Furthermore, the average contractual term for postdocs has increased from 27.5 months (2016) to 34.3 months (2019).
- **Most doctoral candidates are employed by a university or research facility:** According to Nacaps, the majority of doctoral students finance their studies by working at a university or research facility, with 50% citing this employment as their main source of income.

Table 3: Share of fixed-term contracts among academic and artistic staff working at universities (main occupation) in 2022 by R phases

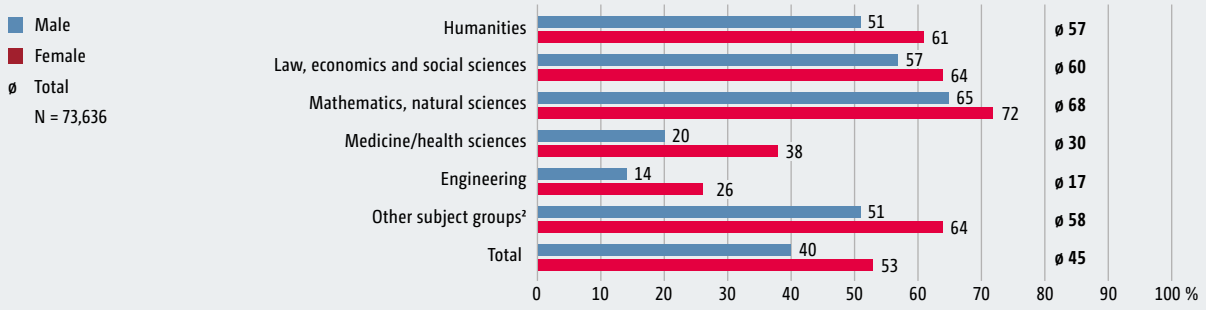
	Share of fixed-term contracts in %	N
R1 – doctoral students under 35 years of age	99.7	44,331
Female	99.6	17,051
Male	99.7	27,280
R2 – doctorate holders under 40 years of age	90	29,305
Female	90	13,970
Male	90	15,335
R3 – doctorate holders between the ages of 40 and 45 years of age	62	12,834
Female	63	6,265
Male	61	6,569
R3 – junior research group leaders[1]	72	981
Female	80	354
Male	68	627
R3 – with habilitations (under 45 years of age, excluding professors)[2]	44	1,966
Female	43	609
Male	45	1,357

1 In 2022, 78 persons were both tenure track professors and junior research group leaders. They are included here.

2 Habilitations are professional qualifications. There is therefore overlap or intersections with the other groups shown in the table. As described in Chapter A4, 8% of the junior research group leaders at universities and other institutions of equal status completed their habilitation in 2021. 13% of the tenure track professors have completed their habilitation. In 2021, 2.7% of junior professors (overall, including tenure track professors) have completed a habilitation (figures on the intersections: Federal Statistical Office (2023): Staff at universities 2021, special evaluation, Wiesbaden).

Source: Federal Statistical Office (2024): Staff at institutions of higher education, special evaluation, Wiesbaden; own representation

Fig. 5: Share of academic and artistic staff (whose doctorate has not yet been awarded, under 35, doctorate holders under 40; excluding professors) working part-time as their main occupation at universities in 2022, by sex and subject group[1] (in %)



1 The subject group "Medicine/health sciences" was extended to include "Central facilities of university clinics".
2 Sport; art, art history; agricultural, forestry and food sciences, veterinary medicine; central facilities (excluding clinic-specific facilities).
Source: Federal Statistical Office (2024), Staff at institutions of higher education, special evaluation, Wiesbaden; own representation

- **45% of early career researchers at universities are employed on a part-time basis:** 59% of doctoral students under the age of 35 (R1) work part-time, along with 25% of doctorate holders under 40 years (R2) and 37% of doctorate holders aged 40 to 45 (R3; not early career researchers).
- **Figure 5** shows the share of early career researchers (R1 and R2) in part-time employment at universities by subject group. **Across all subject groups, women are more likely to be on part-time contracts than men.** The gender disparity is particularly striking in medicine/health sciences, where the share of women in part-time employment (R1 and R2) is 18 percentage points higher than that of men (38% vs. 20%).
- **Fewer academics and researchers under 45 are on part-time contracts at NURI than at universities.** This figure was 33% in 2022. The share of part-time contracts for staff under 35 years without a doctorate (R1) is 40%, as opposed to 18% among doctorate holders under the age of 40 (R2) and 26% among doctorate holders between 40 and 45 years (R3).

B3 The transition to doctoral studies and qualification conditions for doctoral candidates

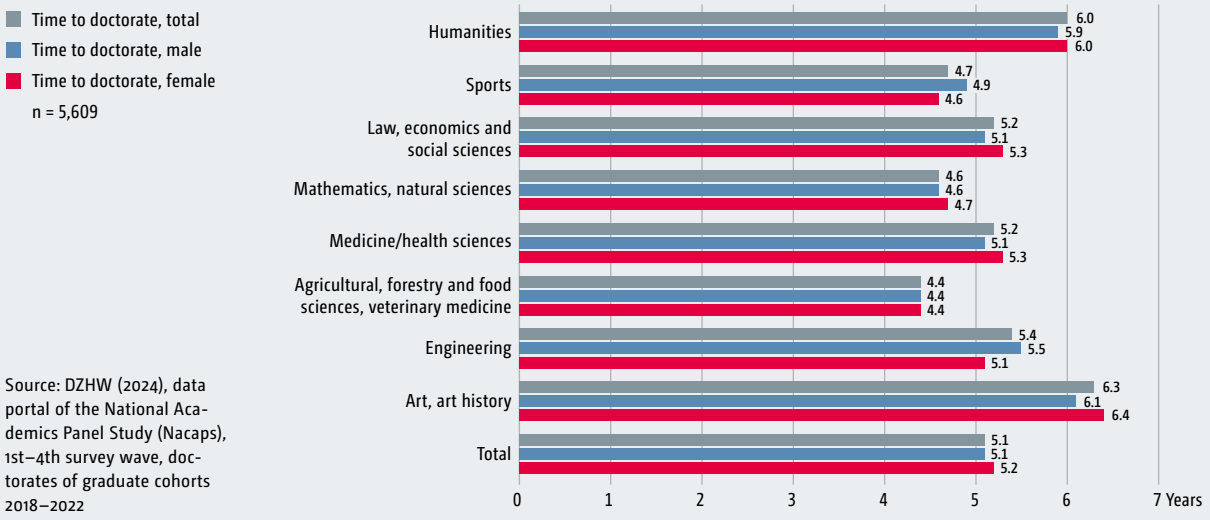
- **Doctoral rates decreased over time and differ according to subject groups:** Overall, the rate of doctorates awarded between 2014 and 2022 fell from 22% to 16% (**Table 4**). There is considerable variation between the subjects regarding the rate of doctorates awarded, ranging from 4.1% in art and art history to 56% in medicine/health sciences.
- The Nacaps surveys found **an increase in the proportion of doctoral students with a migration background, rising from 23% in 2019 to 28% in 2023.** Regarding the parental educational background, as in 2019, 16% of doctoral candidates have parents who also hold a doctorate. The share of doctoral students with parents holding a university degree (rather than a doctorate) rose from 44% to 47% between 2019 and 2023. The share of those with parents who did not graduate from university dropped from 39% to 37%.

Table 4: Development of doctorate rates over time from 2014 to 2022, by subject group (in %)

Subject groups	2014	2015	2016	2017	2018	2019	2020	2021	2022
	in %								
Humanities	13	14	10	9.8	9.6	10	15	16	15
Sport	8.0	7.6	5.5	14	15	14	13	16	13
Law, economics and social sciences	9.0	9.0	11	10	9.5	8.8	6.6	6.3	6.2
Mathematics, natural sciences	40	42	37	35	34	33	43	42	43
Medicine/health sciences	57	57	57	52	54	56	51	60	59
Agricultural, forestry and food sciences, veterinary medicine	28	27	25	26	22	20	19	18	17
Engineering	18	17	19	16	14	14	9.2	9.2	8.6
Art, art history	4.3	4.4	4.1	3.9	4.9	4.7	4.1	3.9	3.4
Total	22	22	21	20	19	19	16	17	16

Source: For 2022: Federal Statistical Office (2023), Statistical Report – Examination statistics, reporting year 2022, table: 21321-08, Wiesbaden; for previous years: Federal Statistical Office (2022), Examinations at universities – Fachserie 11, Reihe 4.2, Wiesbaden; own calculation

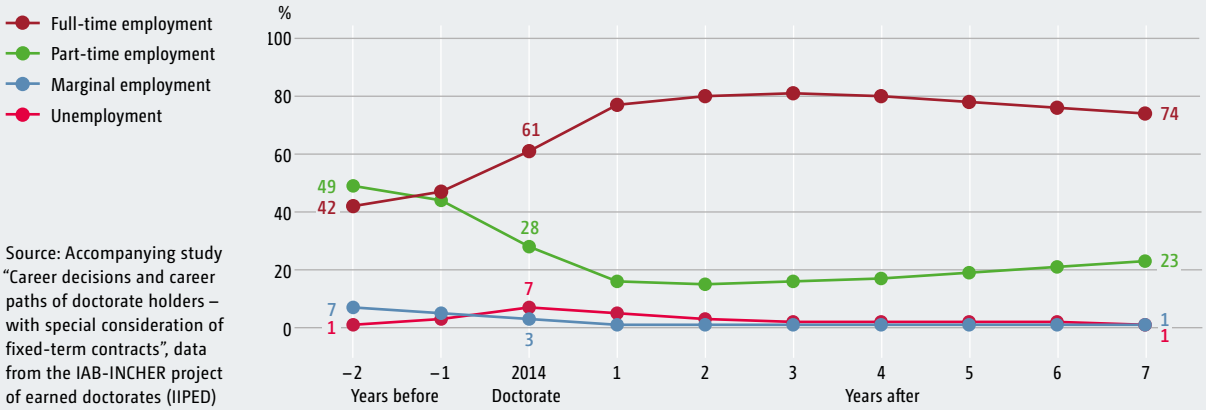
Fig. 6: Time to doctorate in graduate cohorts 2018 to 2022, by subject groups and sex (in years)



Source: DZHW (2024), data portal of the National Academics Panel Study (Nacaps), 1st–4th survey wave, doctorates of graduate cohorts 2018–2022

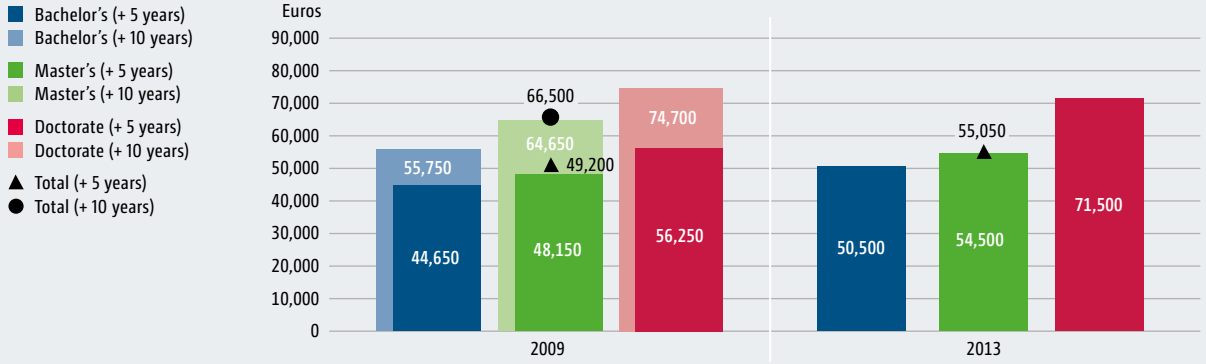
- **For the first time, the National Report on Early Career Researchers 2025 calculates the time to doctorate based on Nacaps data.** The starting date of their doctoral studies is the date on which respondents began working on their dissertation. The end point is the completion of their doctorate from the respondents' perspective. **According to Nacaps, the average time to doctorate was 5.1 years in 2023.** The duration of doctoral studies varies only slightly between men and women. The average time to doctorate varies by subject, from 4.4 years in agricultural, forestry and food sciences, veterinary medicine to 6.3 years in art and art history (**Fig. 6**).
- Compared to the National Report 2021, which estimated times to doctorate based on the average age of candidates when embarking on their studies and on receiving their doctorate, **the average time to doctorate in the subject groups remains similar.** Remarkably, the new measuring method has extended the time to doctorate in the subject group of medicine/health sciences, bringing it in line with the average duration.

Fig. 7: Employment status of doctorate holders (cohort 2014) as of June 30 each year (in %)



Source: Accompanying study "Career decisions and career paths of doctorate holders – with special consideration of fixed-term contracts", data from the IAB-INCHER project of earned doctorates (IIPED)

Fig. 8: Graduates' average gross annual income including allowances, five and ten years after graduating, by highest degree achieved (in euros)



Source: Accompanying study "Career decisions and career paths of doctorate holders – with special consideration of fixed-term contracts", DZHW Graduate Panel

B4 Career paths pursued by doctorate holders

- **Unemployment among doctorate holders barely fluctuates between 1% and 2% from the third to the seventh year after graduation** (**Fig. 7**). Doctorate holders can thus be considered fully employed.
- **Seven years after receiving their doctorate, a mere 24% of doctorate holders remain in the science system.** To a large extent (48%), doctorate holders work in the private sector, with 24% in hospitals and medical practices and 4% in other public institutions.
- **Two years before completing their doctorate, some 65% of doctorate holders are employed at universities or NURI. However, this percentage declines significantly in the years following their doctorate.** A particularly sharp decline can be observed between the year in which the doctorate was awarded and the following year. During this period, the share of doctorate holders employed at universities and NURI drops from 48% to 33%.
- There is a marked gender gap in the target sectors for doctorate holders who have left universities and NURI. **Seven years after graduating, 57% of male doctorate holders work in the private sector, compared to just 36% of female doctorate holders.**

- **On average, doctorate holders earn higher salaries than non-doctorate holders.** Five years after graduation, the gross annual income of doctorate holders in the 2013 cohort is almost 20,000 euros higher than that of non-doctoral graduates (**Fig. 8**). This difference has jumped significantly compared to the 2009 cohort.
- **Doctorate holders are more likely to take up senior positions than non-doctoral university graduates.** According to the DZHW Graduate Panel (cohort 2009), 40% of doctorate holders are in management roles ten years after receiving their doctorate, compared to just 25% of bachelor's and master's graduates.
- **Doctorate holders are more likely than non-doctoral university graduates to engage in professional activities that are commensurate with their qualifications.** Five years after graduation, a remarkable 91% of doctorate holders in the DZHW Graduate Panel (cohort 2013) are in roles that align with their qualifications, whereas among bachelor's and master's graduates, the share is just 62% and 74% respectively.
- **The importance of habilitation as the final pre-qualification before the first appointment to a tenured professorship is declining.** In 2016, 20% of newly appointed professors were habilitated as their final pre-qualification, versus just 15% in 2022.

Table 5: Applications, shortlist places, appointments over time from 2002 to 2022, by sex and type of university

		2002	2007	2012	2017	2020	2021	2022
Universities and equivalent higher education institutions								
Applications	Total	44,647	52,345	43,853	44,010	46,250	60,032	54,243
	Male	37,925	41,581	32,859	31,654	33,458	42,314	37,421
	Female	6,722	10,764	10,994	12,356	12,792	17,718	16,822
	Female in %	15	21	25	28	28	30	31
Shortlist places	Total	4,060	4,722	4,764	4,384	4,367	5,657	5,610
	Male	3,356	3,632	3,332	2,815	2,765	3,534	3,275
	Female	704	1,090	1,432	1,569	1,602	2,123	2,335
	Female in %	17	23	30	36	37	38	42
Appointments	Total	1,455	2,076	2,205	1,957	2,011	2,672	2,550
	Male	1,198	1,613	1,514	1,257	1,214	1,632	1,444
	Female	257	463	691	700	797	1,040	1,106
	Female in %	18	22	31	36	40	39	43
Total institutions								
Applications	Total	67,523	72,669	70,318	68,928	71,418	90,888	81,604
	Male	56,336	56,938	52,902	49,902	51,426	64,857	56,748
	Female	11,187	15,731	17,416	19,026	19,992	26,031	24,856
	Female in %	17	22	25	28	28	29	30
Shortlist places	Total	6,687	6,523	7,402	6,594	6,652	8,293	8,097
	Male	5,491	4,991	5,302	4,403	4,348	5,280	4,903
	Female	1,196	1,532	2,100	2,191	2,304	3,013	3,194
	Female in %	18	23	28	33	35	36	39
Appointments	Total	2,626	2,788	3,457	2,963	3,023	3,853	3,716
	Male	2,159	2,142	2,446	1,972	1,883	2,375	2,206
	Female	467	646	1,011	991	1,140	1,478	1,510
	Female in %	18	23	29	33	38	38	41

Source: Joint Science Conference (GWK, 2023), Equal Opportunities in Science and Research, 27th Update to the Data (2021/22)

- **The chances of being appointed to a professorship seem to be gradually improving compared to previous years.** During the period under review, the number of applications to universities and other institutions of equal status increased by 21% (from 44,647 in 2002 to 54,243 in 2022). At the same time, the number of appointments surged by 75% (from 1,455 in 2002 to 2,550 in 2022; **Table 5**). On average, this means that one in 21 applicants was successful.
- **The proportion of women submitting applications, achieving shortlist places and securing professorial appointments has jumped substantially over time:** In 2022, women accounted for 31% of applications, 42% of shortlist places and 43% of appointments to professorships at universities and equivalent institutions. The share of women in applications, shortlist places and appointments has risen over time: the corresponding figures for 2002 were 15% of applications, 17% of shortlist places and 18% of appointments.

B5 Fixed-term contracts in academic employment

- **The share of fixed-term contracts among full-time academic staff decreases steadily with age:** Among academic staff (excluding professors) working in universities as their main occupation, older employees are far less likely to be on temporary contracts than their younger colleagues. The share of fixed-term contracts drops in particularly large increments between the age groups of 35 to 39 years (83%), 40 to 44 (62%), and those aged 45 to 49 (42%) (**Table 6**). Thus, temporary employment is not solely a "mass phenomenon" among early career researchers at universities as large percentages of older employees continue to be employed on a fixed-term basis as well. Nevertheless, shares of 80% or more of fixed-term contracts are practically only found among those under the age of 40.
- **Across all age groups, the share of fixed-term contracts at NURI is lower than at universities:** As at universities, the proportion of temporary employment decreases steadily with age. For example, just 24% of 45 to 49 year olds are employed on a temporary basis.

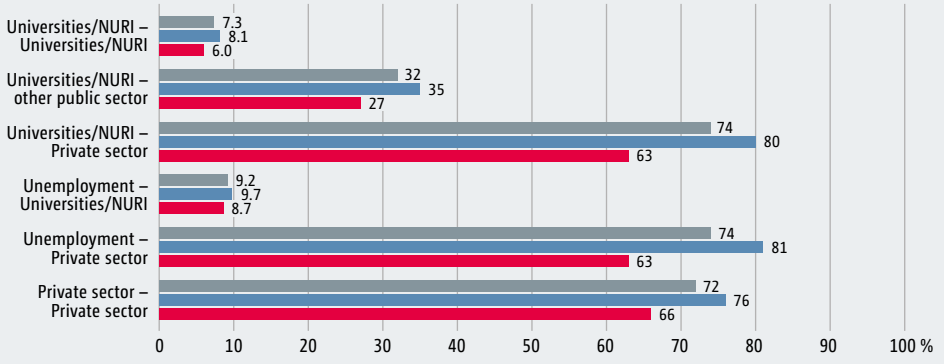
Table 6: Academic and artistic staff (excluding professors) working in universities (main occupation) in 2022, by age and highest university degree

Age	Total	Total share of fixed-term contracts	Doctorate holders	Share of doctorate holders on fixed-term contracts
	Numbers	in %	Numbers	in %
Up to 29 years	64,883	99	2,777	99
30–34	59,281	96	13,031	95
35–39	35,554	83	16,619	82
40–44	22,614	62	12,834	62
45–49	13,841	42	7,682	41
50–54	10,914	29	5,671	28
55–59	9,972	21	4,791	22
60 and older	9,733	26	4,519	27
Total	226,792	79	67,924	64

Source: Federal Statistical Office (2024), Staff at institutions of higher education 2022, special evaluation, Wiesbaden; own representation

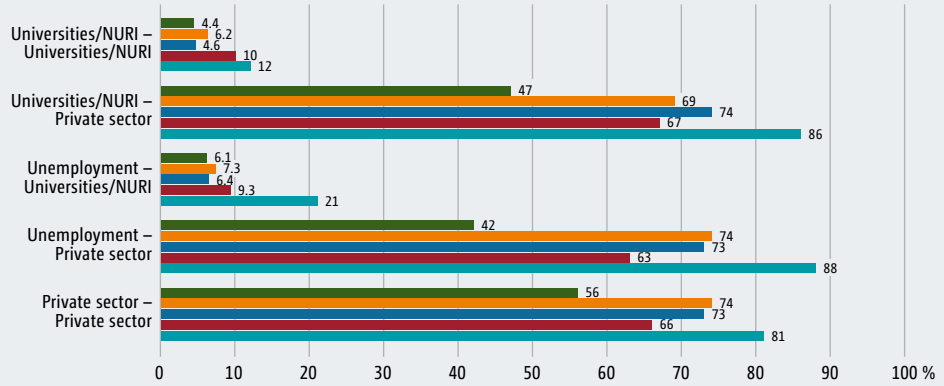
- **Fixed-term contracts and career choices of doctorate holders:** When changing employers within the academic sector, new open-ended employment contracts are the exception (7.3%, **Fig. 9**). However, moving from academia to other areas of the public sector also often entails another fixed-term contract, with 68% of new employment contracts being temporary. By contrast, a move to the private sector often means that the new position is permanent: the share of unlimited employment contracts in these cases is invariably over 70%. It should be noted that, due to the unique nature of academic employment, extended options for temporary employment at universities and NURI are legally permissible under the WissZeitVG (German Law on Fixed-Term Employment Contracts in the Science and Research Sector) instead of the TzBfG (Part-Time and Limited Term Employment Act).
- **Differences between the sexes and subject groups after changing sectors:** When women move from academia to the private sector, 63% of their new employment contracts are open-ended, while the figure for men is 17 percentage points higher (80%; **Fig. 9**). When transferring from universities/NURI to the private sector, just 47% of new employment contracts in the arts and humanities are permanent; conversely, the share of permanent contracts in other subject groups range from 67% in medicine/health sciences to 86% in engineering (**Fig. 10**).

Fig. 9: New, open-ended employment contracts awarded to doctorate holders (cohorts 2012 to 2016), zero to two years after obtaining a doctorate, as of June 30 each year, by sex and sector change (in %)



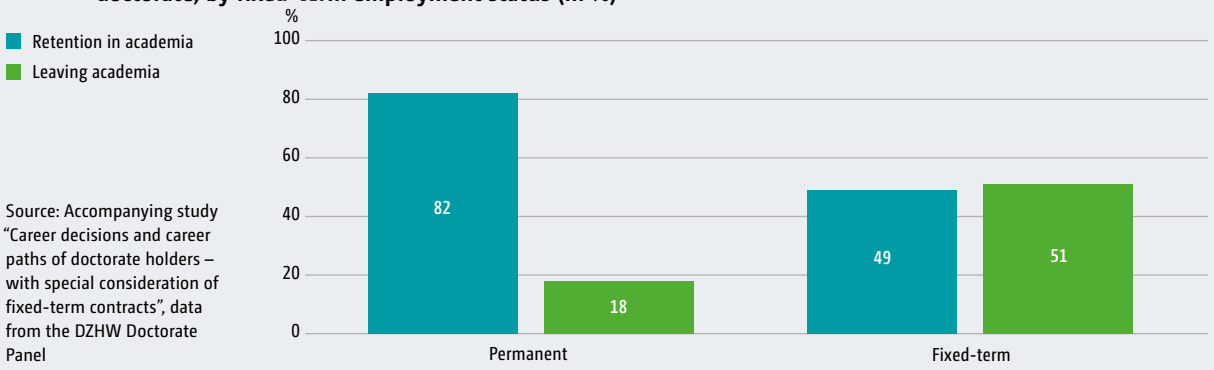
Source: Accompanying study "Career decisions and career paths of doctorate holders – with special consideration of fixed-term contracts", data from the IAB-INCHER project of earned doctorates (IIPED); own representation

Fig. 10: New, open-ended employment contracts awarded to doctorate holders (cohorts 2012 to 2016), zero to two years after obtaining a doctorate, as of June 30 each year, by subject group and sector change (in %)



Source: Accompanying study "Career decisions and career paths of doctorate holders – with special consideration of fixed-term contracts", data from the IAB-INCHER project of earned doctorates (IIPED); own representation

Fig. 11: Share of doctorate holders (cohort 2014) leaving academia between one and seven years after obtaining a doctorate, by fixed-term employment status (in %)



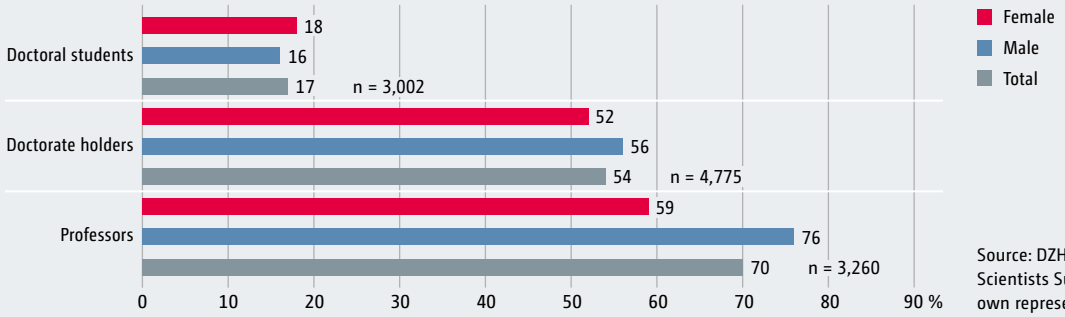
Source: Accompanying study "Career decisions and career paths of doctorate holders – with special consideration of fixed-term contracts", data from the DZHW Doctorate Panel

- **Likelihood of leaving academia depends on fixed-term employment status:** According to the DZHW Doctorate Holders Panel (cohort 2014), 51% of doctorate holders whose last employment contract was temporary have left academia, compared to just 18% of those with open-ended contracts (**Fig. 11**). There is thus a clear correlation between permanent employment and the retention of doctorate holders in academia (and vice versa). This descriptive finding can be supported by a regression analysis: if the fixed-term employment status is included with other characteristics in a multivariate analysis, where leaving academia is considered a dependent variable, temporary employees are 30 percentage points more likely to move away from academia than permanent employees.
- **Calculating fluctuation rates for doctorate holders at universities:** A primary data survey was used to determine the fluctuation rates for doctorate holders at universities. If all doctorate holders are viewed as a whole, regardless of their temporary employment status and type of funding, the fluctuation rate is 25%. Of this, 18% have left their institute, while 7% have had their employment contract amended by their own institute. Findings also demonstrate that doctorate holders with fixed-term contracts have a significantly higher fluctuation rate of 35%, compared to doctorate holders in permanent employment. Nonetheless, the fluctuation rate is still 8% for doctorate holders with open-ended contracts.

B6 The compatibility of family life and an academic career

- **Share of parents among academics and researchers:** The DZHW Scientists Survey revealed that, in 2023, 18% of female and 16% of male doctoral students are parents (17% overall; **Fig. 12**). The share of parents among doctorate holders stands at 54% (52% for women, 56% for men). Among professors, significant gender differences persist: 59% of women and 76% of men have at least one child.
- **Early career researchers tend to start a family relatively late.** According to the microcensus, in 2022, just 6.5% of those under 35 years of age in fixed-term employment at universities are already parents, compared to 20% of university graduates under 35 years of age in the private sector. However, there are **no longer any major disparities in the proportion of parents between doctorate holders under the age of 40 within and outside academia:** 43% of doctorate holders at universities and 47% of doctorate holders in the private sector are parents.

Fig. 12: Share of parents among the academic and artistic staff at German universities with the right to award doctorates in 2023, by career levels and sex (in %)



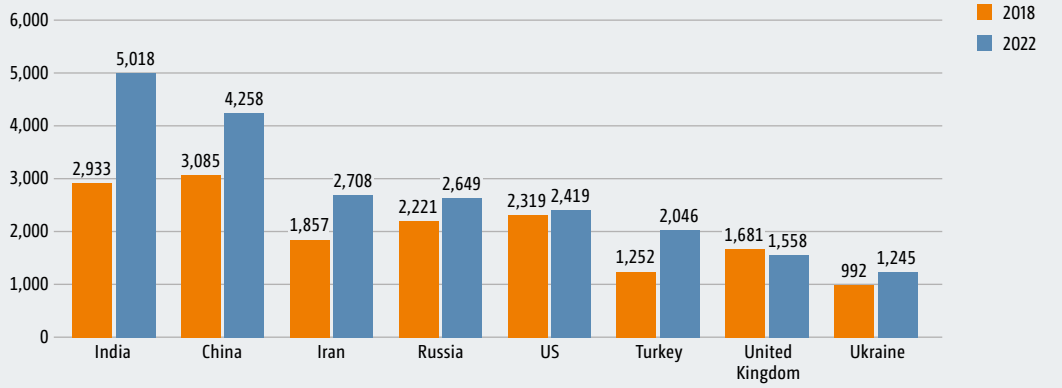
Source: DZHW (2024), Scientists Survey 2023, own representation

- **Nacaps identified barriers to parenthood among early career researchers:** Respondents cited the lack of work-life balance and uncertain career prospects as the main reasons for postponing their desire to have children, at least while studying for a doctorate. Compared to 2019, the constraints they feel in terms of personal development and fulfilment as an obstacle to starting a family have increased, whereas concerns about job insecurity have declined.
- **Early career researchers' satisfaction with their work-life balance:** In 2023, Nacaps found that parents pursuing a doctorate were less satisfied with their work-life balance than their colleagues without children. Compared to fathers, and childless women and men, mothers showed the lowest satisfaction scores. Moreover, women cite difficulties in juggling their doctoral studies and family life as the main reason for considering discontinuing their doctorate.

B7 Internationality

- **The share of non-German academic staff at universities and NURI has increased over time:** The proportion of international academic staff at universities rose from 11% in 2015 to 15% in 2022. By contrast, the share of international academic staff at the four major non-university research facilities jumped from 20% to 30% between 2015 and 2022.

Fig. 13: Number of non-German academic and artistic staff at universities in 2018 and 2022, by country of origin (non-EU)



Source: For 2022: Federal Statistical Office (2023), Statistical Report – Staff statistics at institutions of higher education, reporting year 2022, table: 21341-16, Wiesbaden; for 2018: Federal Statistical Office (various), Staff at universities – Fachserie 11, Reihe 4.4, Wiesbaden; own representation

- In a comparison of non-EU countries, **Indian and Chinese researchers comprise the largest groups of international academic staff** in Germany. Between 2018 and 2022, the numbers of both nationalities rose significantly once again (by 71% for India and by 38% for China; **Fig. 13**). A similar increase (albeit on a smaller scale) can be observed for Iran and Turkey.
- **Most young academics have earned their doctorate before they spend at least three months abroad:** Over the past ten years, 33% of doctorate holders from Germany have spent at least three months abroad for the purposes of research. This suggests that most academics and researchers from Germany only spend longer periods abroad once they have completed their doctoral studies; such visits are relatively seldom during the doctoral phase.

B8 The pandemic

- **Measures to contain the pandemic also affected early career researchers:** With reference to a literature review, the negative effects of the pandemic that were discussed throughout society, such as expanded working hours or a declining work-life balance due to mobile working, were also observed for early career researchers. At the same time, these measures also had positive effects, such as greater flexibility, more focus on personal research and increased time spent at home with the family.
- **Compatibility problems during the pandemic:** Satisfaction is lowest among early career researchers with children and even lower for mothers than fathers (in 2023, 57% and 64% respectively scored relatively satisfied to very satisfied with their work-life balance). When asked specifically about the pandemic, 44% of early career researchers with children reported that the pandemic had made juggling the demands of family and work more difficult. Moreover, mothers studying for their doctorate appear to have experienced more disruptions in their publishing activities during the pandemic than other groups.
- **The pandemic appears to have had a greater impact on the productivity of doctoral students than doctorate holders.** According to the Scientists Survey 2023, doctoral students in almost all subject groups reported a stronger negative effect on their productivity during the pandemic than doctorate holders, especially in the life sciences and natural sciences.
- **The Nacaps study reveals growing concerns about pursuing a career in the science system.** In 2019, 30% of early career researchers cited their preference for a scientific career, but this dropped to just 18% in 2023. Although these findings emerged at the same time as the pandemic, they cannot be directly attributed to it.

C Establishing tenure track professorships

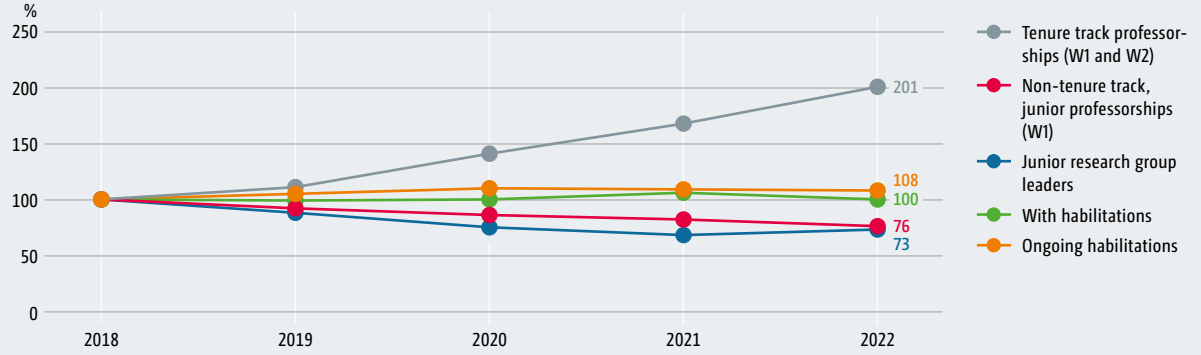
C1 Introduction, approach und science policy discourse

- **The tenure track professorship (TTP) is a new career path in Germany that leads to a tenured professorship, thereby complementing previous career paths.** The programme was introduced with the goals of enabling academics and researchers to achieve independence at an early stage, lowering the age of first-time appointments, facilitating planning for careers in academia and increasing the attractiveness of the German career system on the international stage.
- **Funded by the federal government and federal states, the Tenure Track Programme created an additional 1,000 tenure track professorships by 2022.** The programme has been a thematic point of reference for the scientific policy debate on TTP since the associated administrative agreement was announced in 2016. In principle, the programme and career path are welcomed by a large number of science policymakers, although individual conditions, the effects of funding and specific aspects of the career path have been criticised.
- **The substantial TTP funding by the federal and state governments has led to initial progress towards cultural change.** More and more programmes for early career researchers are being set up to make academic career paths more transparent and easier to plan. A total of 14 funding measures and programmes have been launched across nine federal states to support the TTP. Funding is provided for personnel and materials, individual posts, scholarships, mentoring and networking opportunities. Special emphasis is placed on advancing female academics and researchers (nine programmes are dedicated to supporting women).

C2 The Tenure Track Professorship in the career system towards a professorship

- **The structural and cultural change is also reflected in the statistics:** Since 2018, the number of TTP has more than doubled, increasing by 101% from 665 in 2018 to 1,336 in 2022. Significant rises can be observed in engineering (up by 198%) and in mathematics, natural sciences and computer science (up by 113%). The rise of junior professorships with tenure track (TT) and W2 professorships with tenure track have clearly increased since 2018; however, they seem to have replaced not only the traditional habilitation path to professorship but also, to a large extent, qualification paths via junior research group leaders and junior professorships without tenure track (**Fig. 14**).
- **The number of women in TTP has snowballed from 238 in 2018 to 583 in 2022, marking an increase of approximately 145%.** This upswing is thus significantly higher than the overall rise in TTP (101%). Moreover, the share of women in TTP reached 44% in 2022, showing the largest increase of all career paths, with an 8 percentage point gain.
- **While the number of professorships with TT has more than doubled since 2018,** the numbers of junior professorships (JP) without TT and junior research group leaders (JRGL) have dropped by about a quarter over the same period (24% and 28% respectively). A slight rise can be observed in the number of ongoing habilitations (up by 8%, with

Fig. 14: Career paths to professorships at universities and equivalent institutions from 2018 to 2022, by type of career path (in %)



Source: Special evaluation of the Federal Statistical Office, calculation for the accompanying study "Establishing the tenure-track professorship career path in the German science system"; own representation

a minor drop between 2020 and 2022), while the number of completed habilitations has stagnated since 2018. The TTP has thus seen strong growth in this period, also in relation to other qualification and career paths that lead to a professorship (**Fig. 14**).

C3 Development of the regulatory framework

- **The framework conditions for implementing TTP at universities are in place in all federal states.** However, the legislation differs between states with regard to the regulatory provisions and level of detail in implementation.
- **The broader the framework set by state legislation and the less detailed the requirements in the respective State Higher Education Act, the more the responsibility for defining and implementing the framework conditions shifts to universities and their statutory regulations.** This is particularly true with regard to the development of the "quality-assured evaluation".
- A comparison of federal state legislation before and after the resolution of the federal-state agreement on the Tenure Track Programme (2016) reveals a **significant increase in the number of states that have regulated the TT in their State Higher Education Act.**

C4 Establishing tenure track professorships at universities

- **The introduction of the TTP has changed the organisational structures and processes at universities.** This is particularly evident when analysing the legal regulations, such as statutes and ordinances, adopted at universities for the TT. The main focus of the statutes is on the regulations for the tenure evaluation process, agreement on the evaluation criteria and the transition to a tenured professorship in case of successful evaluation.
- **The tenure evaluation process offers several options that take the specific needs and circumstances of each individual university into account.** This also applies to selecting and configuring quality assurance measures for the process.

- **An interim evaluation may be useful and provide guidance on subsequent career steps** in the case of professorships for which federal state legislation allows a continuous TT phase of five or six years without a mandatory interim review process.

C5 The tenure track professorship by international comparison

- **Due to their complexity, heterogeneity and country-specific characteristics,** the university systems reviewed here (Austria, Switzerland, Netherlands) are not directly comparable with the TTP. Nevertheless, it is possible to compare individual features without declaring a particular system more or less attractive.
- **Universities in the three reference countries enjoy a much higher degree of personnel and financial autonomy than those in Germany.** At the same time, there is significantly less regulation in all three reference countries than in the German higher education system with regard to TTP. As a result, universities in these countries are more empowered than in Germany. On the one hand, this enables universities to organise and allocate their portfolio of staff categories according to their respective needs. But on the other hand, the respective system is less transparent than the German system due to the high number of individual regulations.
- **Germany is the only country in the group under review in which an incumbent is appointed professor and granted civil servant status at the same time.** The granting of tenure thus has special implications. For example, in addition to the purely subject-related assessment, the incumbent must meet the general requirements of public sector employment. Furthermore, civil servant status offers attractive benefits that may well have a positive impact on career path applications both at home and abroad.

D Outlook

D1 Research desiderata and future priorities

- **Identification of multifaceted desiderata to academic career paths:** This report identifies several research desiderata in fields that have been somewhat overlooked. These include doctoral studies in non-university contexts, equal opportunities, international status and international mobility, the long-term effects of the pandemic, qualification paths leading to a professorship and a clearer definition of the term academic qualification.

D2 Further development of data and concepts

- **Although official statistics have improved enormously, there are still data gaps:** Since 1 March 2016, when the amended German Higher Education Statistics Act (HStatG) came into effect, the data collected for higher education statistics has been extended. The introduction of doctoral statistics and new features in university staff statistics have created new evaluation options for the National Report. However, an analysis carried out by the Federal Statistical Office on the completeness and data quality of doctoral statistics still found data gaps in the years covered by the National Report on Early Career Researchers 2025. These gaps are expected to have been addressed by the time the next report is published.
- The IIPED data, which was used for the first time as the basis for the focus chapter of the National Report 2021, has been integrated into the standard monitoring. **The IIPED data has proved to be particularly informative when combined with the longitudinal surveys from the DZHW (Doctoral Panel and SLC).** Objective information on the employment history of doctorate holders, such as their contractual status or income, could thereby be connected to the subjective assessments of doctorate holders, including the adequacy of their posts and their job satisfaction.
- With the improved official statistics, IIPED data and information from other (longitudinal) surveys, **the National Report can now draw on a comprehensive set of conclusive information on the situation of early career researchers in Germany.** The endeavours of all parties involved in collating and processing the relevant data are commendable. Nonetheless, many sections of the report highlight potential for improvement in terms of data. The quality of existing datasets should therefore be reviewed on a regular basis, with the data expanded or modified as required. It is important to emphasise that future National Reports will not require more data but rather an improvement in the quality of existing surveys.

D3 Ongoing development of the report

- **Three variations are presented for the further development of the report, which could also be implemented in combination:**
  - The first option consists of extending the concept of the report. Rather than concentrating solely on early career researchers, the spotlight could be turned onto the career trajectories of academics and researchers as a group.
  - The second option would be to adopt a chronological approach. The first National Report on Early Career Researchers was published in 2008, thus the forthcoming report will mark 20 years of reporting. The next National Report will therefore examine key indicators and developments over time.
  - The third option is to reduce the reporting interval. In addition to the National Report, which is only published every four years, continuous reporting could be implemented, mainly on the newly created website (buwik.de).

National Report on Early Career Researchers 2025

Statistical Data and Research Findings on Doctoral Candidates and Doctorate Holders in Germany

This report presents empirical findings on the situation of early career researchers in Germany. The 2025 report focuses on the establishment of the tenure track professorship. Other topics include working and employment conditions, transitions into further training and qualification requirements during doctoral studies, the career paths and prospects of doctorate holders and the relevance of fixed-term employment contracts. It also explores the compatibility of family life and an academic career, mobility patterns and the impact of the pandemic on early career researchers.

The data on which the report is based is taken from official statistics and the results of regular interviews and surveys. In processing the data, emphasis is placed on the comparability and evaluation of the findings. The report provides a knowledge base for higher education institutions and research facilities, stakeholders, funding organisations and decision-makers in the federal government and the federal states.

INSTITUT FÜR INNOVATION UND TECHNIK

DZHW Deutsches Zentrum für Hochschul- und Wissenschaftsforschung

IHF Bayerisches Staatsinstitut für Hochschulforschung und Hochschulplanung

Institut für Hochschulforschung HoF an der Martin-Luther-Universität Halle-Wittenberg

UNIKASSEL VERSITÄT INCHER International Center for Higher Education Research

DESTATIS Statistisches Bundesamt

wbv Publikation

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