



HAL
open science

Quality research needs good working conditions

Rima-Maria Rahal, Susann Fiedler, Adeyemi Adetula, Ronnie P.-A. Berntsson, Ulrich Dirnagl, Gordon Feld, Christian Fiebach, Samsad Afrin Himi, Aidan Horner, Tina Lonsdorf, et al.

► **To cite this version:**

Rima-Maria Rahal, Susann Fiedler, Adeyemi Adetula, Ronnie P.-A. Berntsson, Ulrich Dirnagl, et al.. Quality research needs good working conditions. *Nature Human Behaviour*, 2023, 7 (2), pp.164-167. 10.1038/s41562-022-01508-2 . hal-04923420

HAL Id: hal-04923420

<https://hal.science/hal-04923420v1>

Submitted on 31 Jan 2025

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



**RIMA-MARIA RAHAL, SUSANN
FIEDLER, ADEYEMI ADETULA,
RONNIE P.-A. BERNTSSON,
ULRICH DIRNAGL, GORDON B.
FELD, CHRISTIAN J. FIEBACH,
ET AL.**



QUALITY RESEARCH NEEDS GOOD WORKING CONDITIONS

Nature Human Behaviour, 7, 164–167,
2023



Authors: Rima-Maria Rahal, Susann Fiedler, Adeyemi Adetula, Ronnie P.-A. Berntsson, Ulrich Dirnagl, Gordon B. Feld, Christian J. Fiebach, Samsad Afrin Himi, Aidan J. Horner, Tina B. Lonsdorf, Felix Schönbrodt, Miguel Alejandro A. Silan, Michael Wenzler & Flávio Azevedo



Title: Quality research needs good working conditions

Published in: Nature Human Behaviour
Publisher: Springer Nature
Year: 2023
Volume: 7
Pages: 164–167
DOI: <https://doi.org/10.1038/s41562-022-01508-2>

QUALITY RESEARCH NEEDS GOOD WORKING CONDITIONS

Quality research needs good working conditions

Rima-Maria Rahal^{1,*}, Susann Fiedler², Adeyemi Adetula^{3,4}, Ronnie P-A Berntsson⁵, Ulrich Dirnagl⁶, Gordon B. Feld⁷, Christian J. Fiebach⁸, Samsad Afrin Himi⁹, Aidan J. Horner^{10, 11}, Tina B. Lonsdorf¹², Felix Schönbrodt¹³, Miguel Alejandro A. Silan^{14, 15}, Michael Wenzler¹⁶,
& Flávio Azevedo¹⁷

¹ Max Planck Institute for Research on Collective Goods, Law & Economics,
Kurt-Schumacher-Str. 10, 53113 Bonn, Germany

² Vienna University of Economics and Business, Department Strategy & Innovation,
Welthandelsplatz 1, 1020 Vienna, Austria

³ Alex Ekwueme Federal University Ndufu-Alike
Department of Psychology, P.M.B. 1010, Abakaliki, Ebonyi State, Nigeria

⁴ Université Grenoble Alpes
Laboratoire Interuniversitaire de Psychologie, Personnalité, Cognition, Changement Social,
BP 47, 38040 Grenoble Cedex 9, France

⁵ Umeå University, Department of Medical Biochemistry and Biophysics & Wallenberg
Centre for Molecular Medicine, SE-90187, Sweden

⁶ Berlin Institute of Health, QUEST Center for Responsible Research, Anna Louisa

QUALITY RESEARCH NEEDS GOOD WORKING CONDITIONS

Karschstr. 2, 10178 Berlin, Germany

⁷ Central Institute of Mental Health, Heidelberg University

J5, 68159 Mannheim, Germany!

⁸ Goethe University Frankfurt

Department of Psychology, Theodor-W.-Adorno-Platz 6, 60323 Frankfurt am Main,
Germany

⁹ Jagannath University, Department of Psychology

9-10 Chittaranjan Avenue, Dhaka 1100, Bangladesh

¹⁰ Department of Psychology, University of York

York, YO10 5DD, United Kingdom

¹¹ York Biomedical Research Institute, University of York

York, YO10 5DD, United Kingdom

¹² University Medical Center Hamburg-Eppendorf, Department of Systems Neuroscience

Martinistrasse 52, 20246 Hamburg, Germany

¹³ LMU Munich

Department of Psychology, Leopoldstraße 13, 80802 München, Germany

QUALITY RESEARCH NEEDS GOOD WORKING CONDITIONS

¹⁴ Université Lumière Lyon 2

Development, Individual, Process, Handicap, Education (DIPHE) Research Unit, 86 Rue

Pasteur, 69007 Lyon, France

¹⁵ Annecy Behavioral Science Lab

239 rte Talloires, 74290 Menthon St. Bernard, France

¹⁷ University of Cambridge, Department of Psychology,

Old Cavendish Laboratory, Free School Lane, Cambridge, United Kingdom, CB2 3RQ.

* Correspondence should be directed to: Rima-Maria Rahal, rahal@coll.mpg.de, Kurt-Schumacher-Str. 10, 53113 Bonn, Germany.

Competing Interests: The authors declare no competing interests.

Stand first

High-quality research requires appropriate employment and working conditions for researchers. However, many academic systems rely on short-term employment contracts, biased selection procedures and misaligned incentives, which hinder research quality and progress. We discuss ways to redesign academic systems, emphasizing the role of permanent employment.

Across disciplines, research quality benefits from transparency and openness, as well as efforts to replicate and reproduce. In recent years there has been a surge in open scholarship, thanks to efforts towards promoting robust research grounded in the principles of good research practice, sparked primarily by individuals and grassroots approaches. Yet this movement is up against an academic structure with a high proportion of short-term contracts, precarious working conditions, misaligned incentives, and unpaid labor, all of which pose barriers to high-quality research.

Non-permanent employment is a systemic problem

Particularly early and mid-career researchers, researchers from underrepresented and marginalized groups, and researchers in the Global South suffer from problematic employment conditions in the academic system. While legislation and policies vary between countries (see Supplementary Information), we see a common problem: a lack of permanent positions with dedicated research funding, leading to an overreliance on project-based funding with short-term research positions. Doctoral students may not receive any salary or bursary, or are paid part-time despite working full-time hours. After obtaining a Ph.D., researchers spend years or decades on non-permanent employment contracts¹² and on unstable, project-based funding for research positions, with only a small percentage eventually receiving permanent contracts. This leads to unconstructive competitiveness for permanent positions. In the Global North, where – despite efforts to decolonialize and democratize research – the bulk of published research is produced, research budgets are high, but permanent employment is rare. In the Global South, despite a comparatively higher proportion of researchers employed on permanent contracts, pressure on researchers arises

from understaffing due to limited spending on research, poor remuneration, equipment and infrastructure, and lack of mentorship².

Taken together, these employment conditions have become a hindrance to research productivity, innovation and progress and an undisputable source of discrimination³. Paradoxically, these employment conditions are purportedly designed to incentivize high-quality research.

High turnover harms research quality

One argument often made for fixed-term contracts regards the alleged benefits of attracting new staff, assuming that a constant influx of new thinkers avoids stagnation and enables innovation. However, the resulting high turnover in academic institutions fosters cursory research and hinders thorough long-term projects. Research projects often hit a dead end when researchers drop out because their contracts have expired. Methodological expertise, which often takes years to acquire, is lost when highly skilled researchers leave. New generations of researchers have to spend time building up this expertise anew, again only to depart once they have succeeded.

At the same time, extreme turnover leads to extreme competition for coveted positions allowing researchers to remain in the career path they were trained for. While it is hotly debated if “the right amount of” pressure can foster creativity and productivity⁴, extreme competitiveness is out of place in academia because knowledge generation is an inherently cooperative undertaking, which also requires stability.

Biased Selection Procedures Endanger Academic Freedom

Another argument often made in defense of fixed-term contracts holds that they create an environment in which only the best researchers will remain. We argue that this perspective is myopic, because the selection processes are flawed.

Current selection procedures fall into the trap of Goodhart's law⁵: "When a measure becomes a target, it ceases to be a good measure.". When researchers are required to pursue third-party funding or to publish in highly desirable journals, genuine scientific progress and high research quality are not necessarily incentivized. Instead, the incentive system can promote attention to "hot topics" in mainstream research areas, and disincentivize the thorough, painstaking process of corroborating and documenting research to establish robust knowledge. This structure may reward researchers' decisions that game the system, for instance by focusing on 'low-hanging fruit', avoiding high-risk projects, or even by (intentionally or unintentionally) using questionable research practices to succeed⁶, all of which is ultimately detrimental for genuine scientific progress.

This systematic uncertainty in career prospects further tips the scale against researchers from underrepresented groups⁷, those less able to flexibly respond to emerging career opportunities (e.g., geographic relocation, working overtime), and potentially even those prioritizing research quality over their personal employability. This system also creates strong dependency relationships: Researchers must continuously cater to the ideals of those in positions of influence or risk falling from favor. Critiquing others' research, speaking up about problematic conditions in research, or even developing certain research lines may be disadvantageous for one's chances of securing permanent employment. As a consequence, academic freedom itself is endangered.

An academic system for cutting-edge research

The assumptions underlying the widespread use of fixed-term employment contracts are deeply flawed. Rethinking the regulatory structures for academia could offer a viable path towards reform. In particular, we outline five areas in which we see the need to change the system in order to promote research quality, based on the argument that a higher proportion of permanent positions could benefit researchers and research quality, academic freedom and researchers themselves.

1. More holistic research agendas

Currently, swiftly publishing several small but catchy contributions trumps publishing a carefully planned multi-study investigation because institutional incentives require boosting one's publication count to excel in shortsighted performance metrics. Performance metrics should be redesigned to support more holistic research programs, aiming to understand complex research question, to test boundary conditions and the generalizability of insights, to use effective methods that are possibly non-traditional in a research area, or to ask research questions that lie off the trodden path of the mainstream.

2. More openness and transparency in research

In the publish or perish regime, it does not pay to take the time to replicate one's work, or to make data, code, and other materials openly available, Resources are often wasted on duplication costs in subsequent projects, and theoretical progress is hindered. Providing robust results, conducting replications, and making materials openly available should be actions by

which researchers will successfully obtain permanent positions⁸. Because tasks such as providing FAIR data, making materials available for reuse, and carrying out replication projects should be carried out continuously, we advocate dedicating permanent positions to Open Scholarship Officers working on these tasks.

3. More team research

The widespread use of fixed-term contracts reserves permanent positions only for a select few, following an outdated cult of perceived genius. However, because research has become increasingly intricate and interdisciplinary⁹, teams of researchers with diverse skill sets are the drivers of research progress. Yet, under the current incentives, researchers often cannot justify supplying heavy-duty specialized labor in collaborative projects without publishing as the first author¹⁰.

Evaluating performance via indicators that reflect contributions to research projects beyond mere authorship order, for instance by considering actual contributor roles (e.g., via CRediT¹¹) will be an essential step towards facilitating team research. Further, employment policies should be revised to include a higher proportion of permanent positions to account for and reward multifaceted research contributions. This should be accompanied by novel criteria for assessing and incentivizing researchers, rewarding incremental contributions (e.g., publicly reusable code, theoretical development, creation of reusable datasets) rather than mere publication counts.

4. Open scholarship in teaching

Currently, the introduction of robust research practices and open scholarship¹² into the curriculum is delayed, or even ignored¹³. By not representing the changing norms of good practice in research, academia fails to adequately educate the researchers of tomorrow.

Reform towards incentivizing the integration of open and reproducible principles in higher education is sorely needed¹⁴, and could be achieved by budgeting adequate resources for teacher trainings as well as providing systematic opportunities for further or continuing training over the course of ones' career. Additionally, resources should be invested in developing discipline-tailored curricula.

5. More resources for civic duties

Current incentives and employment requirements for researchers fail to address vital tasks associated with conducting research, such as contributing to academic administration and management, committee work, fostering the relationship of academia to the public and to policy-makers, responding to emerging societal needs in one's research agenda, and contributing to research communication¹⁵. These tasks are civic duties for researchers, yet dedicating time and resources to them can be a hindrance to an academic career.

We advocate realism and specialization in academic job descriptions, which should dedicate time for civic duties in the research context. Time invested in these civic duties should be included in corresponding hiring and promotion criteria.

What will bring change

The priorities imposed by incentive schemes and employment policies for academic staff constitute parameters that can be adjusted to create working conditions where good research practice, rigor and high-quality research are supported and incentivized. One change with potential benefits for research quality is increasing the proportion of permanent positions. In designing such permanent positions, it may be worthwhile to ask whether the multifaceted tasks that researchers carry out can and should be unified in the job description of professors, or if specialization into differentiated positions dedicated to specific tasks would do them more justice.

Overall, systemic change is needed, which also calls for an increase in research funding earmarked for permanent positions. We see two routes for increasing the proportion of permanent positions. First, a general increase in basic state funding would help relieve the structural underfunding many public research institutions have suffered for years. Second, the structure of grant-based funding should be revised. Many current grant funding schemes do not cover overhead costs, or overhead budgets are too small. Increasing the proportion of overhead funding, and – crucially – including long-term funding for permanent research positions in this overhead budget could offer a path to molding grant-based research funding into a more sustainable funding scheme. This would allow institutions to create a pool of permanent positions from which permanent research staff could be flexibly allocated to short-term research projects, but also to the many recurring tasks that require permanent research staff.

An increase in the proportion of permanent positions needs to be flanked by other measures to foster good research and the generation of robust knowledge. Academic systems need system-wide change. To support designers and dreamers of such change, we propose eight puzzle pieces that,

if put together, could represent starting points for designing good conditions in academic systems (Figure 1). We showcase that combining these puzzle pieces, and specifically the suggested increase in funding for permanent positions and redesign of project-based funding, could contribute to achieving positive change in the five broad areas of opportunity we have outlined in this work. In the Supplementary Information, we further present an overview of how these puzzle pieces are currently enacted in the academic systems of Bangladesh, Germany, Nigeria, the Netherlands, the Philippines, Sweden and the UK.

In sum, we advocate designing regulations of the working conditions in academia which promote, not hinder, genuine research progress and quality.

References

1. Bello, M. & Galindo-Rueda, F. *OECD Sci. Technol. Ind. Work. Pap* **2020** (2020).
2. Silan, M. et al. *APS Obs.* **34** (2021).
3. Platt, M.O. *Nat. Rev. Mater.* **5**, 783–784 (2020).
4. Taris, T.W. & Schaufeli, W.B. in *Current issues in work and organizational psychology* (ed. Cooper, C.) 189–204 (Routledge, 2004).
5. Goodhart, C. (1975). in *Monetary theory and practice* (ed. Goodhart, C.) 91–121 (Macmillan International Higher Education, 1975).
6. John, L.K., Loewenstein, G. & Prelec, D. *Psychol. Sci.* **23**, 524–532 (2012).
7. Desai, T.A., Eniola-Adefeso, O., Stevens, K.R., Vazquez, M. & Imoukhuede, P. *Nat. Rev. Mater.* **6**, 556–559 (2021).
8. Mustajoki, H. et al. (2021). *Making FAIReR assessments possible. Final report of EOSC Co-Creation projects: "European overview of career merit systems" and "Vision for research data in research careers"* (2021).
9. Götz, F., Gosling, S. & Rentfrow, J. *Perspect. Psychol. Sci.* **17**, 205–215 (2022).
10. Tiokhin, L., Lakens, D., Smaldinon, P.E., & Panchanathan, K. Preprint at <https://doi.org/10.31222/osf.io/juwck> (2021).
11. Allen, L., O'Connell, A. & Kiermer, V. *Lear. Publ.* **32**, 71–74 (2019).
12. Vazire, S. *Perspect. Psychol. Sci.* **13**, 411–417 (2018).
13. Pownall, M. et al. *Scholarsh. Teach. Learn. Psychol.* (in press).
14. Azevedo, F. et al. *BMC Res. Notes* **15** (2022).
15. Lewis Jr, N.A. & Wai, J. *Perspect. Psychol. Sci.*, **16**, 1242–1254 (2021).

Contributions

Concept: RMR, SF, UD, CJF

Writing – original draft: RMR

Writing – review & editing: RMR, SF, FA, GBF, UD, CJF, FS, TBL, MW, AJH, AA,
MAAS, SAH, RPAB

Acknowledgements

This work was conceived in the scope of the German Reproducibility Network

(<https://reproducibilitynetwork.de>). We thank Felix Henninger for his helpful comments and Lilli

Wagner and Berit Heling for their help with formatting the document.

Supplementary Information

Overview of country-specific approaches to designing academic systems	2
<i>Are stable career prospects available?</i>	2
<i>Is good research practice the norm?</i>	2
<i>Is the research infrastructure adequate?</i>	3
<i>Figure S1</i>	4
<i>Bangladesh</i>	5
<i>Germany</i>	7
<i>Netherlands</i>	8
<i>Nigeria</i>	9
<i>Philippines</i>	11
<i>Sweden</i>	12
<i>United Kingdom</i>	14

Overview of country-specific approaches to designing academic systems

In this supplement, we present an overview of different approaches to designing academic systems, compiling examples from Bangladesh, Germany, Nigeria, the Netherlands, the Philippines, Sweden and the UK. We provide narrative summaries of the working and employment conditions for researchers in these countries, with specific focus on their potential influence on research quality. These overviews are structured around eight key facets of academic systems, roughly clustered into three, partially overlapping areas of inquiry (see Figure S1).

Are stable career prospects available?

To address the career prospects that academics face, we track whether the majority of staff in each academic system is employed via permanent positions. Further, we compile information on whether career paths with permanent contracts exist for staff not achieving a full professor position. This means that there are no built-in career dead-ends after specific number of years of employment, or forced changes of institutions after a certain amount of time spent at one institution. Finally, we assess if permanent positions are available that can be held by early career staff who are not (yet) full professors, such as PostDocs, Assistant or Associate Professor positions.

Is good research practice the norm?

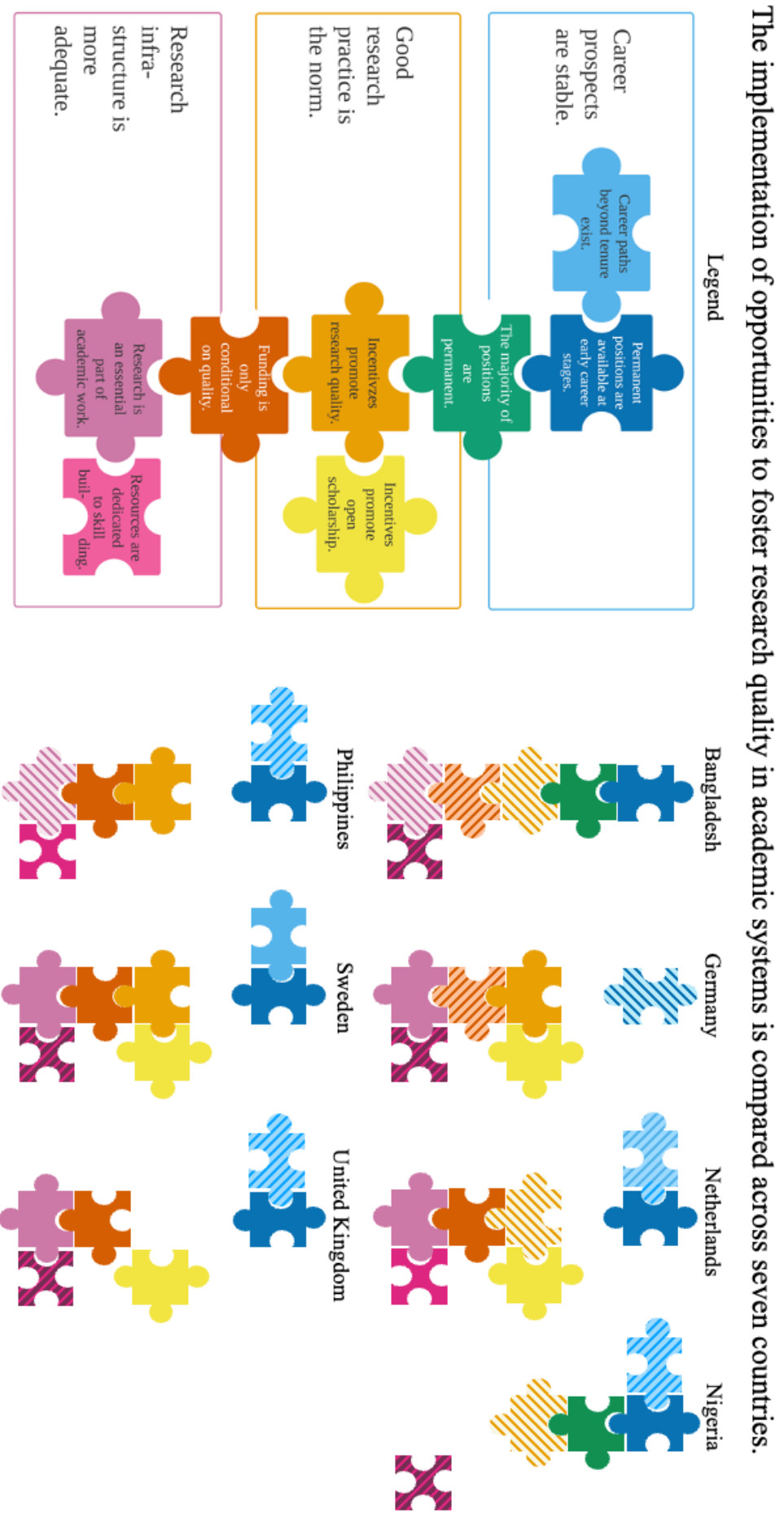
PERMANENT EMPLOYMENT FOSTERS RESEARCH QUALITY

To gather information about the status quo of good research practice, we track whether open scholarship is incentivized via selection criteria, and if institutionalized rules demand, budget resources for and reward open scholarship in academic's day-to-day work. Further, we describe if the institutional set-up rewards research quality over research quantity, counteracting a publish-or-perish culture.

Is the research infrastructure adequate?

To describe the research infrastructure, we collect information on how researchers can obtain funding for research work. Particularly, we track if funding is allocated regardless of whether applicants hold a permanent position, such that PhD students and Postdocs can also obtain research funding. We ask if the main determinant of the success of applications for research funding is the quality of researchers' prior work. Further, we track if sufficient funding, infrastructure and time are available to work on research. Finally, we collect information on whether time and other resources are budgeted and dedicated for skill building, allowing employees of all career levels to learn. This facet also addresses whether PhD students are part of structured graduate programs.

Figure S1: Overview of implantation of opportunities for fostering research quality in seven countries
Puzzle pieces represent components of academic systems relating to employment and working conditions, with implications for research quality. Patterned fill indicates components that are partially present or in development



Bangladesh

The academic system in Bangladesh showcases that a high proportion of permanent positions is not a guarantee for increased research quality. In Bangladesh, ~82% of academic staff are employed on a permanent basis (University Grants Commission of Bangladesh [UGC], 2019).

For academics on permanent contracts, research is typically not a priority in their day-to-day tasks. The UGC (2019) suggests that universities across the country spent ~1% of their total budget on research in 2018–2019. Rather than research, the majority of resources are allocated to teaching. For hiring faculty at public universities, teaching aptitude is the most important selection criterion. Job advertisements for a lecturer post (junior academic staff) in Bangladeshi universities typically require a Master's degree in the relevant area of recruitment, but do not mandate research experience (UGC, 2019). Bangladeshi entry-level academic staff at public universities therefore often lack an established research record. For getting promoted to the higher level positions at public universities, relatively few publications, published either in local or international peer-reviewed journals and/or books, are required in Bangladesh.

Because academics are mainly expected to be involved in teaching, the heavy teaching load crowds out research productivity. Mid-level or senior academic staff have relatively less teaching load and therefore have more time/opportunity for doing research. To increase their research budget, mid-level/senior academics can apply for externally funded research fellowships. Only few research projects (e.g., those funded by the UGC, Ministry of Science and Technology, Ministry of Education etc.) include a provision to pay PhD/postdoctoral researchers, usually via fixed-term contracts for three or four years. In research grants where there is such a provision

PERMANENT EMPLOYMENT FOSTERS RESEARCH QUALITY

(e.g., the UGC Fellowship, the Bongobondhu Science and Technology Fellowship), the candidates cannot apply for a grant prior to becoming a PhD student, rather they have to first enroll as a PhD student in a recognized university under the supervision of mid-level/senior academic staff to be eligible to apply for such a grant. Moreover, most of the candidates being awarded already hold a permanent position in a recognized university or public organization in Bangladesh. For example, a survey on PhD grant awardees has demonstrated that only ~.06% of non-permanent post-holders received a UGC Fellowship in 2021. Fellowships are also available on the postdoctoral level only for those academics/researchers who already hold a permanent position (mostly awarded by the UGC). Because only very few postdoctoral fellowships are awarded, typically 10 per year, the postdoctoral fellowship is considered highly prestigious.

For the minority of academic staff who work on fixed-term contracts (mostly employed in private academic institutions; UGC, 2019), there is high pressure to publish to obtain a permanent position. This pressure to publish creates problematic incentives for the researchers employed via non-permanent contracts.

In sum, although the proportion of permanent positions in Bangladesh is relatively high, there are challenges to producing high quality research output. The Bangladeshi academic system places high pressure to publish on the few researchers who do not receive a permanent contract. Academics on permanent contracts compete for highly selective grants to obtain opportunities to carry out research, where hypercompetitiveness may be at odds with research quality. Further, grants are typically only awarded to academics who already hold permanent positions, for which the selection criteria do not prioritize research quality. Therefore, although Bangladesh pursues a single-track model, where academics should carry out both teaching and research, the selection

PERMANENT EMPLOYMENT FOSTERS RESEARCH QUALITY

criteria applied during recruiting and grant allocation may not prioritize or support research quality.

Germany

In Germany, a social movement using the hashtag #ichbinhanna (I am Hanna) has spurred public discussion and labor disputes around the employment situation in German academia, protesting against the effects of the *Wissenschaftszeitvertragsgesetz* (WissZeitVG, “academic fixed-term contract act”) of April 12, 2007 (BGBl. I p. 506), which imposes limitations on career durations of academic staff employed with non-permanent contracts. The WissZeitVG stipulates a maximum time frame of six years for obtaining a PhD, and an additional qualification period of six years for PostDocs (exceptions apply, e.g. for parental leave or in the medical field). After these time frames have elapsed, individuals can no longer hold non-permanent publicly funded academic positions (except through project-based funding). These limitations were originally introduced to spare academics from hopping from fixed-term contract to fixed-term contract for life. In practice, however, the proportion of fixed-term contracts rose (Entwurf eines Ersten Gesetzes zur Änderung des Wissenschaftszeitvertragsgesetzes, “draft of a first act to amend the academic fixed-term contract act”, 2015), with only 13% of research staff below the level of full professors employed via permanent positions (Statistisches Bundesamt (Destatis), 2018). Consequently, many academic careers end when the WissZeitVG limitations are reached. Recently, it has been argued by politicians and university management, that these limitations on academic contract durations are necessary to ensure innovation in research by continuously attracting “fresh” personnel with fresh ideas, instead of “clogging the system” with researchers

PERMANENT EMPLOYMENT FOSTERS RESEARCH QUALITY

on permanent positions (see summary and rebuttal in Netzwerk für gute Arbeit in der Wissenschaft, 2021). The #ichbinhanna movement on social media has collected numerous arguments why these limitations imposed on academic careers across disciplines and countries are problematic (Bahr et al., 2021a, 2021b, Dirnagl, 2022). Politics have been reluctant to address these issues. Most recently, however, the state of Berlin has unexpectedly passed new legislation which assures permanent positions to all postdoctoral researchers on budget-financed positions in Berlin universities (*Berliner Hochschulgesetz*, “Berlin University Act”, 2021). In public debates, this act has both been hailed as a breakthrough for improving the employment conditions of mid-career researchers and criticized for the reduction in postdoc positions that it may induce.

Netherlands

In the Dutch employment system, academic staff typically carry out both research and teaching work, although some positions carry a higher teaching load than others. More than 60% of research staff are employed via non-permanent positions (Universities of the Netherlands, 2021a). PhD students are typically employed with full-time fixed-term contracts. Positions for both mid-career and senior researchers can be permanent, on the levels of assistant, associate or full professor. While some positions follow a tenure-track model, others do not.

A new collective labor agreement (Universities of the Netherlands, 2021b) has recently achieved a longer duration for fixed-term contracts, which used to be limited to two years but can now run for three or four years. Further, the proportion of contracts employing staff for an indefinite period has risen recently due to this new collective labor agreement, because

PERMANENT EMPLOYMENT FOSTERS RESEARCH QUALITY

previously non-permanent, non-tenure-track positions were converted into permanent positions (Universities of the Netherlands, 2021b). The labor agreement further stipulates that clear criteria for employees on tenure track must be defined, and two working days per year are dedicated for training and skill building.

Dutch universities receive the majority of their funding from the government, and decide themselves how to allocate these funds to staff functions and other expenses. Additional third-party funding can be obtained through grants, such as from the Dutch Organisation for Scientific Research (NWO) or the Royal Netherlands Academy of Arts and Sciences (KNAW). Grants to senior researchers tend to include funding for non-permanent PhD and/or postdoc positions, and there are also grants available for earlier career researchers who use them to fund their own work. Although grants can be applied for by staff on fixed-term contracts or even by researchers not currently holding a research position in the Netherlands, procedures require that applicants obtain a guarantee from a Dutch institution that the research project will be carried out there in case the funding is granted.

In sum, the collective labor agreement of 2021 has been an important step for improving the employment conditions for academic staff in the Netherlands, by increasing the proportion of permanent positions. It remains to be seen if this example for such change to the system supports our assumption that benefits for research quality will follow.

Nigeria

Unlike academia in the world's richest countries, the problem of research production in Nigeria has more profound causes than just the lack of permanent contracts. In Nigeria, the

PERMANENT EMPLOYMENT FOSTERS RESEARCH QUALITY

working situation for academics is far from ideal due to understaffing, poor remuneration, lack of research funds or grants, outdated equipment, poor infrastructure, and lack of mentorship (see Adetula et al., 2021; Igiri et al., 2021). These realities have led to a decline in the quantity and quality of research output in Nigeria (Egbetokun et al., 2022; Igiri et al., 2021; Ojiji, 2015).

Academics in Nigerian universities are mostly attached to a department, a discipline-based administrative unit responsible for coordinating research and teaching activities, where they are employed either on a permanent basis or a temporary basis. Positions for more senior academics tend to be permanent and full-time, while junior staff tends to be employed via temporary and part-time positions, with contract durations of typically one or two academic years. Postdoc positions are rarely awarded in Nigeria and primarily funded by a limited number of research grants and intervention funds, typically only for one year (see Tertiary Education Trust Fund [TETFund], 2022).

Working conditions differ depending on contractual status. Compared to junior academics on temporary contracts, senior academics with permanent contracts are more likely to be awarded research grants (see TETFund, 2022), have better access to research funding and infrastructure, and earn higher salaries (Egbetokun et al., 2022). Further, because research funding in Nigeria is sparse, academics often dedicate parts of their personal salary for research (Ibeh, 2022). As a consequence, research activities are mainly restricted to senior academics with higher pay, or to academics with access to other personal resources, who can afford to produce research. This funding structure creates imbalanced access to the limited research opportunities. The relative scarcity of opportunities further may limit the research that early career researchers

PERMANENT EMPLOYMENT FOSTERS RESEARCH QUALITY

can conduct, increasing the pressure on them to make their contributions count. Such high pressure, in turn, may have problematic effects on research quality.

Philippines

The link between employment and research quality is less straightforward in the Philippine case. The bulk of social science research is carried out by graduate students and faculty among academic departments of universities. However, PhD positions are rarely funded, and consequently the required theses are often self-funded. As a consequence, PhD students often only carry out their work part-time or in their free time, earning salaries in other ways to fund their academic endeavors, such that completing a PhD tends to take between 6 and 10 years. These employment conditions for early career researchers create biases, systematically excluding those who cannot afford to fund themselves during their PhD, or who have care duties in their families. Therefore, it is not necessarily the case that the best early career researchers stay in the system and manage to obtain a PhD, which in turn may have problematic consequences for research quality.

Further, research funding in the Philippines is sparse, and there is a general lack of time, resources and institutional support for research activities. Funding for other elements of the research ecosystem, such as graduate training, academic journals or institutional support, is similarly limited. These conditions negatively affect the research capacity in the Philippines (Wa-Mbaleka, 2015), and have created a so-called ‘producibility crisis’ (Doble et al 2018, Silan et al. 2021). Researchers in the Philippines face problems with obtaining the means necessary to conduct high quality research.

PERMANENT EMPLOYMENT FOSTERS RESEARCH QUALITY

Despite these difficult conditions, for researchers who have obtained a funded position, publication pressure is relatively low. For example, for the top-ranked university in the country, the University of the Philippines Diliman, only one publication in refereed journals is needed to apply for tenure. Subsequent publications are needed for promotion, but lack of research output is not grounds for dismissal. These conditions of low publication pressure create an environment in which research work – if funded – can be carried out while taking into account good research practices. Finally, long-term researcher positions are being established, for instance in social science centers in universities (Cruz, 2013), creating long-term career perspectives, which in principle could support high quality research outputs especially if concomitant reforms are made to other elements of the research ecosystem such as graduate and professional training, academic journals and institutional support.

Sweden

In Sweden, 33% of academic staff are employed on fixed-term contracts (UKÄ, 2018), which is roughly twice as high as in the total labor market (UKÄ, 2021). This number does not take into account postdoctoral fellowships, i.e., postdocs on tax-free stipends, as researchers holding such fellowships are not officially employed. It is common to be employed in fixed-term postdoctoral positions following a PhD, mainly funded by external grants to the principal investigator (PI) (e.g. from the Swedish Research Council, Cancer foundation, Wallenberg Foundation and other charities) or to the postdoc themselves (e.g. Marie Curie Skłodowska, EMBO, or some smaller Swedish charities). The employment conditions for postdoc positions are not governed by legislation, but rather by a national collective labor agreement between the

PERMANENT EMPLOYMENT FOSTERS RESEARCH QUALITY

unions and the universities. A postdoc position is up to three years long, but cannot be extended even if there is funding (with the exception of sick-leave and parental leave). It is, however, possible to obtain subsequent postdoc positions within Sweden if one changes employers, thus moving to another university. To stay in academia long-term, postdocs need to apply for, and secure, another position, either a staff scientist position or a (tenure-track) position as a PI. Staff scientist positions tend to be permanent and are attractive for postdocs who want to stay in academia, but are not interested in PI positions. However, it varies widely even between departments at the same university if such positions are made available. In some departments, there could be as many people employed as staff scientists as there are postdocs, whereas other departments hardly have any staff scientists employed.

The Swedish system has recently been given an overhaul, as official tenure-track positions were incorporated into the governing laws in 2018. The implementation of the actual tenure-track system is going at different speeds at different universities (Young Academy of Sweden, 2020), and it will likely take a few more years before it has completely settled. Researchers who obtain an assistant professor tenure-track position are offered 4-6 years of a fixed-term position, after which they are entitled to apply for promotion to associate professor. If successfully promoted, they are then shifted to a permanent contract. The criteria for promotion must be detailed before they start their tenure-track position. Since the model is quite recent, only a limited number of people have gotten promoted. Still, judging from that data and from the responses from the university and faculty leadership, it seems that >80% of the assistant professors who apply for promotion successfully obtain a permanent position (Young Academy

of Sweden, 2020). In sum, there is a shift towards more sustainable employment conditions for academics in Sweden.

United Kingdom

In the UK, the ongoing University and College Union (UCU) strikes are related to “four fights” - pay, equality, workload, and casualisation. These issues are systemic problems across the UK higher education sector. About 32% of academic staff are employed on fixed-term contracts (HESA, 2022). This percentage rises to 48% for staff employed on part-time contracts. For research-focused academics, it is typical to be employed in fixed-term postdoctoral positions following a PhD, funded by research grants from external funding bodies (e.g., UKRI funding bodies, the Wellcome Trust, and other charities). Grants typically range from 2-5 years, and as such fixed-term contracts are limited by the length of the grant. This period of fixed, relatively short-term, contracts is close to being a requirement to secure a permanent faculty position given the competitive nature of the UK academic job market. Indeed, only 3.5% of PhD students go on to become academics with permanent contracts (The Royal Society, 2010).

The UK system also operates an essentially dual-track model, where faculty can be employed on a permanent (or fixed-term) basis by the university on a research and teaching contract, or they can be supported by a fellowship funded by an external funding body. The latter enables the academic to focus solely on research, so is often seen as a more “prestigious” career option. Until recently, it was typically not possible to apply for a fellowship if one had secured a permanent faculty position (though the UKRI Future Leaders Fellowships and the Wellcome Trust Career Development Awards now allow for this), however there is an inherent risk in staying employed in

PERMANENT EMPLOYMENT FOSTERS RESEARCH QUALITY

fixed-term postdoctoral positions on the prospect of receiving a fellowship, and the fellowships are by nature time-limited and therefore do not guarantee longer-term employment without a formal agreement from the supporting institution. Thus, the dual-track model allows individuals with more stability and resources to take greater career risks, accentuating known diversity issues in UK academia (46% of academic staff are female, falling to 28% at the Professor level; 17% of academic staff with known ethnicity are Black and Minority Ethnic (BME; HESA, 2022).

References

- Bahr, A., Blume, C., Eichhorn, K., & Kubon, S. (2021). With #IchBinHanna, German academia protests against a law that forces researchers out. *Nature Human Behavior*, 5(9), 1114–1115. <https://doi.org/10.1038/s41562-021-01178-6>
- Bahr, A., Eichhorn, K. & Kubon, S. (2021). #95v *WissZeitVG: Prekäre Arbeit in der deutschen Wissenschaft*. Büchner-Verlag.
- Cruz, L. J. R. D. (2013). Whose expectations matter? External funding, academic dispositions, and university social research centers in the Philippines. *Philippine Sociological Review* 61(1), 147–173. <http://www.jstor.org/stable/43486359>
- Dirnagl, U. (2022). #Ichiban Hannah and the fight for permanent jobs for postdocs: How a fictitious postdoc (almost) triggered a fundamental reform of German academia. *EMBO reports*, 23, e54623.
- Doble, J. M., Sio, C. P., Clemente, J. A. R. (2018). The current crisis of psychology research in the Philippines: Reproducibility or producibility? [Conference poster presentation]. Interdisciplinary Meta-research & Open Science Conference (AIMOS 2020), Sydney, Australia. <https://doi.org/10.17605/OSF.IO/HGPZF>
- Egbetokun, A., Olofin Yeun, A., Sanni, M., Ayo-Lawal A., Oluwatope, O., & Yusuff, U. (2022). The production of social science research in Nigeria: status and systemic determinants. *Humanities and Social Sciences Communications*, 9(1), 1–9. <https://doi.org/10.1057/s41599-021-01017-z>

PERMANENT EMPLOYMENT FOSTERS RESEARCH QUALITY

Entwurf eines Fünften Gesetzes zur Änderung des Hochschulrahmengesetzes und anderer Vorschriften [Draft of a fifth act to amend the framework act for higher education], BT-Drs. 14/6853 (2001). <https://dserver.bundestag.de/btd/14/068/1406853.pdf>

Entwurf eines Ersten Gesetzes zur Änderung des Wissenschaftszeitvertragsgesetzes [Draft of a first act to amend the academic fixed-term contract act], BT-Drs. 18/6489 (2015). <https://dserver.bundestag.de/btd/18/064/1806489.pdf>

European Commission, Directorate-General for Research and Innovation. (2021). *European Research Area policy agenda: overview of actions for the period 2022-2024*. <https://doi.org/10.2777/52110>

European University Association. (2022). *The EUA Open Science Agenda 2025*. <https://eua.eu/resources/publications/1003:the-eua-open-science-agenda-2025.html>

ON THE IMPORTANCE OF PERMANENT EMPLOYMENT CONTRACTS 26

Gesetz über die Hochschulen im Land Berlin (Berliner Hochschulgesetz - BerlHG) [Berlin University Act], GVBl. 2011, 378 (2011). <https://gesetze.berlin.de/perma?d=jlr-HSchulGBE2011V27IVZ>

Gesetz über befristete Arbeitsverträge in der Wissenschaft (Wissenschaftszeitvertragsgesetz - WissZeitVG) [Academic fixed-term contract act], BGBl. I S. 506 (2007). www.gesetze-im-internet.de/bundesrecht/wisszeitvg/gesamt.pdf

German Research Foundation. (2022, May). Hinweis zur Bezahlung von Promovierenden [Note on the payment of doctoral students]. https://www.dfg.de/formulare/55_02/55_02_de.pdf

Higher Education Statistics Agency (HESA). (2022, February 1). *Higher Education Staff Statistics: UK, 2020/21*. Retrieved February 28, 2022, from

<https://www.hesa.ac.uk/news/01-02-2022/sb261-higher-education-staff-statistics>

Ibeh, R. (2022, February 3). Why is Nigeria not performing on the research front? *University world news Africa edition*.

<https://www.universityworldnews.com/post.php?story=20220202020432734>

Igiri, B. E., [Okoduwa](#), S. I. R., Akabuogu, E. P., [Okoduwa](#), U. J., Enang, I. A., Idowu, O. O., Abdullahi, S., Onukak, I. E., Onuruka, C. C., Christopher, O. P. O., Salawu, A. O., Chris, A. O., and Onyemachi, D. I. (2021). Focused Research on the Challenges and Productivity of Researchers in Nigerian Academic Institutions Without Funding. *Frontiers in Research Metrics and Analytics*, 6.

<https://doi.org/10.3389/frma.2021.727228>

League of European Research Universities. (2022). *A Pathway towards Multidimensional Academic Careers - A LERU Framework for the Assessment of Researchers*.

<https://www.leru.org/publications/a-pathway-towards-multidimensional-academic-careers-a-leru-framework-for-the-assessment-of-researchers>

Ministère de l'Enseignement supérieur, de la Recherche et de l'Innovation. (2021). *Second National Plan for Open Science: Generalizing Open Science in France 2021-2024*.

https://www.ouvrirlascience.fr/wp-content/uploads/2021/10/Second_French_Plan-for-Open-Science_web.pdf

Netzwerk für Gute Arbeit in der Wissenschaft. (2021, June 18). *Ich bin Hanna und die Antwort des BMBF – Was dabei vergessen wird: Das Gesetz kreiert ein wissenschaftliches Prekariat* [I am Hanna and the answer of the BMBF - What is forgotten: The law creates a scientific precariat]. Retrieved January 7, 2022, from

<https://mittelbau.net/ichbinhanna-und-die-antwort-des-bmbf-was-dabei-vergessen-wird-das-gesetz-kreiert-ein-wissenschaftliches-prekariat/>

Ojiji, O. O. (2015). Fifty Years of Psychology in Nigeria: Are We Still Teaching Science or Folktales? *African Journal for the Psychological Studies of Social Issues*, 18(2), 99–110.
<http://www.ajpssi.org/index.php/ajpssi/article/view/129>

Organisation for Economic Co-operation and Development (2022, May 06), *Temporary employment (indicator)*. <https://doi.org/10.1787/75589b8a-en> Silan, M., Adetula, A., Basnight-Brown, D. M., Forscher, P. S., Dutra, N., & IJerman, H. (2021). Psychological Science Needs the Entire Globe, Part 2. *APS Observer*, 34(6).

SPD, BÜNDNIS 90/DIE GRÜNEN, & FDP (2021). *Koalitionsvertrag zwischen SPD, Bündnis 90/Die Grünen und FDP [Coalition contract between SPD, Bündnis 90/Die Grünen and FDP]*.
<https://www.bundesregierung.de/resource/blob/974430/1990812/04221173eef9a6720059cc353d759a2b/2021-12-10-koav2021-data.pdf?download=1>

Statistisches Bundesamt (Destatis). (2018, May). *Hochschulen auf einen Blick* (Ausgabe 2018).
https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Bildung-Forschung-Kultur/Hochschulen/Publikationen/Downloads-Hochschulen/broschuere-hochschulen-blick-0110010187004.pdf%3Bjsessionid=5464DC96FE2DC8FFF1760938705D50D0.live731?__blob__publicationFile

The Royal Society. (2010, March). *The Scientific Century: securing our future prosperity*.

Retrieved February 28, 2022, from

https://royalsociety.org/~media/Royal_Society_Content/policy/publications/2010/4294970126.pdf

Tertiary Education Trust Fund (TETFund). (2022). Guidelines and requirements for accessing funds for institution-based research. <https://tetfundserver.com/index.php/guideline-6/>

Universitets Kanslers Ämbetet (UKÄ). (2018). *Tidsbegränsade anställningar bland högskolans forskande och undervisande personal [Temporary employment among the university's research and teaching staff]*.

<https://www.google.com/url?q=https://www.uka.se/download/18.7e087fe016483802b9b14088/1539064158847/rapport-2018-10-09-tidsbegransade-anstallningar.pdf&sa=D&source=docs&ust=1651140411016526&usg=AOvVaw2MpAdsPsj40WavpT-biJzb>

Universitets Kanslers Ämbetet (UKÄ). (2021). *Universitet och högskolor årsrapport 2021 [University and high schools annual report 2021]*.

<https://www.uka.se/statistik--analys/arsrapport-om-universitet-och-hogskolor/arsrapport-2021.html>

Universities of the Netherlands. (2021a). *Wetenschappelijk Onderwijs PersoneelsInformatie (WOPI) [Scientific Education Personnel Information (WOPI)]*.

https://www.universiteitenvannederland.nl/f_c_personeel_downloads.html

ON THE IMPORTANCE OF PERMANENT EMPLOYMENT CONTRACTS 36

Universities of the Netherlands. (2021b). Collective Labour Agreement for Dutch Universities.

https://www.universiteitenvannederland.nl/files/documenten/CAO/2021/CLA_Universities_Netherlands_2021_2022.pdf

PERMANENT EMPLOYMENT FOSTERS RESEARCH QUALITY

University Grants Commission of Bangladesh (2019). Annual Report: Fiscal year 2019.

http://ugc.portal.gov.bd/sites/default/files/files/ugc.portal.gov.bd/annual_reports/0b944cc5_aa77_44b7_b1db_cc1a20e0eb37/2021-09-08-06-49-e0bf991565e624555d9915b54629624d.pdf

Wa-Mbaleka, S. (2015). Factors Leading to Limited Faculty Publications in Philippine Higher Education Institutions. In *International Forum Journal* 18(2), 121–141.

Young Academy of Sweden. (2020, May 11). *Assistant professorships in Sweden — An evaluation*. <https://www.sverigesungaakademi.se/en-GB/1672.html>