PRECARITY AND THE FUTURE OF THE RESEARCH WORKFORCE

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OECD inputs for policy making on research careers

OECD Science, Technology and Innovation Outlook 2021
TIMES OF CRISIS AND OPPORTUNITY

Research precariat

FUTURE NEEDS OF #SCIENCE AND OF #SOCIETY
The Precarity of Research Careers
Should I stay or should I go?
Deteriorating working conditions for academic researchers may push the best talent to go elsewhere. Academic structures that mainly link training and careers to 'research excellence' - as measured by publication outputs - are not fully adequate to meet the future needs of science and of society as a whole. This poses several important questions for STI policy.

SCROLL DOWN

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REDUCING THE PRECARITY OF ACADEMIC RESEARCH CAREERS
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| What's at stake?

Researchers are the most important resource of research systems, and, as in other areas of activity, people are a key determinant of performance. The quality of the research produced depends mostly on the expertise and skills of the researchers, both individually and collectively, and the conditions given to them to perform their work.

Many OECD countries are preoccupied with the future of academic research careers. Their concerns relate to the deterioration of working conditions of many researchers, lack of diversity in terms of gender and representation of different groups in society, unequal opportunities in access and advancement in careers, and declining capacity of research systems to attract the best national and international talent.

The move away from core basic funding to project-based funding is making research systems increasingly dependent on a cohort of junior staff employed on casual contracts. Furthermore, the context for funding and the development of research assessment regimes puts emphasis on the short-term output of research, which places immense pressure on early career researchers to publish.

The traditional academic career path can no longer absorb the increasing number of doctorate holders in many systems, which is heightening career competitiveness to extreme levels and contributing to greater precarity. A possible solution is to prepare doctorate holders for diverse careers beyond the traditional academic career path. However, the attractiveness of alternative careers vis-a-vis the academic career path may take away the best talent from academic research, and impair the long-term quality of the science produced.

The OECD Global Science Forum is undertaking a project on reducing the precarity of research careers. Its main objective is to identify policies and procedures that could support better strategic planning and management of research careers in the public sector, promoting inclusion and diversity, while increasing the quality of the science produced and the well-being of researchers. The project focuses on a particular group of researchers, the Research Precariat. These researchers are mainly postdoctoral researchers, waiting to enter the academic career as a researcher in a public research organisation, or the professoriate in a university.

The Research Precariat can be defined as the population of researchers with a doctoral degree that hold temporary positions without any commitment to renew their positions or transform those positions into long-term or permanent contracts.

Chapter 3:Challenges and new demands on the academic research workforce

Website online:
oe.cd/sti-outlook

STI policy papers
www.oecd-ilibrary.org

# The Research Precariat

Project methodology

- Identified and analysed existing data on doctoral and postdoctoral careers
- Desk-top analysis of the literature and development of a conceptual framework
- Detailed *de novo* country notes from 15 OECD countries
- Panel interviews with different stakeholders (circa 100 persons in 12 countries)
- 2 international workshops

Supply and demand

Share of doctorate level attainment in the population
25-64 years, 2014 and 2019 or latest year available

- 2019 or latest available
- 2014
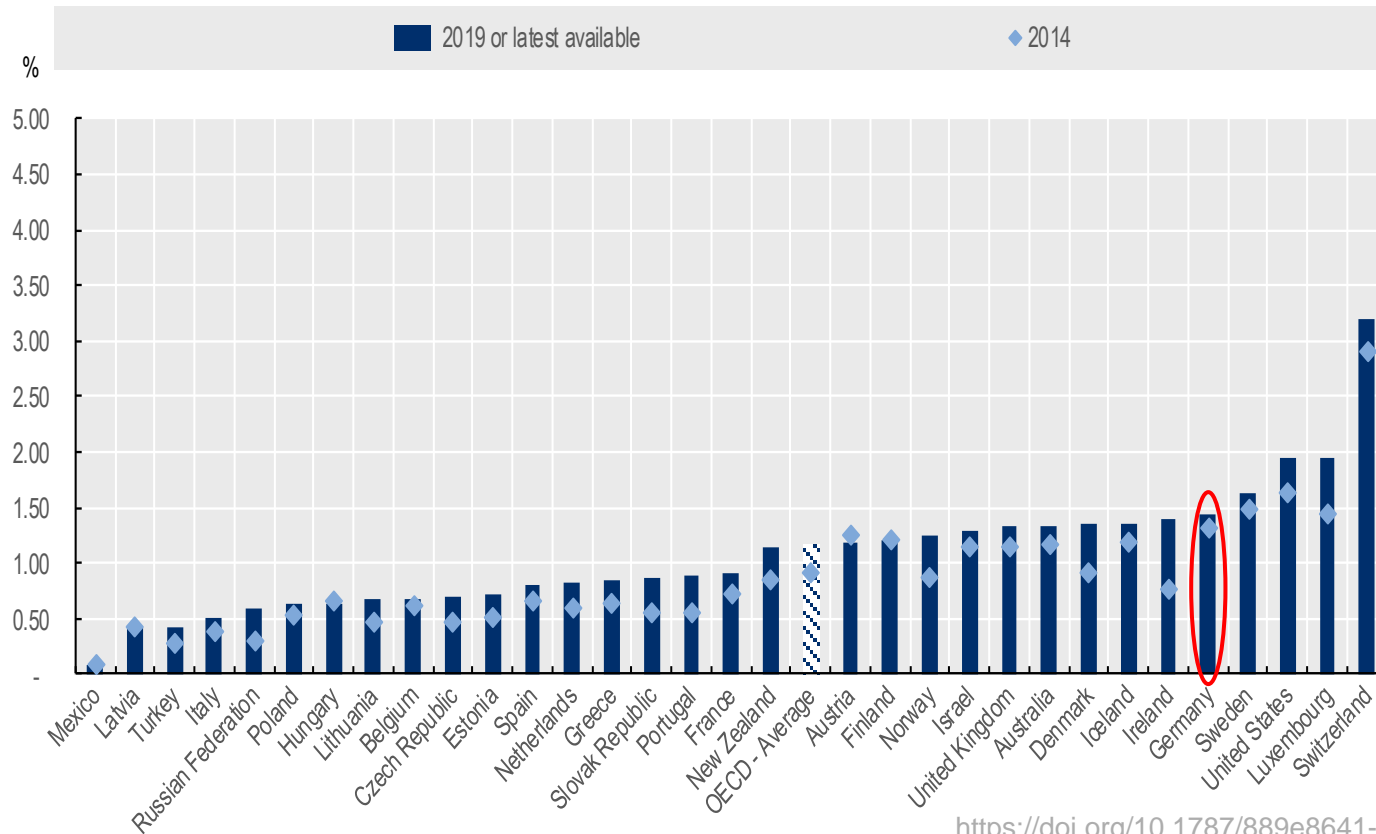
- The OECD average share of 25-64 year-olds with a doctorate is around 1%, and this share has been increasing.

- The share of doctorate holders in the population (25-64 year olds) of OECD countries **has increased by 25%** during the 5-year period 2014-2019.

https://doi.org/10.1787/889e8641-en

Great expectations?

What doctoral candidates want to do when they have their PhD

Q: Which of the following sectors would you most like to work in (beyond a postdoc) when you complete your degree?

Preference ■ 1st ■ 2nd ■ 3rd ■ 4th ■ 5th

Academia	56%
Industry	28%
Medical	11%
Government	10%
Non-profit	7%

Respondents (%)

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Source: *Nature* PhD Survey 2019
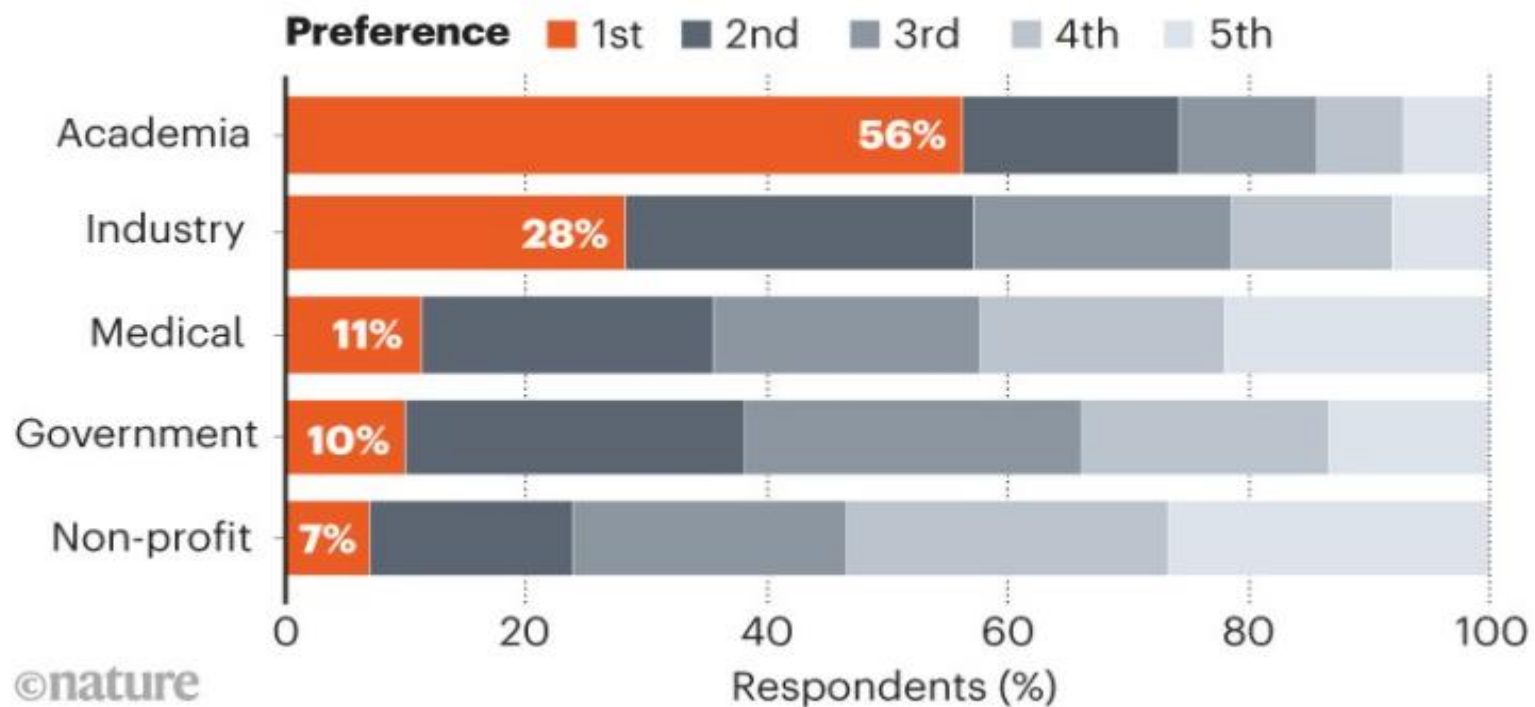
PhD candidates want to work in academia – a worldwide pattern

Where do PhDs actually lead?

Doctoral training is a stepping stone to multiple roles
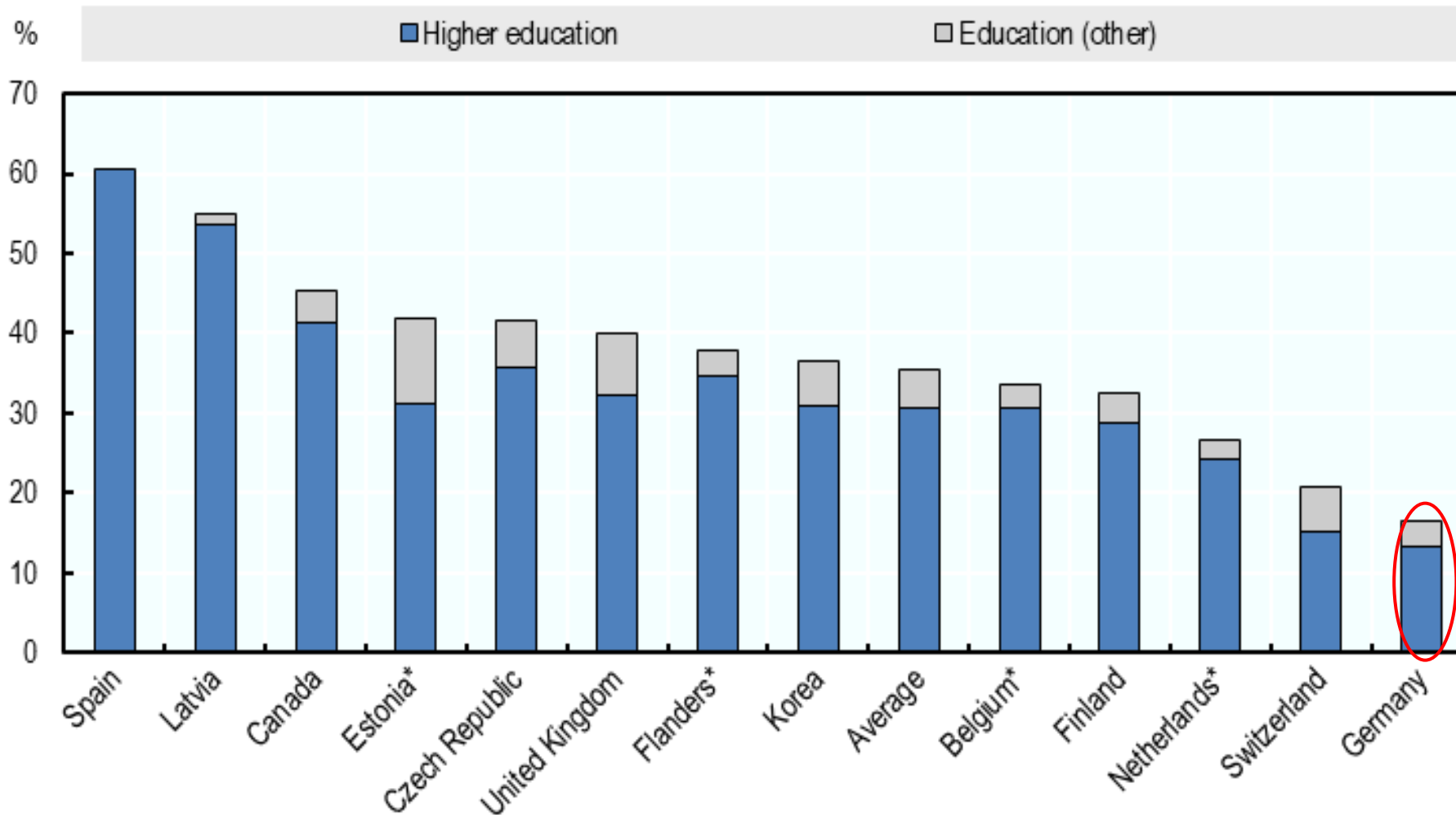
A minority of doctorate holders are employed in higher education in most OECD countries

Supply and **demand**

Job security of corresponding authors, by country of residence

Percentage of corresponding authors under 45, 2018, selected economies

%

■ Fixed-term   ■ Indefinite, highly protected   ■ Other indefinite

CHE DEU AUT USA ITA IND NLD CHN ESP CAN GBR JPN FRA

http://oe.cd/issa
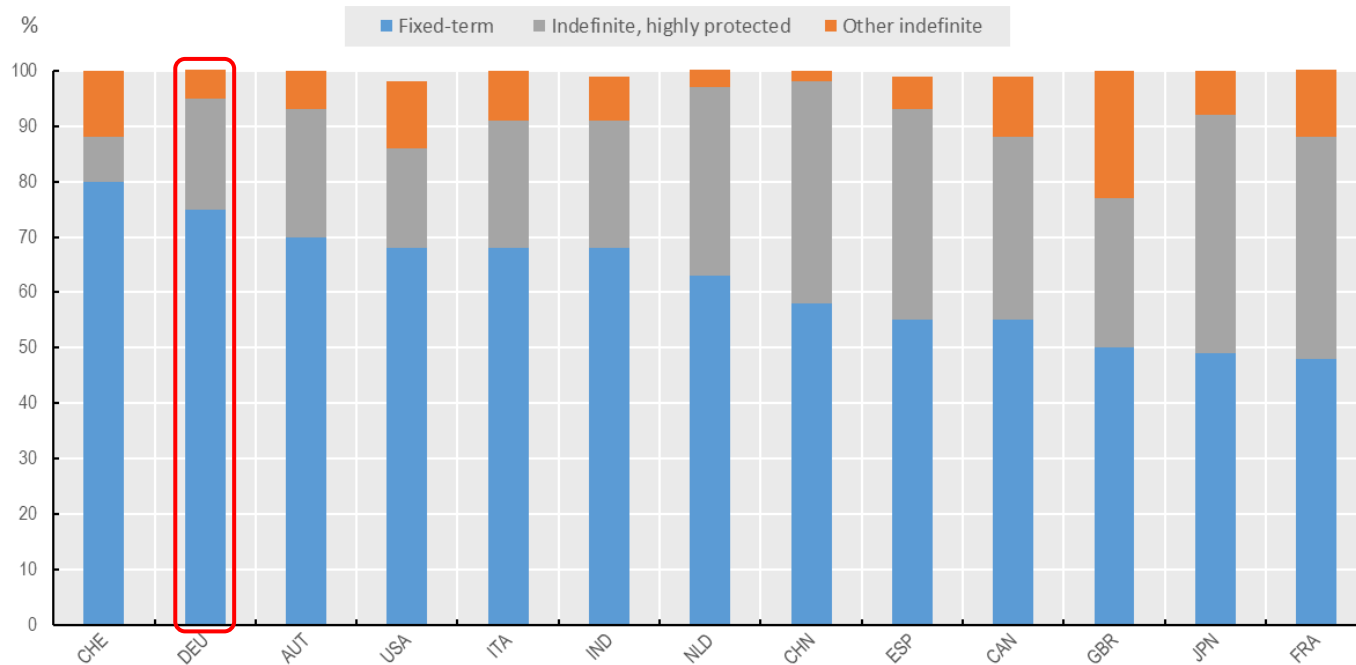
- **The traditional academic career cannot absorb the increasing number of doctorate holders wishing to stay in academia**

- Around one third of the OECD labour force are in temporary or part-time jobs or are self-employed, but **the scale of precarity is much higher in the academic research sector**, especially among early-career researchers.

The effects of precarity

- Affects the well-being and mental health of researchers
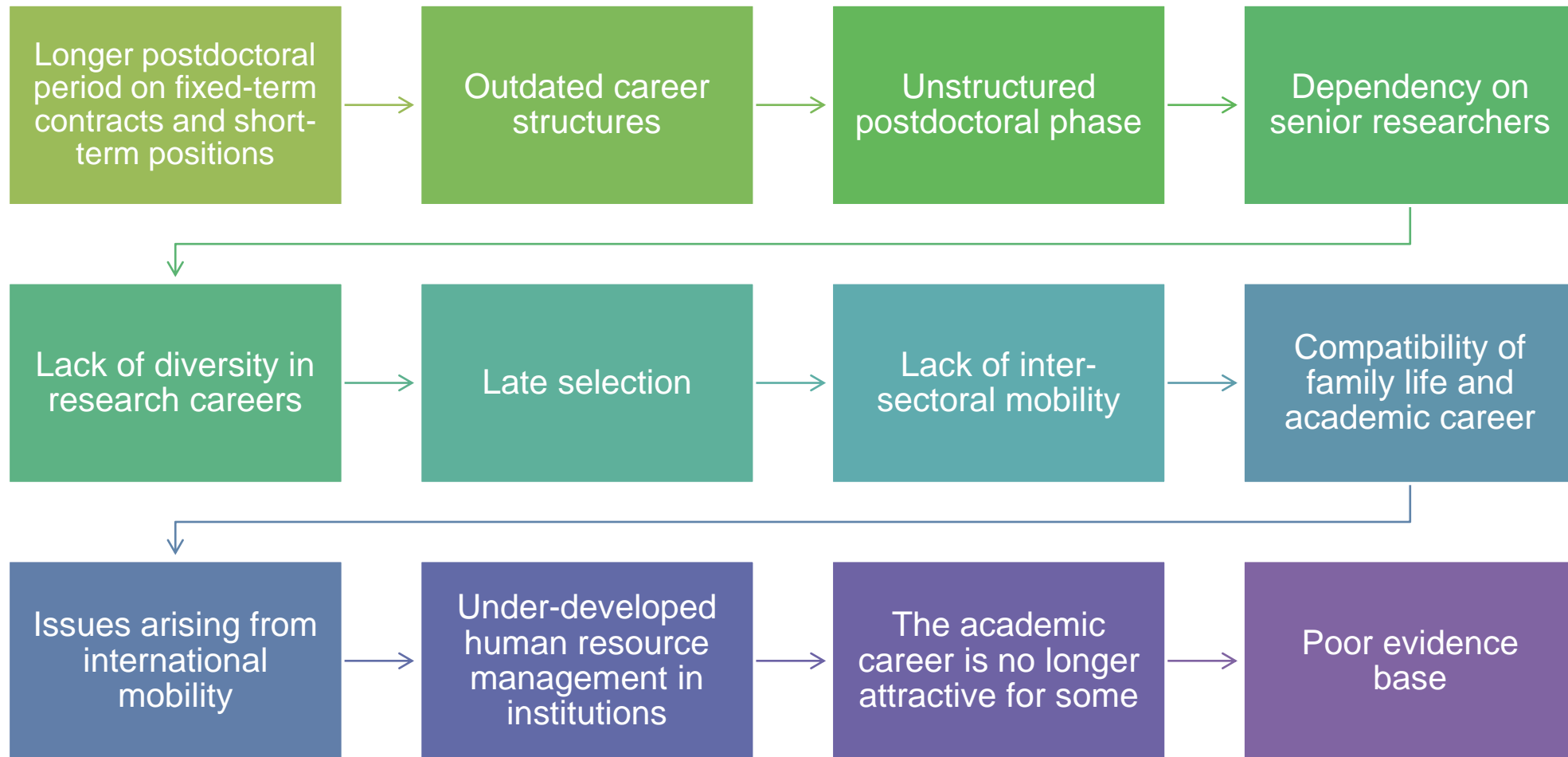- Decreases the attractiveness of research as a career choice
- Negates efforts to promote diversity and gender equality
- Ultimately affects research choices (safe vs risky) and the quality of science

Challenges and causes

Longer postdoctoral period on fixed-term contracts and short-term positions	→	Outdated career structures	→	Unstructured postdoctoral phase	→	Dependency on senior researchers

Lack of diversity in research careers	→	Late selection	→	Lack of inter-sectoral mobility	→	Compatibility of family life and academic career

Issues arising from international mobility	→	Under-developed human resource management in institutions	→	The academic career is no longer attractive for some	→	Poor evidence base

9 overarching policy recommendations

1. Improve working conditions and offer more transparent, predictable and flexible career prospects for postdoctoral researchers

2. Offer broad professional development during postdoctoral training

3. Promote equal opportunities, diversity and inclusion in research careers by identifying and addressing existing biases and challenges

4. Establish better links between research assessment and funding, and human resource management policy objectives

Policy recommendations

5. Improve institutional practices regarding human resource management in research

6. Promote inter-sectoral mobility of researchers

7. Support the international mobility of researchers

8. Develop the evidence base on research careers

9. Include all relevant stakeholders in the governance and coordination of research and ensure concerted, systemic action

Policy options regarding working conditions (rec 1)

- Make employment contracts the norm and limit use of stipends
- Include post-docs in established career frameworks with similar salaries and benefits as permanent staff
- Improve transparency on future career prospects
- Implement a minimum period for fixed term contracts (eg 3 yrs)
- Create diversified open-ended positions to replace fixed-term contracts that fulfil long-term needs
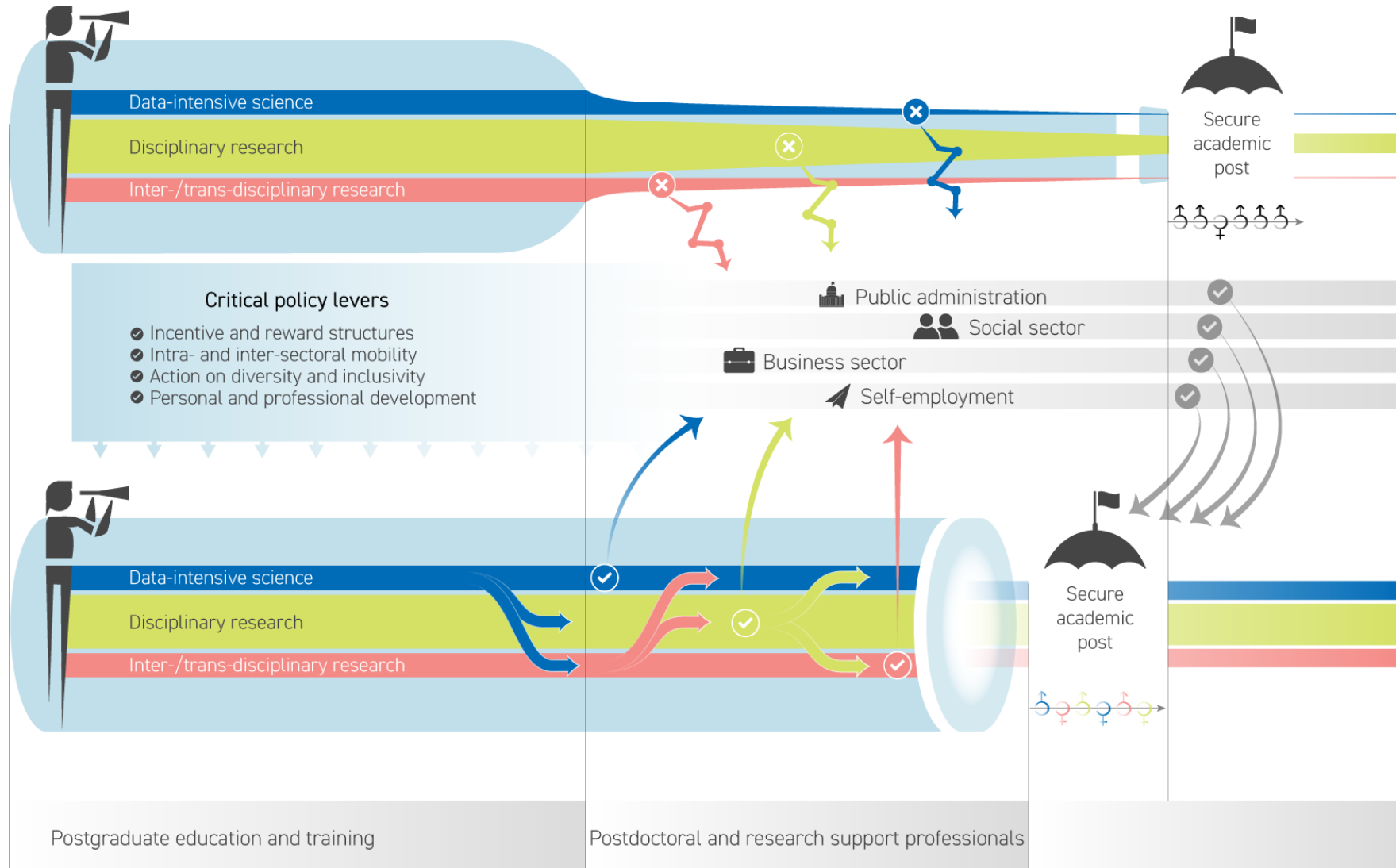- Monitor working conditions of post-docs and employment status(via surveys and registry data)

Policy options for Inter-sectoral mobility (rec. 6)

- Offer broad training beyond academic skills during doctoral education
- Offer work-based learning opportunities during doctoral education, including for fields that are not market-facing (e.g. AHSS)
- Remove barriers to mobility between sectors (e.g. enable portability of pension rights)
- Recognise professional experience and skills acquired in other sectors in recruitment and promotion processes
- Counter perceptions of failure associated with transition out of academic research by publishing evidence on labour market outcomes of doctoral holders in different sectors and their career satisfaction
- Monitor distribution of doctorate holders in different sectors through registry data and use this data to inform policy and evaluate policy impact.

Data-intensive science

Disciplinary research

Inter-/trans-disciplinary research

Critical policy levers
- Incentive and reward structures
- Intra- and inter-sectoral mobility
- Action on diversity and inclusivity
- Personal and professional development

Public administration

Social sector

Business sector

Self-employment

Secure academic post

Secure academic post

Postgraduate education and training

Postdoctoral and research support professionals

Need for systemic changes to the academic system

- Universities and research providers/employers are the central actors
- Policy mandates and incentives (measures and indicators) shape institutional behaviour
- Funding and funder actions are an important influence
- Need systematically collected data on all research staff and their career trajectories to inform policy. (Policy experimentation, monitoring and adaptation)
- All actors need to work together.

Further information and good practice examples

STI policy papers
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Different perspectives: Funders; employers, researchers, policy-makers

Hexagonal diagram with "Research performing institutions" at the center, surrounded by: State, Research agencies, Labour market for researchers, Association of researchers, Association of employers of researchers, Supranational organisations.

Policy levers

Legal and regulatory regimes

- Science policy legislation
- Employment law
- Equal opportunities legislation
- Career statutes

Financial incentives

- Funding of research organisations
- Funding of individual and team projects

Informational mechanisms

- Collection, analysis and publication of information on researchers and research careers

Organisational levers

- Research councils
- Observatories
- National coordination bodies