THE FUTURE RESEARCH WORKFORCE

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OECD

BETTER POLICIES FOR BETTER LIVES

Menu

OECD GSF work on the research workforce (2018-)

Chapter 7: Gender in a changing context for STI

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

Policies to promote Equity, Diversity and Inclusion (EDI) in the Research workforce

July 2023-September 2024

Standard GSF project methodology

- Overseen by an *ad hoc* international expert group
- Identify and analyse existing statistical and policy 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) [Precariat project]
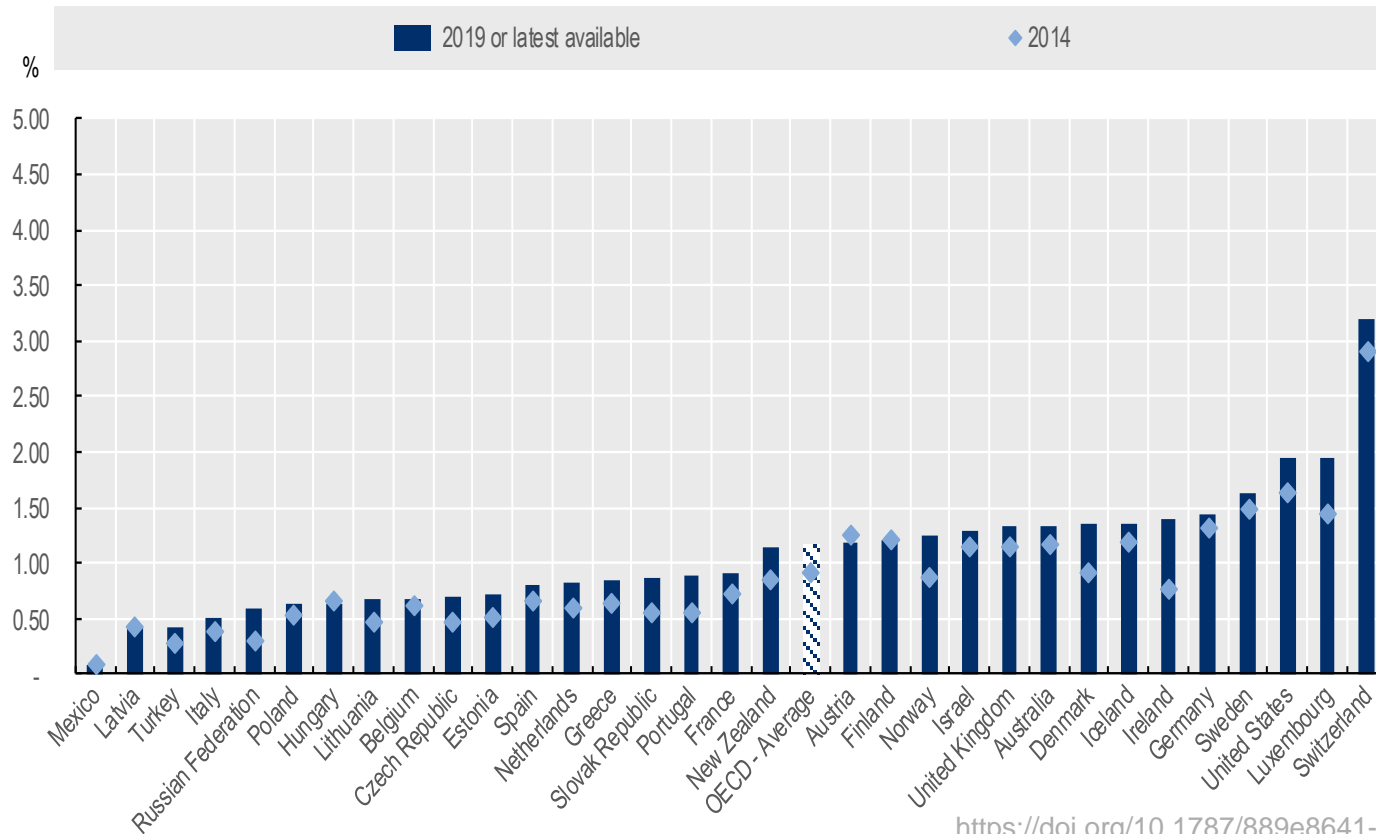- international workshops [+Foresight exercise]

1. THE BIG PICTURE

Supply and demand

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

Legend: ■ 2019 or latest available   ◆ 2014

Countries (left to right): Mexico, Latvia, Turkey, Italy, Russian Federation, Poland, Hungary, Lithuania, Belgium, Czech Republic, Estonia, Spain, Netherlands, Greece, Slovak Republic, Portugal, France, New Zealand, OECD - Average, Austria, Finland, Norway, Israel, United Kingdom, Australia, Denmark, Iceland, Ireland, Germany, Sweden, United States, Luxembourg, Switzerland

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

- 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 **increased by 25%** during the 5-year period 2014-2019.

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?

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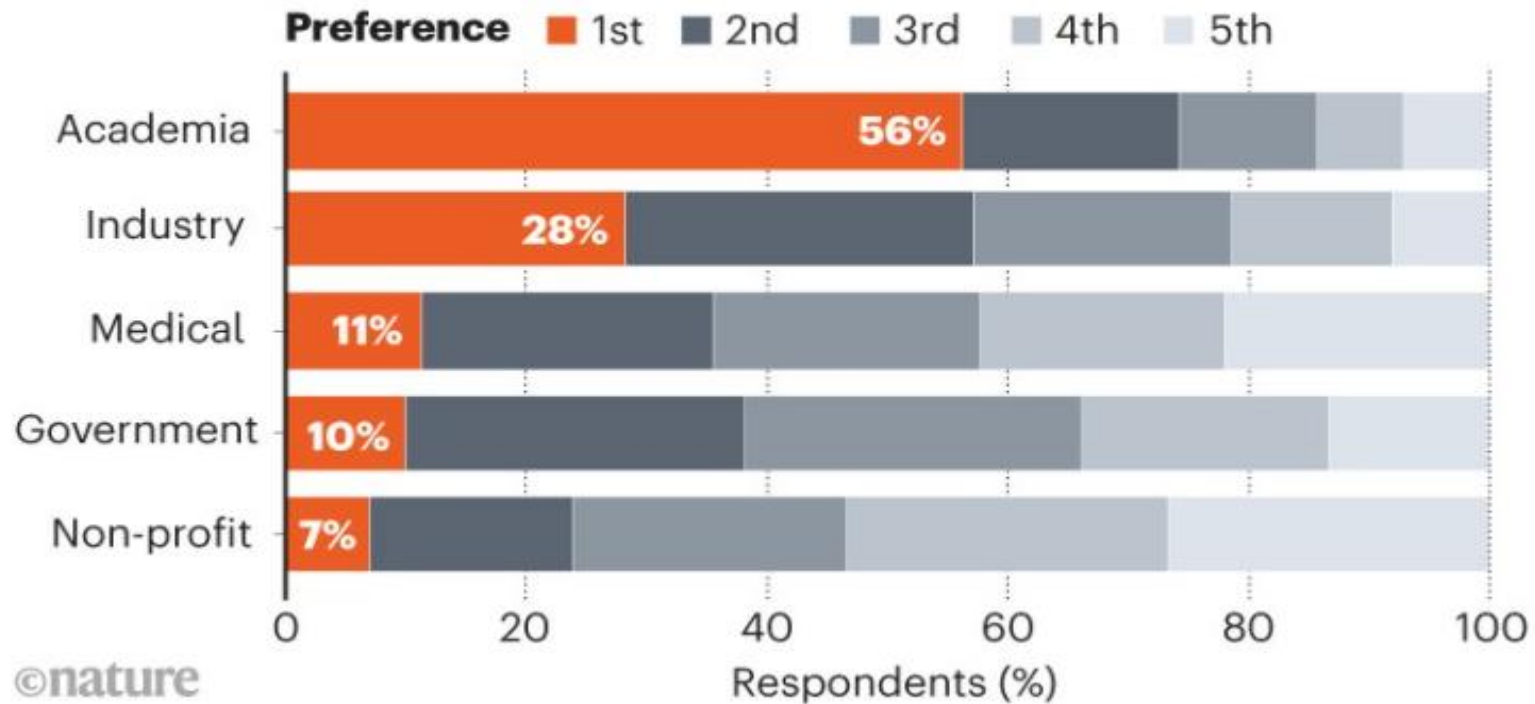
PhD candidates want to work in academia – a worldwide pattern

Where do PhDs actually lead?

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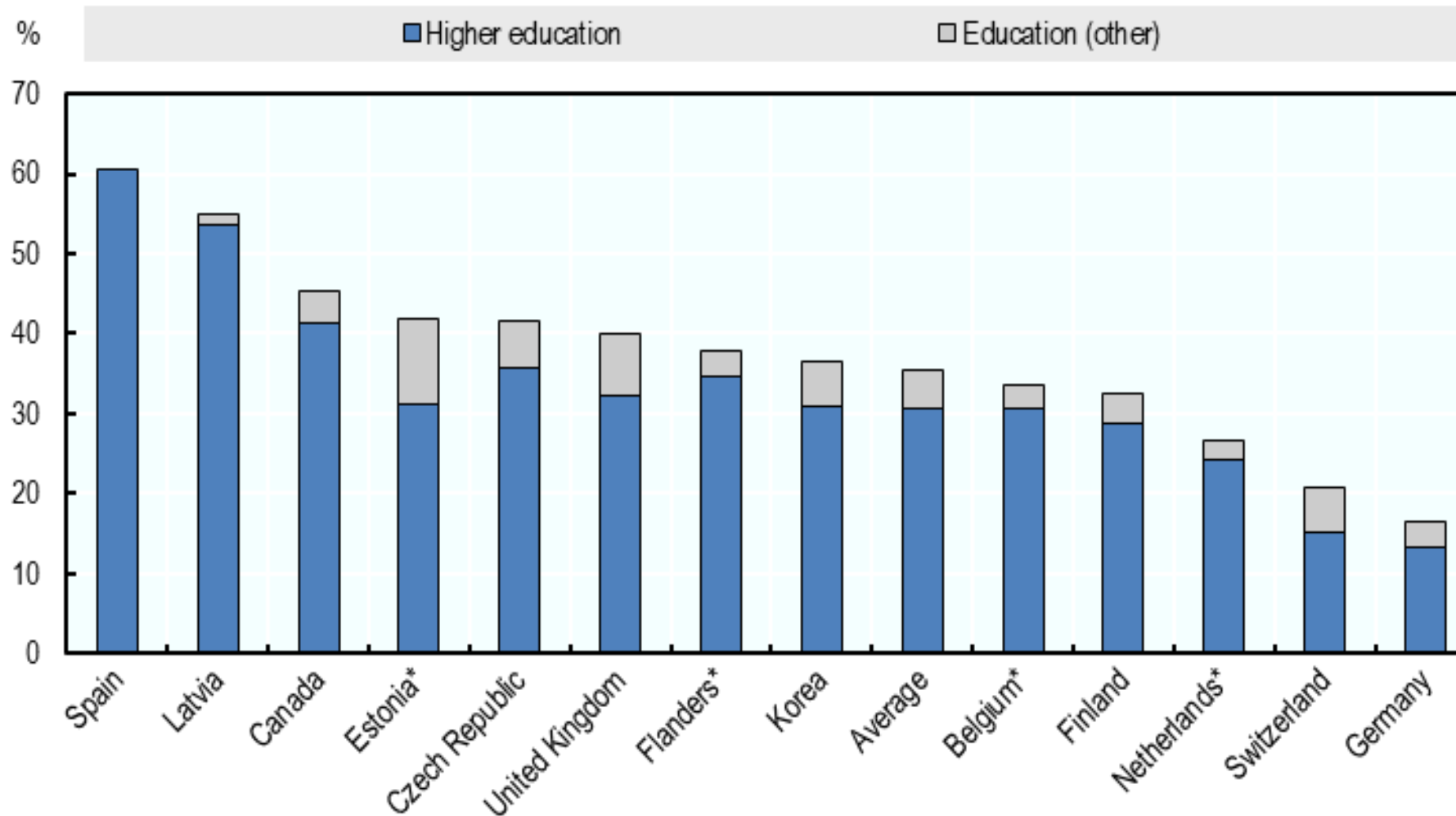
A minority of doctorate holders are employed in higher education in most OECD countries
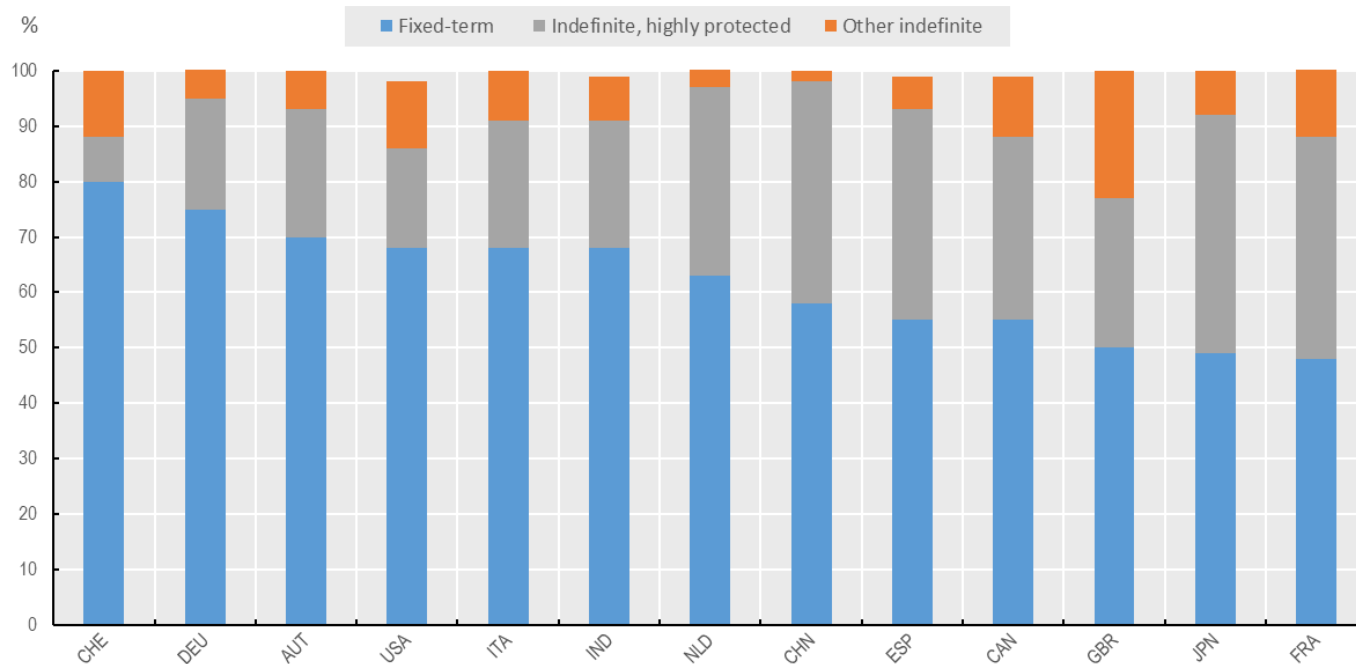
Supply and **demand**

Job security of corresponding authors, by country of residence
Percentage of corresponding authors under 45, 2018, selected economies

- **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.

http://oe.cd/issa

2. PRECARITY

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

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

Permadoc is a way for universities to get low cost labour

There is no shortage of contracts but they are precarious

Those transitioning to industry cannot go back to academia due to assessment criteria

Students feel that the situation is risky and so fewer are doing PhDs

Lack of control and sense of urgency leads to mental health problems

Need to change the mindset of PIs

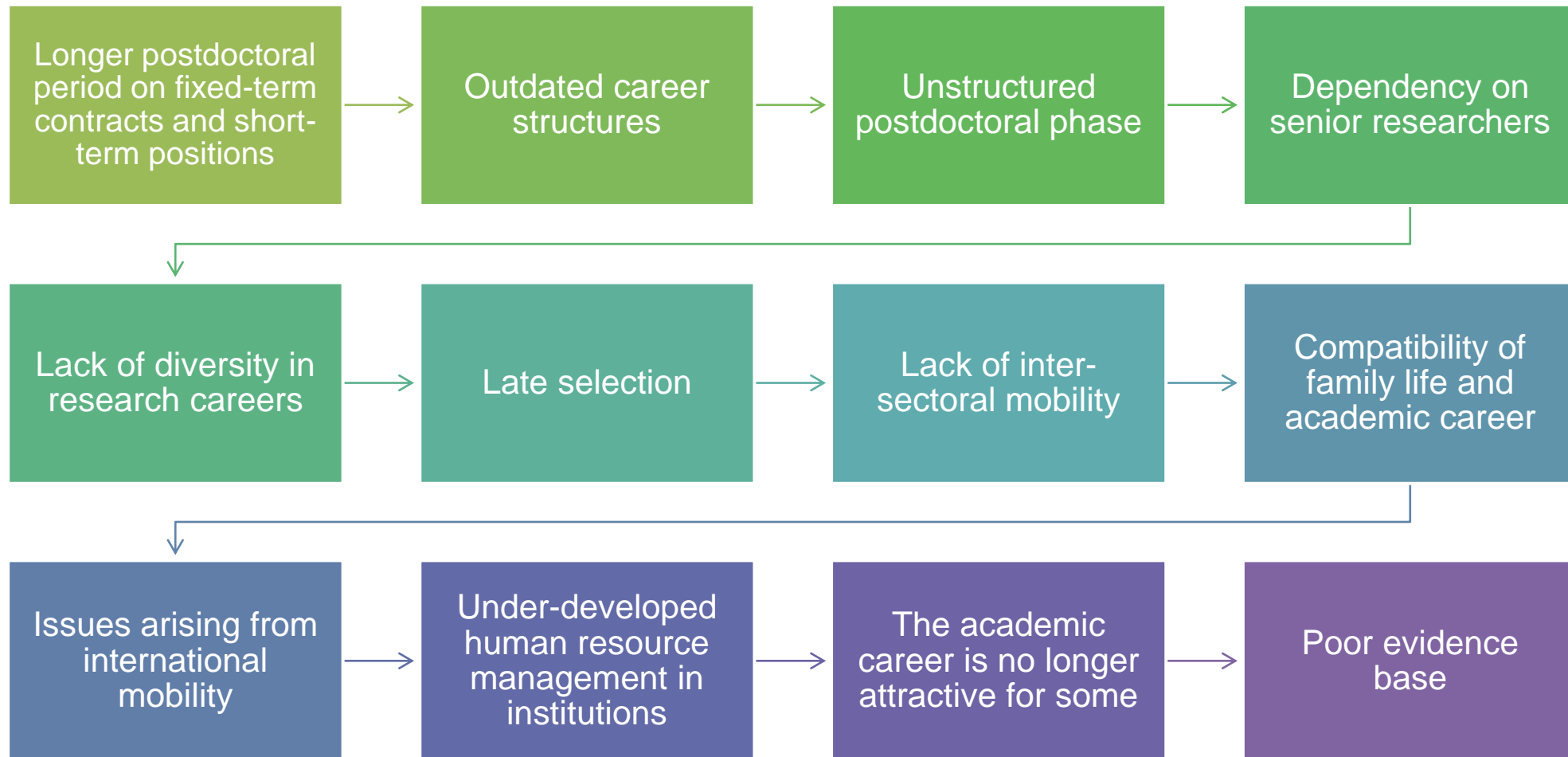Female postdocs have difficulties to continue after having children

Need to move from funding people to initiate structural change

There is no problem of unemployment of PhDs but one of career development

International staff are in worse conditions than national staff

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 to 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)

3. PROMOTING DIVERSE CAREER PATHWAYS

8 Policy recommendations

Promote the **engagement** and interaction of institutions and funders with **employers** outside academia

Provide doctoral and postdoctoral researchers with **experience and skills** for diverse careers within and beyond academia

Render more **visible** and encourage **valorisation** of diverse career options within and beyond academia

Offer career development and **guidance** on career options for researchers

Promote **inter-sectoral mobility** with the **business** enterprise sector

Promote **inter-sectoral mobility** with **government** and private not-for-profit sectors

Reconfigure and support careers in **academic research**

Support international **mobility**

Rec 2 Policy options

Provide doctoral and postdoctoral researchers with experience and skills for diverse careers within and beyond academia

Fund and organise collaborative doctorates

Offer skills training programmes

Develop mentoring programmes

Offer placements in other academic institutions and beyond academia

Involve doctoral and postdoctoral researchers and their supervisors in collaborative projects

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Rec 7 Policy options

Reconfigure and support careers in academic research

National forums to discuss the working conditions, rewards and recognition, and career paths of academic researchers

Common principles regarding academic research careers via a concordat or national framework

Institutions implement initiatives to support equity diversity and inclusion in academic research

Promote changes to academic culture, evaluation systems, incentives and rewards, to value different career paths within academia as well as experience outside academia

4. EQUITY DIVERSITY AND INCLUSION

Key policy questions

1. What are the **challenges faced by different countries** in relation to EDI in science? and, what **policy measures** are being taken to address under-representation?

2. How can PhD training and subsequent **research careers in science be made more accessible and attractive** to currently under-represented population groups?

3. How can academic career paths and related **recruitment and evaluation criteria and processes** be made more equitable and inclusive?

4. How can research funding be allocated and **research assessment processes** be adjusted to promote EDI and thus strengthen research excellence, relevance and impact?

5. What is the **evidence base** to inform EDI policies (what data exists and what is being routinely collected and for what purpose/aim)?

The main focus is on **postgraduate researchers**, mainly PhD and postdoc, in academia and on how **systems and processes in different contexts** exclude certain groups.

An intersectional approach
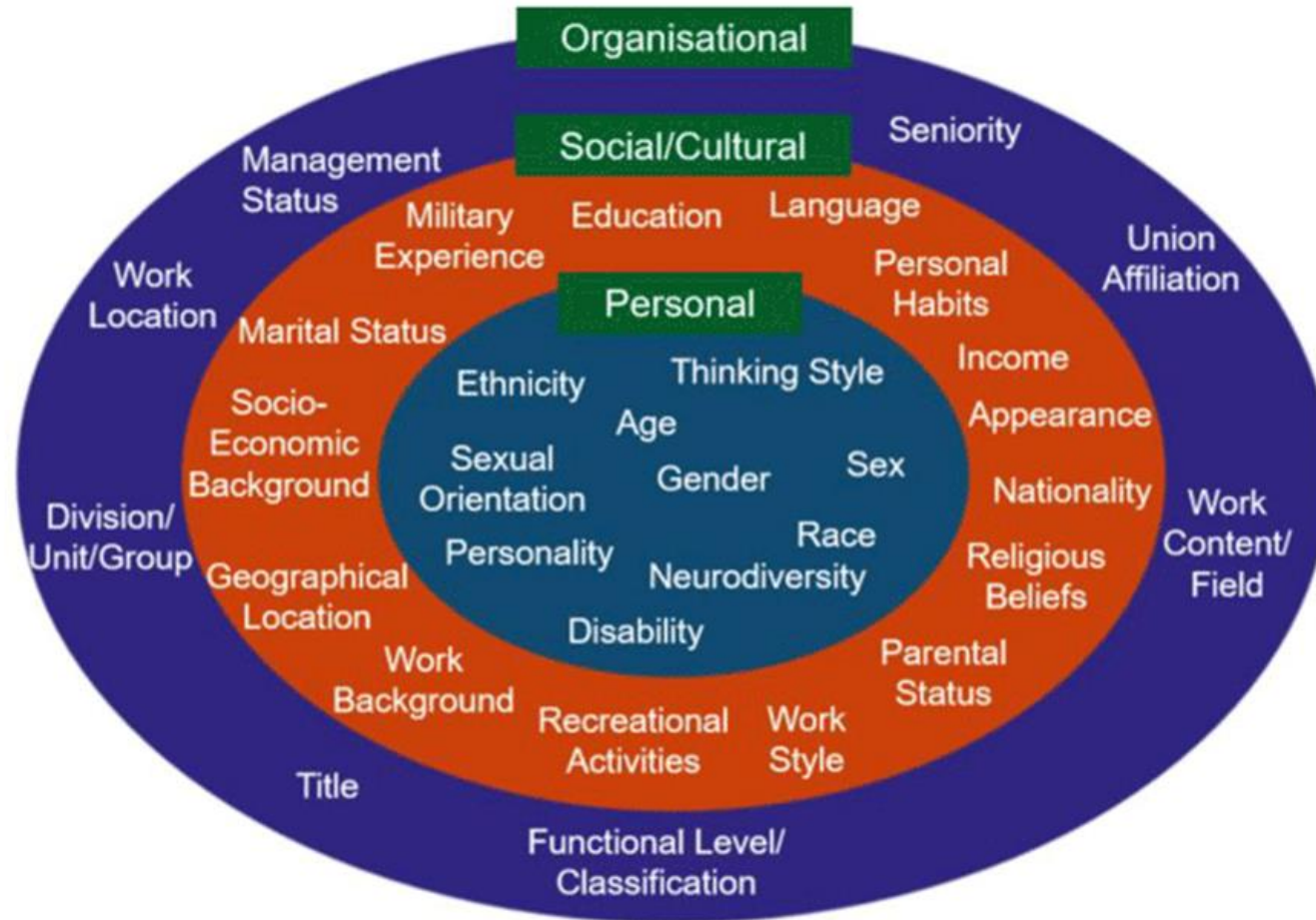
A framework for thinking about the different dimensions of diversity across individuals and institutions,

https://www.gov.scot/publications/using-intersectionality-understand-structural-inequality-scotland-evidence-synthesis/pages/10/

KEY TAKEAWAYS

Need for systemic changes to the academic system

1. Promote and valorise a variety of different research careers within and outside academia
2. Universities and research providers/employers are the central actors
3. Policy mandates and incentives (measures and indicators) shape institutional behaviour
4. Funding and funder actions can be an important influence
5. Need systematically collected data on all research staff and their career trajectories to inform individual decision making and policies
6. All actors need to work together to effect change.

Spare slides

Data-intensive science

Disciplinary research

Inter-/trans-disciplinary research

Secure academic post

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

Postgraduate education and training

Postdoctoral and research support professionals