Research Careers: Precarity, Career Pathways, Careers Observatory

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THE BIG PICTURE
Supply and demand

• 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.

https://doi.org/10.1787/889e8641-en
Great expectations?
What doctoral candidates want to do when they have their PhD

PhD candidates want to work in academia – a worldwide pattern

Source: Nature PhD Survey 2019

Where do PhDs actually lead?

Doctoral training is a steppingstone to multiple roles

A minority of doctorate holders are employed in higher education in most OECD countries

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- Outdated career structures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
Different perspectives on precarity
Funders, employers, researchers, policy-makers

- Permadoc is a way for universities to get low-cost labour
- Lack of control and sense of urgency leads to mental health problems
- Need to move from funding people to initiate structural change
- Need to change the mindset of PIs
- There is no shortage of contracts, but they are precarious
- Those transitioning to industry cannot go back to academia due to assessment criteria
- Female postdocs have difficulties to continue after having children
- There is no problem of unemployment of PhDs but one of career development
- Students feel that the situation is risky and so fewer are doing PhDs
- International staff are in worse conditions than national staff

There is no problem of unemployment of PhDs but one of career development
Overarching policy recommendations

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

Offer broad professional development during postdoctoral training

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

Establish better links between research assessment and funding, and human resource management policy objectives
Overarching policy recommendations (cont’d)

1. Improve institutional practices regarding human resource management in research

2. Promote inter-sectoral mobility of researchers

3. Support the international mobility of researchers

4. Develop the evidence base on research careers

5. Include all relevant stakeholders in the governance and coordination of research and ensure concerted, systemic action
Policy options regarding working conditions (Recommendation 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 (e.g. 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)
### Framework of analysis

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| Governance      |                         |                                                   |                               |                   |                                         |
| Research performing organisations |           |                                                   |                               |                   |                                         |
| State           |                         |                                                   |                               |                   |                                         |
| Research agencies |                      |                                                   |                               |                   |                                         |
| Universities    |                         |                                                   |                               |                   |                                         |
| Researchers     |                         |                                                   |                               |                   |                                         |
| Employers       |                         |                                                   |                               |                   |                                         |
| Supranational organisations |                   |                                                   |                               |                   |                                         |

| Policy concerns |                         |  | Policy initiatives |                         |  | Intended policy outcomes |                         |
|-----------------|-------------------------| | Design            |                         |  | Diversity of options     |                         |
| Career options  | Mobility                | | Implementation    |                         |  | Flexible trajectories    |                         |
| Mobility        | Employers               | | Evaluation        |                         |  | Better quality research |                         |
| Preparation     | Support                 | |                   |                         |  | and innovation across   |                         |
| Support         |                         | |                   |                         |  | sectors                 |                         |
## Policy recommendations

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<td><strong>Promote the engagement and interaction of institutions and funders with employers outside academia</strong></td>
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<td><strong>Provide doctoral and postdoctoral researchers with experience and skills for diverse careers within and beyond academia</strong></td>
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Policy toolkit

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

- Survey employers
- Organise events with employers outside academia (e.g. recruitment fairs, company visits)
- Explicitly engage and interact with employers outside academia
Policy toolkit

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
Policy toolkit

Render more visible and encourage valorization of diverse career options within and beyond academia.

- Quantitative and qualitative tracking of careers in all sectors
- Analyse and publish data
- Publish information on career trajectories on institutional websites.
Offer career development and guidance on career options for researchers

Offer personal career development plans and programmes

Support career offices to offer guidance on career options and employment opportunities
## Policy toolkit

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

- Fund doctoral and postdoctoral researchers in enterprises
- Fund placements in enterprises, and researchers from enterprises in academia
- Support and facilitate the transition to start-ups, spin-offs, and own companies through, e.g. science parks
- Tax instruments to encourage business enterprise to employ doctorate holders as researchers
- Recognise professional experience outside academia in academic recruitment and promotion
- Address the portability of pension rights between different sectors
Promote inter-sectoral mobility with government and private not-for-profit sectors

- Fund doctoral and postdoctoral researchers in national, regional and local government, and in social sector organisations
- Fund placements in the public and social sectors, and for researchers from the public and social sectors in academia
- Recognise professional experience outside academia in recruitment and promotion processes
- Address the portability of pension rights between different sectors
Policy toolkit

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 inclusion, diversity and equity 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
Support international mobility

- Support outgoing and incoming researchers to facilitate international mobility and a fluid global labour market
- Regulatory arrangements to facilitate integration of returning and foreign researchers, remove existing barriers
- Institutions support the integration of foreign researchers and ensure a level playing-field with national researchers
- Address the portability of pension rights across countries
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.
Multi-level governance

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
Not all doctorate holders will have an academic career, and it may not be appropriate to create more academic positions.

Doctoral and postdoctoral researchers should have a positive and productive experience; and continue to contribute to society within and beyond academia.

The doctorate should prepare for different paths that will address societal challenges and bring evidence-based decision-making to all sectors of economic activity.

We need to ensure that the most talented minds continue to be attracted to advanced scientific training.
Moving forward

- Lots of good examples
- Frequent lack of systemic approach

Scale up good practices
Tailor and adjust recommendations to each system
Monitor impact
Follow-up project
Equity, diversity and inclusion in research careers

- Certain groups don’t even consider doing a PhD.
- Doctorate holders and researchers are still an exclusive group.
- Need for talented people across society to strengthen the future of science.
- Importance of people with advanced training in science to bring different backgrounds and perspectives to academia and society.
Converging challenges – relieving the bottleneck

• **Talented people** with advanced scientific and technical competences are **key to the future of STI**.

• **Understanding how this talent is nurtured and deployed** is critical for policy makers across all policy domains.

• “**R&I careers**” is back on **top of the policy agenda**.

• **However**, strategic policy action is still significantly hampered by the lack of systematic reliable evidence.

• **ReICO** will bring together a comprehensive and shared body of **statistics and analysis** of the key facts of **R&I careers**.
Components of the proposed vision for ReICO

1. A common language and conceptual framework
2. A robust yet adaptable international statistical monitoring system
3. A forward-looking and consensus driven measurement agenda
4. Access to repository of policy practices
5. Foundations for and showcase analysis
6. Statistical and complementary resources accessible
7. Community engagement and network mechanism
8. Enabler of user learning on best practices and ReICO improvement
## Conceptual framework for monitoring R&I careers

### R&I talent building and enhancing
- Educational attainment and enrolment at different stages
- Views on R&I careers, especially for youth
- Lifelong learning & training for R&I talent
- AI-augmentation of R&I capabilities

### The marketplace for R&I professionals
- Supply: quantity (stock & flows) and quality (skills), e.g. PhDs in population
- Demand: e.g. vacancies, inc. offered pay and conditions
- Jobs, pay and other working conditions
- Skills and education mismatch

### R&I career dynamics and talent circulation
- Career pathways: progression and dynamics
- Cohort and generational dynamics
- Intersectoral, occupational and disciplinary mobility
- International mobility

### Position/performance indicators - Contextual indicators - Policy lever indicators

### Benchmarks and socio-demographic groups

### Meaningful system-level indicators of complex multi-dimensional constructs (e.g. precarity)
Let’s discuss!

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