The European Research Area, scientific mobility and research careers

A key initiative designed to reorganize research and innovation (R&I) in Europe is the European Research Area (ERA). Based in the Lisbon Treaty, the ERA promotes very deep and broad goals, including improving national science and technology (S&T) bases, enhancing regional and national competitiveness, and advancing the coordination of Member States (MS) in addressing grand societal challenges. Whilst based on the Internal Market, the ERA should also be open to the world, particularly in relation to multidimensional flows of knowledge, technology and human resources. Progress toward implementation of this European level policy initiative is largely the responsibility of national governments, exposing tensions between the objectives of frictionless cooperation and harmonization and the divergent realities of national institutional and regulatory contexts.

The conceptualization of the ERA (European Commission 2000) included ‘more abundant and more mobile human resources’ as one of its foundational aspects. Four core elements of the European-level organization of human resources for science and technology (HRST) were identified: greater mobility of researchers in Europe; a European dimension of science careers; greater place for and role of women in R&I; and stimulating the attractiveness of research careers among the young. While mobility was acknowledged to already be having a substantial impact on research training, improved knowledge and technology transfer, more inter-sectoral mobility of researchers, and the smoothing of administrative procedures and regulatory barriers were described as achievable objectives of the ERA. Opening up national recruitment and evaluation processes to European candidates was seen as essential to facilitate these objectives. Raising the horizontal and vertical participation of women in R&I, including via improving the overall taste for research careers of young people through better science learning and education strategies for school students, are objectives that should both enlarge and diversify the HRST talent pool.

This paper focuses on the implementation of the ERA across the first three of these four aspects. In particular, it focuses on the interrelationships between ERA and national policy frames, researcher mobility, and scientific careers. The paper starts by reviewing progress to date in the implementation of the ERA with a focus on the priority ‘an open labour market for researchers’ but also with attention to significantly overlapping priorities such as gender equality and open science (European Commission 2012, 2017). A number of key initiatives are described and discussed, including variation in the uptake of EURAXESS services in different national systems, grant portability, and the introduction of a European level pension fund for research (RESAVER). ERA implementation is compared across MS for these aspects. Intersecting policies such as the Scientific Visa package and the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers (European Commission 2005) are also introduced.

The paper then turns its attention to research on scientific mobility. “Scientific mobility” is defined by Mahroum (2000, p. 367) as “cross-border physical and geographic movement that comprises a stay in another country of no less than one year.” Mahroum argues that such scientific mobility “goes through channels of institutions that enjoy a high reputation for excellence and expertise” (2000, p. 367). We adopt Mahroum’s definition, but without the temporal limitation, as the role of short-term mobility has also been shown to be important in some disciplines and disproportionately for women (Cañibano et al. 2011; Jöns 2011). Studies of scientific mobility have highlighted its contribution to building trans-national networks that sustain productive international collaborations (Woolley et al. 2008) and to accessing key postdoctoral labour market entry points (Melin 2004). Stephan and colleagues (2014) examine the factors contributing to decisions to do postgraduate studies abroad. The most highly rated factors are scientific factors (benefit career, faculty, prestige, networks, infrastructure and funds), whilst non-scientific factors (lifestyle, life quality, family, fringe benefits) are less highly rated. The decision to do PhDs and Postdocs abroad are often linked to a desire to establish a research career in the destination country subsequent to training. Franzoni and colleagues (2013) found that migrant scientists who had been mobile for work or study outperformed their domestic colleagues, suggesting a productivity dividend for mobility that may benefit careers. However, another study of researcher mobility, productivity and tenure in Spain found there was no
return to careers from mobility – at least in terms of rate of progress to achieving a tenured position (Cruz-Castro and Sanz-Menendez 2010). There is also wide variation in the academic labour market rules, hiring and career development approaches that impact on the degree and character of mobility into different national systems (Stephan (2008), Fitzenberger & Schulze (2013), Lissoni et al. (2011)).

However, recent reviews of mobility and globally networked science (Flanagan 2013; Jacob & Meek 2013) highlight the still fragmented nature of research on scientific mobility and the flow-on uncertainty of the policy terrain. The mixed, fragmented and mainly snap-shot research evidence that is available on scientific mobility limits its usefulness in relation to policy development (Flanagan 2013). It also makes it more difficult to evaluate the impact of existing policies and specific policy reforms outside of very general arguments about facilitating knowledge diffusion and networking. We argue that one important gap in the existing scholarship is the failure to create systematic linkages between scientific mobility and models of research careers. Whilst studies of scientific mobility often consider how it contributes to the development of research careers, this research tends to lack an overall framework of research careers to deepen understanding of this crucial connection. To try and fill this gap the European Commission established the MORE series of studies (IDEA Consult 2013), which link mobility to a model of career stages (European Commission 2011). Whilst these studies have produced some useful empirical evidence (Børing et al. 2013), a more comprehensive understanding of how mobility fits into, and functions within, existing models of science research careers is required.

The third section of the paper makes a step toward addressing this problem by reviewing available models of research careers. The aim of this review is to enable us to answer the research question: how does scientific mobility function in specific models of research careers? Addressing this question will then allow us to view mobility policies and incentives, such as those supporting the ERA, with a more systematic understanding of their potential effects not just on organizing mobility but on the organization and structuring of research careers. The three models reviewed are those developed by Grit Laudel and Jochen Gläser (Gläser 2001; Laudel & Gläser 2008), by Paula Stephan and colleagues (Stephan et al. 2014; Stephan and Levin 2001), and by Barry Bozeman and colleagues (Bozeman & Corley 2004; Bozeman et al. 2001; Bozeman & Gaugan 2007; Dietz & Bozeman 2005). Each of these models has different disciplinary characteristics and privileges certain assumptions about individuals, institutions and organizations. The section compares these three models in terms of how they define research careers, understand career progress and frame empirical investigations. A comparison is then made of how scientific mobility functions within each of these models.

The final Discussion section of the paper draws together the elements of the previous sections. It proposes a series of general principles for policy-making regarding researcher mobility and research careers derived from the conceptual models reviewed. The current mobility policies supporting the ERA are considered in light of these proposed principles. The paper contends that future efforts to organize R&I in Europe should systematically link scientific mobility and research careers in policy development processes. Better alignment between ERA and national level policies may eventuate from embedding this approach to policy development. Such an approach can pay dividends for the organization of knowledge production, not least by reducing the loss or under-deployment of highly skilled human capital at different stages of (career) development, due to spatially, institutionally or administratively produced mismatches between the supply of, and demand for, specialized knowledge and capability in specific R&I contexts. The paper ends with an outline of a future research agenda and how this can better serve future policy development.

References

International mobility: Findings from a survey of researchers in the EU, Science and Public Policy. DOI: 10.1093/scipol/scv006


Bozeman, Barry and Monica Gaughan. 2007.

Cañibano, Carolina, F. Javier Otamendi, and Francisco Solis. 2011.

Cruz-Castro, Laura and Luis Sanz-Menéndez. 2010.


European Commission (2017)

European Commission (2012)

European Commission (2011)

European Commission (2005)

European Commission (2000)
Toward a European research area, COM(2000) 6 final, Brussels.

"Up or Out: Research Incentives and Career Prospects of Postdocs in Germany." German Economic Review (6407).


Franzoni, C., G. Scellato, and P. Stephan. 2014.


IDEA Consult (2013)

Jacob, M. & V. Lynn Meek (2013)

Jöns, Heike. 2011.


Authors

Richard Woolley
INGENIO (CSIC-UPV) Universitat Politècnica de València
Spain
ricwoo@ingenio.upv.es

Carolina Cañibano
INGENIO (CSIC-UPV) Universitat Politècnica de València
Spain
ccanibano@ingenio.upv.es