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Mobility after the PhD: exploring the characteristics and outcomes of UK doctoral graduates

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Research Domains

Employability, enterprise and graduate careers (EE)

Abstract

Doctoral career pathways are a matter of increasing interest for researchers, universities and policymakers. The geographic mobility of doctoral graduates has however been a neglected aspect of research. This paper explores the geographic mobility of doctoral graduates who obtained their PhD from a UK university between 2012/13 and 2016/17 (n=45,195). The majority of doctoral graduates remain in the UK after their PhD (75.4%). Oxbridge and other EU graduates are significantly more likely to be mobile beyond the UK after graduation. Doctoral graduates working outside the UK reported enhanced outcomes, including a higher median salary and greater scientific and research related employment. Tentatively, this suggests that doctoral mobility may be a preference for an elite group of graduates. The high rates of departure observed for other EU graduates will be of concern to UK policymakers and university leaders, given current emphasis on developing national research and innovation.

Full paper

Doctoral employment in context

The number of PhDs awarded by universities has risen substantially in recent decades (Cyranski, Gilbert, Ledford, Nayar, & Yahia, 2011). Academic employment opportunities have not similarly expanded, meaning that doctoral graduates increasingly undertake non-academic careers (Fox & Stephan, 2001; Hayter & Parker, 2019; Sauermann & Roach, 2012).

This transformation has been accompanied by a growing body of research exploring the diversification of doctoral career pathways. Studies have examined the dynamics of national labour markets and mobility across sectors (e.g. Auriol et al., 2013; Skovgaard-Pedersen, 2014); but evidence on geographic mobility is limited.

This paper explores the mobility of doctoral graduates who obtained their PhD from a UK university. We consider whether mobility a) differs by graduates' characteristics and b) is associated with different labour market outcomes. Our insights are pertinent to manifold stakeholders. University leaders and doctoral supervisors are keenly aware that the research system is reliant on global exchange (Marginson, 2021) - but understanding of where early career researchers feature is lacking. The majority of UK doctoral graduates do not assume academic jobs (Hancock, 2021), but whether outbound mobility is a means to stay in research is unknown. For policymakers seeking to secure prosperity and sustainability goals, attracting and retaining doctoral graduates is imperative (Department for Business, Energy & Industrial Strategy, 2021). Research funders are concerned that mobility opportunities are accessed equitably (e.g. Stevenson, d'Angelo, Flanagan & Rodriguez-Rincon, 2021). Prospective and current students need timely information about doctoral outcomes, particularly since academic and research careers remain the preference for many (Hancock, Hughes, & Walsh, 2017; Parada & Peacock, 2015).

Data and methods

We analyse the mobility of doctoral graduates who obtained their PhD from a UK university between 2012/13 and 2016/17. We examine employment region and other labour market outcomes recorded in the Higher Education Statistics Agency's Destination of Leavers from Higher Education (DLHE) survey, which occurs 6 months after graduation (n=45,195). Since most doctoral graduates enter UK employment (75.4%), we focus on the binary of employment within/out the UK. Preliminary findings from uni and bivariate analyses, and logistic regression models are presented. The full conference paper will include tabular and graphical representations.

Preliminary findings: mobility after the PhD

Mobility and doctoral characteristics

We first considered whether mobility (defined as non-UK employment) differed by equality, diversity and inclusion characteristics. Males are more mobile than females (15.3% and 11.2% respectively). White British graduates are least mobile of all ethnic groups (7.8%; in contrast to 8.5% Black or Black British; 8.7% Asian or Asian British; 11.2% Mixed; 14.3% Other). Doctoral graduates from an EU domicile report the highest rate of non-UK employment (36.9%).

Mobility differed markedly by doctoral institution. Higher education institutions were distinguished by: Oxbridge; Golden Triangle; Other Russell Group; Pre-1992; Post-1992. These categories reflect known differences in funding and prestige that may impact on graduate outcomes (Boliver, 2015; Mateos-González & Wakeling, 2022). Oxbridge graduates are most mobile (22.4%); followed by Golden Triangle (17.4%). Post-1992 graduates are least mobile (10.4%). Differences are also apparent by subject area. STEM graduates are

most mobile (18.4%), followed by social sciences (16.4%).

Mobility and labour market outcomes

Doctoral graduates in non-UK employment reported a higher median salary, and higher rates of holding a postdoctoral research contract (46.7%, compared to 30.9% UK). Almost twice as many non-UK employees are occupied in the Professional, Scientific and Technical Activities sector (19.6%, compared to 11.7% UK). Non-UK employees are also more likely to hold a role requiring a PhD (61.9%, compared to 52.9% UK).

Reflections and next steps

Logistic regression models indicate that Oxbridge and other EU doctoral graduates are significantly more mobile. Since the dataset imparts little about individual decision-making, interpreting mobility patterns is not without challenge. However, doctoral employment beyond the UK appears to be associated with enhanced outcomes and, for a specific group of graduates, is a matter of preference. Oxbridge graduates are highly valued by UK-based employers (de Vries, 2014). Their higher departure may thus owe to the competitive salaries or greater prevalence of research related opportunities beyond the UK. The high departure of other EU doctoral graduates is of significance to policymakers seeking to establish the UK as an attractive place for research and innovation careers. In forthcoming analysis, we will examine mobility patterns within Europe (which employs 8.3% of graduates with a UK PhD), across the UK regions, and look more closely at the characteristics of im/mobile doctoral holders.

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