

Data Driven Approaches to Tracking Postdocs – What Works

Sponsored project grants are investments in scientific discovery and training. Grants enable investigators to hire people and purchase the goods and services necessary to pursue research work. One important way that new discoveries are applied in our society is through the movements of research-trained people from employment on sponsored projects at universities to later jobs in all sectors of the US economy. A little understood source of short-term economic impact is spillovers from spending to vendors and subcontractors.

The Institute for Research on Innovation & Science (IRIS) capitalizes on this rich administrative research data to provide a detailed picture of all people paid and purchases made from vendors and subcontracts for research grants. IRIS cleans and enhances the data by making linkages to other datasets, including some held by the U.S. Census Bureau that include data on employment and business characteristics. As a data repository, IRIS also makes de-identified datasets available for research use. IRIS is housed at the University of Michigan's Institute for Social Research, which provides the robust computing infrastructure needed to carry out this work.

IRIS takes the protection of privacy and confidentiality very seriously and has developed rigorous security methods to protect data. In agreements with IRIS member universities we pledge to safeguard the personally identifiable information (PII) we receive. In addition, Census datasets are protected by federal laws that carry significant penalties, and the linked data provided to IRIS is carefully scrutinized in a process called disclosure review that is intended to protect privacy and confidentiality.

Due to these important privacy and confidentiality requirements, information pulled from IRIS data are most detailed when aggregated. Nevertheless, we wanted to explore the feasibility of exploring a particular group of researchers (postdocs) at a single institution as a way of seeing what we could learn about them and how we might extrapolate a methodology developed to look at doctoral recipients to support investigation of outcomes for postdoctoral trainees. Our goal was to look at two outcomes: **earnings** and **geographic destination** one year following the departure from the institution.

We obtained the names of over 6000 individuals identified as postdocs over a 12-year period from a single IRIS member institution. We identified those (about 88%) who had been paid on a federal grant and then took their next job in the U.S. after leaving the university using IRIS-linked Census data.

Cleaning and matching activities, along with alignment to available Census datasets, reduced the number of records deemed eligible for matching to Census records to ~3000. Roughly 46% of that number was matched to various Census datasets. With that information, we were then able to report average earnings in the education and private sectors, as well as the primary geographic destinations of individuals who left the institution, contrasted to IRIS aggregate data for multiple institutions.

There are a variety of reasons why individuals may not be matched to Census earnings data: they may be working in another country, they may have dropped out of the workforce entirely, they may be incarcerated, or they may be deceased. Using these data, it is possible only to track individuals who are actively employed in the U.S.

This pilot project was a way to work with administrative research data on postdocs to begin to understand their career trajectories. Further exploration is needed to better understand how the conditions of training and employment may affect career outcomes for postdocs.

For more information, see www.iris.isr.umich.edu or call 734-615-0015; Jason Owen-Smith, Executive Director