

# Measuring Innovation and Productivity Change in Agriculture: UMETRICS Data and the Innovation Measurement Initiative

Brent Hueth  
University of Wisconsin--Madison

# Federal Statistical Research Data Centers

About this Section

Available Data

Federal Partners

Research Data Centers

Events

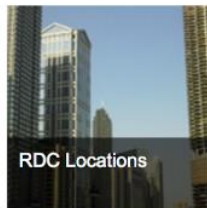
Updates

Contact Information



Federal Statistical Research Data Centers are partnerships between federal statistical agencies and leading research institutions. They are secure facilities providing authorized access to restricted-use microdata for statistical purposes only.

[Read More](#)



## Latest

<a href="#">Updates</a>	<a href="#">Publications</a>	<a href="#">Events</a>
-------------------------	------------------------------	------------------------



### [2018 Research Data Center Annual Conference](#)

September 2018

Pennsylvania State University will host the 2018 Research Data Center Annual Conference.

# Center for Economic Studies (CES)

[Main](#)[Data Products](#)[RDC Research Opportunities](#)[Research Programs](#)[Publications and Reports](#)[FAQs](#)

## Data Products Links

- [Business Dynamics Statistics](#)
- [Demographic Data](#)
- [Economic Data](#)
- [LEHD Data](#)
- [Recently Recovered Data](#)
- [Synthetic Longitudinal Business Database](#)

## Useful Links

- [Acronyms and Definitions](#)
- [Data Protection Policy](#)
- [Economist Positions](#)
- [Federal Statistical Research Data Centers](#)
- [LEHD](#)

## Contact Information

## Research Using the Innovation Measurement Initiative's (IMI) UMETRICS Data

IMI's Universities: Measuring the Impacts of Research on Innovation, Competitiveness, and Science (UMETRICS) data are useful for analyzing the social and economic effects of research investments; the scientific production function; the career outcomes and earnings of graduate students and trainees; questions pertaining to science and engineering workforce and the STEM pipeline; and many other possible topics. The Census Bureau partnered with the [University of Michigan's Institute for Research on Innovation and Science \(IRIS\)](#) to provide data driven insights into the impact of research funding on the broader economy. Work in progress by researchers utilizing IMI UMETRICS data will provide more detailed analyses of entrepreneurial outcomes and human capital, the economic effects of research related to food safety, and the relationship between research funding and subsequent entrepreneurship for various demographic groups.

## About the Current Data Release

The 2018 IMI UMETRICS data release includes information on awards, wage payments from awards to university research employees, vendor purchases, subcontracts, and the unit performing the funded research for 26 universities, released in May 2018. University employee data are linked to internal Census Bureau data products, such as the Decennial Census, American Communities Survey, Longitudinal Employee-Employer Household Dynamics database (LEHD), integrated Longitudinal Business Database, and other demographic information. Vendors paid by research grants are linked to the Business Register, Longitudinal Business Database, and the LEHD, providing researchers with a comprehensive view on the businesses associated with the production of scientific research.

The dataset includes transactions from approximately 300,000 federal and non-federal awards including payments to over 350,000 individuals as well as payments to over 600,000 vendors, sub-contractors, and other research performers totaling \$27 billion. We integrate this information with detailed data on over 300,000 federal and non-federal awards.

The next release of IMI UMETRICS data is planned for May 2019, and each spring thereafter.



## Envisioning the Future of the Research Enterprise

The Institute for Research on Innovation and Science (IRIS) is a national consortium of research universities organized around an IRB-approved data repository. IRIS develops data for research and reporting to understand, explain and improve the public value of academic research. Currently, IRIS member institutions account for more than 25% of all federal R&D spending.

**UNIVERSITIES**

Provide and Use the Data

**RESEARCHERS**

Refine the Data

**POLICY MAKERS**

Leverage the Data

## Measuring the Economic Value of Research: The Case of Food Safety

Kaye Husbands Fealing, Julia I. Lane, John L. King, and Stanley R. Johnson editors

Cambridge University Press, December 2017

ISBN: 9781316612415

## Why the US science and engineering workforce is aging rapidly

David Blau and Bruce A. Weinberg

*Proceedings of the National Academy of Sciences*

Early Edition: approved February 14, 2017

## STEM Training and Early Career Outcomes of Female and Male Graduate Students: Evidence from UMETRICS Data Linked to the 2010 Census

Catherine Buffington, Benjamin Cerf, Christina Jones, and Bruce A. Weinberg

*American Economic Review May 2016*

106(5): 333–338

## Wrapping it up in a person: Examining employment and earnings outcomes for Ph.D. recipients

Nikolas Zolas, Nathan Goldschlag, Ron Jarmin, Paula Stephan, Jason Owen-Smith, Rebecca F. Rosen, Barbara McFadden Allen, Bruce A. Weinberg, Julia I. Lane

*Science 11 December 2015*

Vol. 350 no. 6266 pp. 1367-1371

DOI: 10.1126/science.aac5949

## Science Funding and Short-Term Economic Activity

Bruce A. Weinberg, Jason Owen-Smith, Rebecca F. Rosen, Lou Schwarz, Barbara McFadden Allen, Roy E. Weiss, Julia Lane

*Science 4 April 2014*

Vol. 344 no. 6179 pp. 41-43

DOI: 10.1126/science.1250055

## New linked data on research investments: Scientific workforce, productivity, and public value

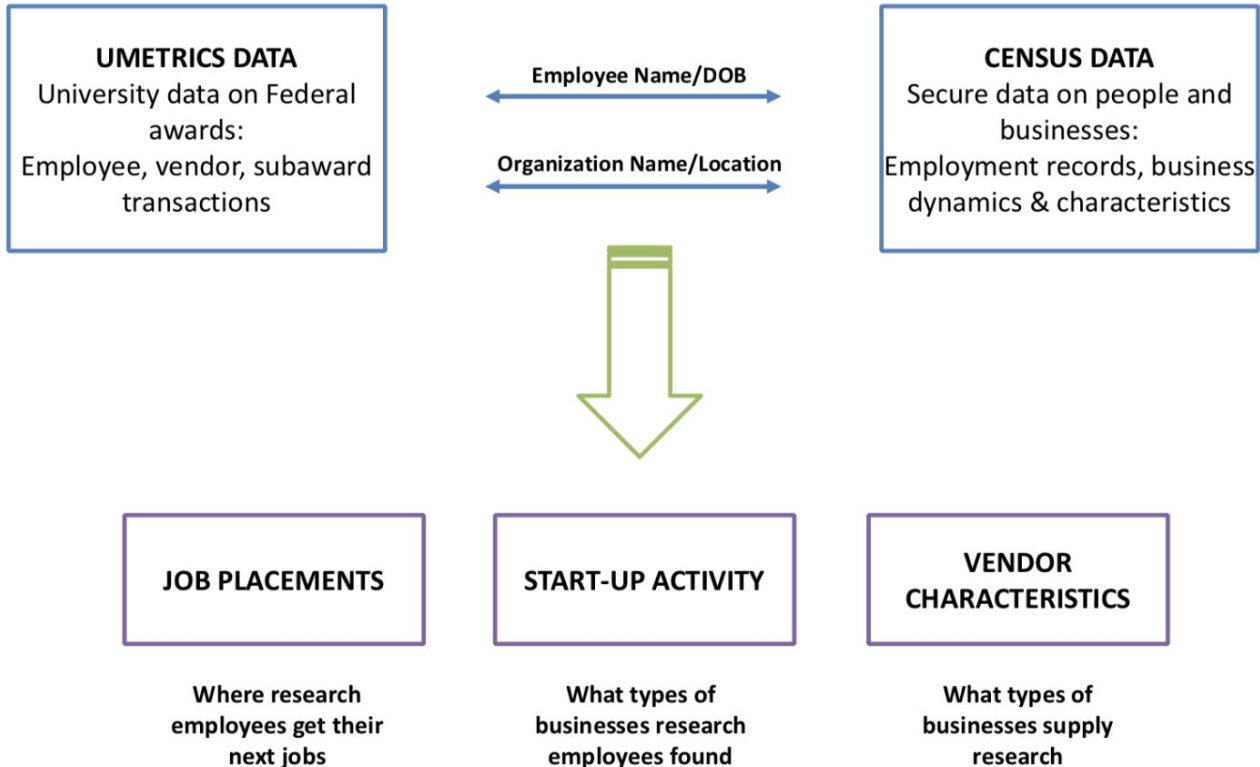
Julia I. Lane, Jason Owen-Smith, Rebecca F. Rosen, and Bruce A. Weinberg

*Research Policy Volume 44, Issue 9*

December 2014, Pages 1659–1671

The New Data Frontier

# Data Relationships



# Opportunities for policy research in agriculture

- Federal funding and business start-up
- Complementarity between federal and private funding
- Employment and wages in food and agricultural industries
- Comprehensive picture of complex farm-to-agribusiness links (**requires links between USDA and other fed data products => RDCs at LGUs partnering with ERS/USDA researchers**).

# Links for further information

- [Federal Statistical Research Data Center Program](#)
- [Commission on Evidence-Based Policy](#)
- [Institute for Research on Innovation and Science](#)
- [Census Center for Economic Studies, UMETRICS Data Product](#)

Brent Hueth, hueth@wisc.edu