

Center for Economic Studies and Research Data Centers Research Report: 2012

Research and Methodology Directorate

Issued May 2013



MISSION

The Center for Economic Studies partners with stakeholders within and outside the U.S. Census Bureau to improve measures of the economy and people of the United States through research and innovative data products.

HISTORY

The Center for Economic Studies (CES) was established in 1982. CES was designed to house new longitudinal business databases, develop them further, and make them available to qualified researchers. CES built on the foundation laid by a generation of visionaries, including Census Bureau executives and outside academic researchers.

Pioneering CES staff and academic researchers visiting the Census Bureau began fulfilling that vision. Using the new data, their analyses sparked a revolution of empirical work in the economics of industrial organization.

The Census Research Data Center (RDC) network expands researcher access to these important new data while ensuring the secure access required by the Census Bureau and other providers of data made available to RDC researchers. The first RDC opened in Boston, Massachusetts, in 1994.

ACKNOWLEDGMENTS

Many individuals within and outside the Census Bureau contributed to this report. **Randy Becker** coordinated the production of this report and wrote, compiled, or edited its various parts. **Erika McEntarfer** authored Chapter 2, and **Fariha Kamal, Kristin McCue, Kirk White, Henry Hyatt, Todd Gardner,** and **Javier Miranda** all contributed to Chapter 3. **Brian Holly, Kimberly Jones, Ya-Jiun Tsai,** and our RDC administrators and executive directors helped compile some of the material found in the appendixes.

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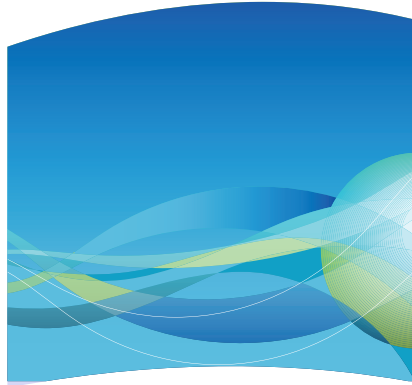
DISCLAIMER

Research summaries in this report have not undergone the review accorded Census Bureau publications and no endorsement should be inferred. Any opinions and conclusions expressed herein are those of the author(s) and do not necessarily represent the views of the Census Bureau or other organizations. All results have been reviewed to ensure that no confidential information is disclosed.

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A MESSAGE FROM THE CHIEF ECONOMIST

Our mission at the Center for Economic Studies (CES) is to undertake research and development activities that benefit the Census Bureau by creating new data products, discovering new ways to use existing Census products, and suggesting improvements to existing Census data products and processes. CES also facilitates the research of others through the Census Research Data Center (RDC) network, the Survey Sponsor Data Center (SSDC) network, in our role as the data repository for Census researchers, and as the archivist for Census business data. All of these activities either directly or indirectly enhance our understanding of the U.S. economy and its people.



CES was fortunate to become the home of the Longitudinal Household-Employer Data (LEHD) program a few years ago. The LEHD program is a natural fit for CES given its strong research and development capabilities. Erika McEntarfer, the Team Lead for the researchers in LEHD, provides an overview of this innovative program in Chapter 2. Her chapter describes some of the new products that LEHD staff have developed and put into production. Reflecting LEHD's genius for repurposing existing data, some of these new products incorporate data from the Economic Directorate (firm size and age into the Quarterly Workforce Indicators) and the Demographic Directorate (population into OnTheMap for Emergency Management).

The breadth of research undertaken by CES staff continues to expand. Partly this reflects being tasked with providing research expertise to additional areas of the Census Bureau (for example, providing research on how local labor market conditions affect staffing of Decennial field work). Partly this reflects our development of new data products, which has enabled us to answer a wider variety of research questions. Evidence of this broad scope of research can be found in Chapter 3, which summarizes seven recent research projects at CES. These research projects seek to understand such varied phenomena as trade flows, retirement decisions, and the differential impact of environmental regulations. Other research focuses on measurement issues such as the impact of the imputation algorithms used at the Census Bureau.

In addition to all of these innovations in research and development, CES continues to provide innovative research support. CES has been instrumental in developing and maintaining a new mode of access for research. The Survey Sponsor Data Centers are intended to provide federal agencies with access to the data that they collect through their partnership with the Census Bureau. This enables the sponsors to undertake research using their collected data to improve their data products. We also continue to improve and expand an existing mode of access, the Census Bureau Research Data Center network.

(Continued)

A MESSAGE FROM THE CHIEF ECONOMIST—Con.

In addition to all of these research, development, and support activities, this was a busy year for administrative tasks as we sought to fill vacancies resulting from the reorganization of the Research and Methodology Directorate. As described in Chapter 1, we were fortunate to recruit three exceptional researchers to fill our Assistant Center Chief positions. In sum, it has been an exciting year as we have strengthened our core capabilities and expanded into new areas so as to fulfill our mission of helping the Census Bureau meet its challenges in providing information about the U.S. economy and its people.

Thank you to everyone who contributed to this report. Randy Becker compiled and edited all of the material in this report. Other contributors are acknowledged on the inside cover page.



Lucia S. Foster, Ph.D.
Chief Economist and Chief of the Center for Economic Studies

Chapter 1. 2012 News

NEW ASSISTANT CENTER CHIEFS

Three new Assistant Center Chiefs were appointed in 2012 to manage major CES operations.

In January, **Shawn Klimek** became CES's new Director of Research, overseeing its two economic research groups and the Census Bureau's increasing number of Research Data Centers (RDCs). The research performed at CES and the RDCs lead to new discoveries in economics and other social sciences, findings that help improve Census Bureau surveys and data products, and the development of new data products for public use.

Shawn began his career as an economist at CES in 1999. Prior to that, Shawn worked with Census Bureau microdata as a research assistant at the (now defunct) Carnegie Mellon RDC. Shawn brings both depth and breadth of research and research-related experience to his new position. Shawn's research focuses on industrial organization and economic measurement. In addition, Shawn has worked closely with other areas of the Census Bureau to improve the quality and efficiency of the Economic Census and the 2010 Census. He was also the driving force behind the recent successful opening of the Census Bureau's first Survey Sponsor Data Center at the National

Science Foundation. Shawn received a B.S. in history and economics from the University of Wisconsin-Madison and a Ph.D. in economics from Pennsylvania State University.

In April, **Robert Sienkiewicz** joined CES as its new Assistant Center Chief for Longitudinal Employer-Household Dynamics (LEHD). In this position, Rob directs the LEHD program and its mission to provide new sources of critical, policy-relevant information derived from the LEHD data. He also serves as the key liaison between the Census Bureau and state officials who provide essential microdata to LEHD through the LED partnership. Rob comes to CES from the National Institute of Standards and Technology where he served as the Deputy Director of the Technology Innovation Program. Rob has a B.A. in economics from the University of Notre Dame, an M.B.A. from Georgetown University, and a Ph.D. in economics from Catholic University.

Also in April, **Trent Alexander** joined CES as its new Assistant Center Chief for Research Support, overseeing the Data Processing & Archiving Staff and the Administrative Records Data Staff. These groups gather, process, and archive microdata, metadata, and paradata from across the Census Bureau to facilitate research by CES staff researchers, other Census Bureau research staff, and

RDC-based researchers from academia and other federal agencies. Trent comes to CES from the Census Bureau's American Community Survey Office where he was the Chief of the Data Analysis and User Education Branch. Prior to joining the Census Bureau in 2010, Trent was a Principal Research Scientist at the Minnesota Population Center. Trent has a B.A. in history and sociology from Columbia University and a Ph.D. in history from Carnegie Mellon University.

THE RDC NETWORK CONTINUES TO GROW

The RDC network continues to expand over multiple dimensions, enhancing the benefit of the network to the Census Bureau. In 2012, the RDC network expanded in terms of locations, projects hosted, research completed, and datasets made available to researchers.

In September, the **Northwest Census RDC** opened at the University of Washington in Seattle, with financial support from the University of Washington and the state of Washington. Remarks from the grand opening ceremony by UW Provost and Executive Vice President Ana Mari Cauce, NWCRDC Executive Director and Professor of Geography Mark Ellis, and Acting Director of the Census Bureau Thomas Mesenbourg can viewed at www.youtube.com/watch?v=3GdLrmcKui8.



Ribbon-cutting ceremony for the Texas Census RDC. From left to right: José Luis Bermúdez, Dean of Liberal Arts, Texas A&M; Mark Fossett, Executive Director of the Texas Census RDC and Professor of Sociology, Texas A&M; Thomas Mesenbourg, Acting Director, Census Bureau; R. Bowen Loftin, President, Texas A&M; and Theresa Fossum, Interim Vice President for Research, Texas A&M.

In October, the **Texas Census RDC** opened at Texas A&M University in College Station. The TxCRDC enjoys support from the Texas A&M University system, Baylor University, and the University of Texas at Austin.

In 2012, 23 new RDC projects began. Of those, 9 use Census Bureau microdata (see Appendix 3-A), while 2 use data from the Agency for Healthcare Research and Quality and 12 use data from the National Center for Health Statistics (see Appendix 3-B).

Meanwhile, RDC researchers continue to be tremendously prolific, with at least 47 publications and another 39 working papers in 2012 (see Appendix 2). As the accompanying table shows, RDC-based research is being published in many of the best peer-reviewed journals. Recent and forthcoming articles include ones in the *American Economic Review*, *Econometrica*,

Journal of Political Economy, and *Quarterly Journal of Economics*.

RDC-based researchers include many graduate students working on their Ph.D. dissertations. Many of these doctoral candidates are eligible to apply to the CES Dissertation Mentorship Program. Program participants receive two principal benefits: one or more CES staff economists are assigned as mentors and advise the students on the

use of Census Bureau microdata, and a visit to CES where they meet with staff economists and present research in progress. In 2012, CES accepted five new participants into the program and has had 19 since the program began in 2008.

The microdata available to researchers has also expanded. Among the notable releases are sixteen years of data from the Annual Wholesale Trade

SURVEY SPONSOR DATA CENTER OPENS

The Census Bureau opened the first Survey Sponsor Data Center (SSDC) at the National Science Foundation (NSF) in Arlington, Virginia. The SSDC is a secure and staffed Census Bureau facility that provides designated NSF staff with onsite access to data collected under partnership between the two agencies—in this case, the National Survey of College Graduates, and possibly the Business R&D and Innovation Survey in the future. At SSDCs, users collaborate with Census Bureau staff on projects to enhance the survey's methodology and processing. The staffing and operation of this and future SSDCs are managed by CES.

PUBLICATIONS BY RDC RESEARCHERS AND CES STAFF: 2012 AND FORTHCOMING

Economics journals (by rank)	RDC researchers	CES staff	Total
AAA (1–5)	3	1	4
AA (6–20)	8	3	11
A (21–102)	13	7	20
B (103–258)	5	7	12
C (259–562)	3	3	6
D (563–1202)	1	0	1
Journals outside of economics	11	4	15
Book chapters	3	4	7
TOTAL	47	29	76

Note: Based on publications listed in Appendix 2, excluding working papers. Ranking of journals in economics is taken from Combes and Linnemer (2010). For the purposes here, the relatively new *American Economic Journals* are assumed to be A-level journals, as is the *Papers and Proceedings* issue of the *American Economic Review*. In a couple of other cases, a ranking was imputed using the journal ranking from RePEc.

Survey and waves 6-10 of the Survey of Income and Program Participation. See Appendix 5 for more details.

NEW RELEASES OF PUBLIC-USE DATA BY CES

In May 2012, the Census Bureau released the 2010 *Business Dynamics Statistics* (BDS), which provides annual statistics on establishment openings and closings, firm start-ups, job creation, and job destruction, from 1976 to 2010, by firm size, age, industrial sector, and state. This release introduces tables by establishment characteristics in addition to firm characteristics. This release also sheds further light on the 2008–2009

recession. Notably, the U.S. has become less entrepreneurial, and in 2010, the business startup rate fell below 8 percent for the first time ever. Even so, the 394,000 companies that started operating in 2010 created some 2.3 million jobs. The BDS results from a collaboration between CES and the Ewing Marion Kauffman Foundation. More information about the BDS can be found at <www.census.gov/ces/dataproducts/bds.html>.

The *Quarterly Workforce Indicators* (QWI) are a set of economic indicators—including employment, job creation and destruction, wages, and worker turnover—available by

different levels of geography and by detailed industry, gender, and age of workers. In 2012, QWI was expanded to include New Hampshire and the District of Columbia for the first time. Personnel data on federal jobs, from the U.S. Office of Personnel Management (OPM), has also recently been integrated into QWI. Now, detailed sub-state indicators on the federal workforce are available by age, gender, race, and ethnicity. Currently QWI data for federal workers are only available for sixteen states; more state data will become available on a rolling basis. In 2012, QWI was also expanded to include new information on the age and size of firms, from BDS microdata. These new data will allow users to consider topics such as the characteristics of jobs at young businesses, including the hiring, turnover, and wages at start-ups.

CES staff also continue to update and improve *OnTheMap*, with the releases of versions 6 and 6.1 in 2012. OnTheMap is a Web-based mapping and reporting application that shows where workers are employed and where they live. The easy-to-use interface allows the creation, viewing, printing, and downloading of workforce-related maps, profiles, and underlying data. An interactive map viewer displays workplace and residential distributions by user-defined geographies at census block-level detail. The application also provides companion reports on worker characteristics and firm characteristics, employment

CES RESEARCH CITED IN 2012 *ECONOMIC REPORT OF THE PRESIDENT*

In its chapter on jobs and income, the 2012 *Economic Report of the President* (EROP) includes a relatively lengthy discussion of the findings of a forthcoming *Review of Economics and Statistics* article by John Haltiwanger, Ron Jarmin, and Javier Miranda titled “Who Creates Jobs? Small vs. Large vs. Young.” Here, the EROP focuses on the dynamism of private sector employment, the role of entrepreneurship, and the apparent decline in business dynamism. The EROP also includes a “Data Watch” that showcases the Longitudinal Business Database (LBD). The LBD was created at CES and was used in the Haltiwanger et al. study and is one of the most requested datasets by researchers.

In addition, in its chapter on regulation and the environment, in a section devoted to the value of the Census Bureau’s Pollution Abatement Costs and Expenditures (PACE) survey, the 2012 EROP cites a 2005 article by Randy Becker in the *Journal of Environmental Economics and Management* titled “Air Pollution Abatement Costs under the Clean Air Act: Evidence from the PACE Survey.”

and residential area comparisons, worker flows, and commuting patterns. In OnTheMap, statistics can be generated for specific segments of the workforce, including age, earnings, sex, race, ethnicity, educational attainment, or industry groupings.

Among the improvements in the latest releases of OnTheMap are the addition of 2010 data, reporting by 2010 geography (census blocks and tracts), new charting and mapping capabilities, and the addition of New Hampshire, the District of Columbia, and data on federal civilian workers.

Another major new feature is OnTheMap Mobile, a mobile-optimized version of OnTheMap that can be accessed through iOS and Android Web browsers. OnTheMap can be accessed at <onthemap.ces.census.gov>, and OnTheMap Mobile can be accessed at <onthemap.ces.census.gov/m/>.

In June, version 3 of **OnTheMap for Emergency Management** (OTM-EM) was released. First introduced in 2010, OTM-EM is a public data tool provides unique, real-time information on the population and workforce for U.S. areas affected by hurricanes, floods, and wildfires. The Web-based tool provides an

intuitive interface for viewing the location and extent of current and forecasted emergency events on a map, and allows users to easily retrieve detailed reports containing population and labor market characteristics for these areas. The reports provide the number of affected residents, by age, race, ethnicity, gender, and housing characteristics. The reports also provide the number and location of jobs, industry type, worker age and earnings. Worker race, ethnicity, and educational attainment levels are under a beta release at this time. To provide users with the latest information available, OTM-EM automatically incorporates real time data updates from the National Weather Service, Departments of Interior and Agriculture, and other agencies for hurricanes, floods, and wildfires. Among the improvements in the latest release are the addition of FEMA disaster declaration areas and National Weather Service snowfall probability forecasts, a more complete archive of daily updates from the National Hurricane Center, the addition of 2010 Census demographic and housing characteristics and 2010 jobs and worker statistics, new analyses and visualizations, and a new tool for exporting event areas to use in OnTheMap or other GIS applications. OnTheMap for Emergency Management version 3.0 can be accessed at <onthemap.ces.census.gov/em.html>.

Both OnTheMap and OnTheMap for Emergency Management are supported by the state partners under the Local Employment Dynamics (LED) partnership with the Census Bureau as well as the Employment and Training Administration of the U.S. Department of Labor.

CES STAFF RECEIVE RECOGNITION

CES economist David Brown received an individual Department of Commerce Silver Medal for Personal and Professional Excellence for his innovative approaches in analyzing the potential of administrative records relative to the 2010 Census. David's discoveries in the areas of matching techniques, coverage issues, and data quality have informed the Census Bureau, Department of Commerce, Government Accountability Office, National Academy of Sciences, and other agencies.

Cathy Buffington of CES, and Tammy Adams of the Decennial Statistical Studies Division, received the Director's Award for Innovation for their development of the Field Survey Cost and Productivity Estimation System (FieldSCAPES). FieldSCAPES was created to provide daily survey progress and cost data for use during Field Division restructuring. This innovative way to access and report interviewer household contact attempts,



Acting Secretary and Deputy Secretary of Commerce Rebecca Blank, CES Senior Economist J. David Brown, and Department of Commerce Under Secretary for Economic Affairs Mark Doms.

outcomes, hours, and miles, at multiple levels of detail, provides a welcome tool for use by the Field Division during its transition.

CES HOSTS AEA-NSF SUMMER FELLOW

This summer, CES was pleased to host Sherry Forbes as a summer fellow. Sherry was selected among the many applicants who applied to the Summer Economics Fellowship Program administered by the American Economic Association (AEA) and the National Science Foundation (NSF) to advance the participation of women and under-represented minorities in the economics profession. Eligible candidates are junior faculty,

postdocs, or graduate students at the dissertation stage.

During her summer at CES, Sherry continued developing a model to better understand how business cycles are propagated and transmitted across countries. In particular, her focus is on the role of trade, and in designing a model that matches some of the key empirical findings regarding firm entry into and exit from export markets over short time horizons—empirical findings that arose from research conducted at CES and RDCs.

In the fall, Sherry entered her fifth year of the Ph.D. program in economics at the University of Virginia, and she joined the

BLS-CENSUS RESEARCH WORKSHOP

On June 7, the Bureau of Labor Statistics (BLS) and the Census Bureau hosted a workshop featuring empirical research by economists from both agencies. These annual workshops are intended to encourage and nurture collaboration between researchers at BLS and Census. As such, the workshop consisted of three themed sessions with two papers each—one from each agency—with discussants from the other agency. Papers included:

- *Pay for Performance and Compensation Inequality: Evidence from the ECEC*
- *Estimates of Earnings Instability from the SIPP Gold Standard File*
- *The Impact of the 2007–2009 Recession on Mothers' Employment*
- *What Effects do Macroeconomic Conditions Have on Families' Time Together?*
- *Search and Compensating Wage Differentials*
- *Job to Job Flows and the Business Cycle*

The third annual BLS-Census Research Workshop will be held on June 6, 2013.

faculty of Sweet Briar College as a visiting assistant professor of economics. Sherry holds an M.A. in economics from the University of Virginia, an M.A. in political science from The University of Chicago, an M.Phil. in economics from Oxford University, and a B.A. in economics and international relations from Sweet Briar College.

RDC ANNUAL RESEARCH CONFERENCE

The RDC Annual Research Conference showcases research from current or recent projects carried out in an RDC or at CES. This year, the conference

was held on September 20 at the Federal Reserve Bank of Chicago, home of the Chicago Census RDC. The day featured 24 papers, presented in nine sessions, on themes including: firms and productivity, labor supply of older workers and women, trade and outsourcing, labor economics topics, health topics, measurement issues in demographic data, spatial and regional issues, education topics, and finance topics. Bhash Mazumder, Executive Director of the Chicago Census RDC, kicked off the conference, followed by Gale Boyd, Executive Director of the Triangle Census RDC.

The lunchtime keynote address was given by Chad Syverson, Professor of Economics at the University of Chicago Booth School of Business.

LOCAL EMPLOYMENT DYNAMICS (LED) PARTNERSHIP WORKSHOP

The 2012 Local Employment Dynamics (LED) Partnership Workshop was held on March 7–8, 2012, in Arlington, Virginia. For more than a decade, this workshop has been a key component in strengthening the voluntary partnership between the Census Bureau and the states. The workshop brings together key stakeholders (including state Labor Market Information directors, data analysts and data providers at state and federal agencies, nonprofit organizations, businesses, and other data users of LED data products) to discuss the latest products enhancements, to discover how their peers are using the data, and to learn about the research that will shape future improvements.

The theme for this year's workshop was "Local Data for Local Decisions." Topics addressed by invited speakers, state partners, and data users included regional labor market analysis, regional planning & development, and transportation planning. Invited posters were also on display. CES's LEHD staff discussed newly available data and enhancements to data applications, including a session on the most recent release of OnTheMap and

A VISIT FROM STEVEN RUGGLES

On January 24, CES was pleased to host a lecture by Steven Ruggles, Regents Professor of History and Population Studies at the University of Minnesota, and Director of the Minnesota Population Center, on “The Census, the Origins of Data Processing, and Challenges of Big Data.” Professor Ruggles contended that from the mid-19th century through the mid-20th century, the needs of census data processing drove the major innovations in data technology, from the Seaton Device in 1872, through the original Hollerith Machine in 1888 (and subsequent variations), to (literally) the



very first UNIVAC. Since the 1960s, however, Ruggles argued, such technological innovations have been driven by the private sector. Ruggles also talked about the history of large-scale microdata—the demand for which increased with the falling costs of computing and storage. His parents, economists Nancy and Richard Ruggles, led the earliest efforts to create longitudinal Census Bureau microdata on manufacturers—CES’s mainstay for many years. Ruggles concluded with a discussion of several Census data infrastructure projects at the Minnesota Population Center.

planned improvements. CES staff also presented recent research on self-employment and on job-to-job flows in the Great Recession. Presentations for the 2012 workshop (and those from previous years) are posted at lehd.did.census.gov/led/library/workshops.html.

Census Bureau Acting Director Thomas Mesenbourg offered the workshop’s opening address.

Katharine Abraham, Member of the Council of Economic Advisors, was the lunchtime speaker on the first day, and Adriana Kugler, Chief Economist of the Department of Labor, was the lunchtime speaker on the second day. Jeremy Wu, former Assistant Center Chief for LEHD at CES, received the 2012 LED Partnership Award for Innovation. Over 200 people

attended the workshop, including representatives from over 40 states and the District of Columbia.

The 2013 LED Partnership Workshop will be held on June 12 and 13.

Chapter 2.

Understanding the U.S. Labor Market: The Longitudinal Employer-Household Dynamics (LEHD) Program

Erika McEntarfer, Center for Economic Studies

INTRODUCTION

Until a few years ago, many interactions between workers and firms in the U.S. economy were unobservable due to an absence of a link between employer and household data in the national statistical system. Since 1999, the Longitudinal Employer-Household Dynamics (LEHD) program at the U.S. Census Bureau has sought to fill this gap in the nation's statistical infrastructure by building a comprehensive database of longitudinally linked jobs data for the United States. The potential uses of such data are far-reaching, both for unraveling many important questions in economic research and for the provision of new statistical products.

The core jobs data that underlie the LEHD microdata are collected via a unique federal-state data sharing partnership. Rather than generating data via a new survey, the LEHD program leverages existing data in new ways. By integrating data used to administer public programs with existing census and surveys, a new national jobs database is generated at very low cost and with no additional respondent burden. The result is a massive linked longitudinal database covering over 95 percent of U.S. private sector jobs. It is the first national linked employer-employee data program for the United States.

The linked employer-employee LEHD data allow for new publicly available statistics on workforce demographics and flows of workers between industries, and for better identification of regional labor markets. The first public use data product derived from the LEHD data, the Quarterly Workforce Indicators (QWI), produces employment and worker flow statistics by detailed demographic characteristics at the county by 4-digit NAICS level. A second product, LEHD Origin-Destination Employment Statistics (LODES) exploits the worker-firm link to provide employment data by both place of work and place of residence at block-level geography. A new data product detailing the longitudinal flows of workers across jobs, industries, geographies, and employment status is currently in development.¹

HISTORY OF THE LEHD PROGRAM AND THE LED PARTNERSHIP

The LEHD program is a collaborative effort between the academic community, state data partners, and the U.S. Census Bureau. Advances in computing technology and the development of linked employer-employee

data systems in Europe suggested the possibility of creating similar data for the United States. However, a chief obstacle to this end was a lack of administrative data on jobs at the national statistics agencies. Such data are available both at the IRS (i.e., employer-based annual tax reports) and at state agencies administering the unemployment insurance (UI) system. For a variety of reasons, including the greater currency and higher frequency of the UI data, the latter were chosen as a base for a pilot project at the Census Bureau.

Thus began the Local Employment Dynamics (LED) federal-state data sharing partnership. States in the LED partnership share data with the Census Bureau in exchange for the availability of new data products developed by the LEHD program.² Funding for the initial pilot was provided via the National Science Foundation, the National Institute on Aging, and the Alfred P. Sloan Foundation. A small research staff of Ph.D. economists and graduate students worked with senior research fellows John Abowd (Cornell University), John Haltiwanger (University of Maryland), and Julia Lane (then at

¹ The set of public use products developed from the LEHD microdata are collectively referred to as the Local Employment Dynamics (LED) data, after the federal-state data partnership under which the data are collected. A full list of LED partners and LED steering committee members is provided in Appendix 7.

² The first two states to join the pilot were Illinois and Maryland, in 2000. By 2005, 18 states were LED data partners. In 2010, the Census Bureau signed agreements with the last two states, New Hampshire and Massachusetts. As of this writing, all states except Massachusetts have LED data products in production.

American University) to develop the initial integrated data and beta public use data products. As production of LED data products and applications increased, a dedicated production staff was added to the program. In 2008, the LEHD program moved from the Census Bureau's Demographic Directorate into the Center for Economic Studies, with which it shared collaborative ties over the years.

The voluntary nature of the data-sharing agreements makes the LEHD program unique among providers of public use data. This partnership has been a key strength of the program; it is at the same time, the greatest risk to its long-term viability. Withdrawal of many states from the program would risk the integrity of many of the products provided from the LEHD data. To mitigate that risk and facilitate communication and collaboration between the partners and Census, a steering committee of

state partners and a LEHD staff was established early in the program. This group meets regularly to discuss issues related to the partnership and expanding use of the LED data.

A budgetary challenge for the program came when initial seed money for the pilot came to an end, and the future of LEHD became uncertain. However, in 2010, Congress approved the Local Employment Dynamics budget initiative, which provided sufficient funding to maintain the LEHD program and the LED data products. Many of the enhancements outlined in the initiative were released in 2011 and 2012, including the addition of race, ethnicity, and education to the set of workforce demographic characteristics, the addition of firm age and size to the set of employer characteristics, and the addition of federal jobs (not included in state UI data) to the public use data products.

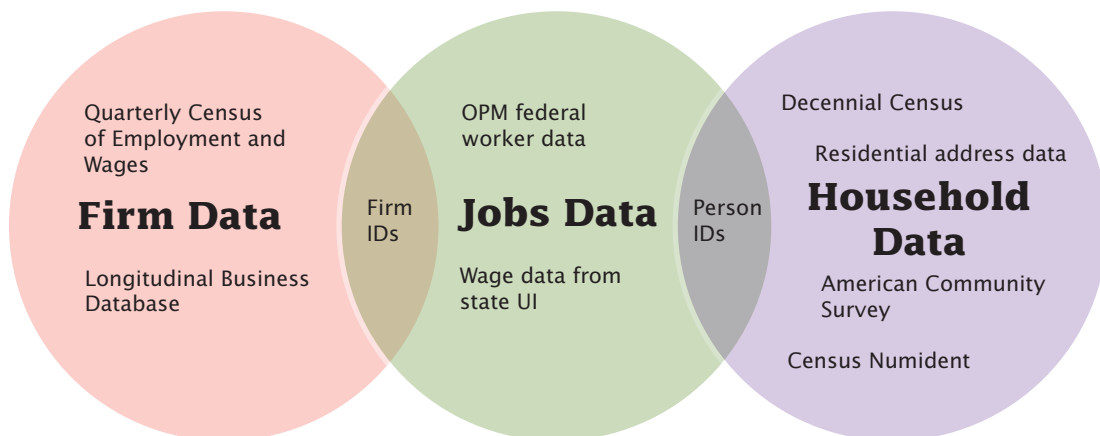
THE LEHD MICRODATA

The LEHD data combine an enormous array of data sources: administrative wage records from state and federal agencies, establishment data from Census Bureau business surveys, and Census Bureau survey and administrative data on individuals. Figure 2-1 shows the various person, firm, and job-level data sources that are tied together to form the LEHD microdata. A detailed rendering of the creation of the LEHD data is available in Abowd et al. (2009); in this section we provide an overview only.

The core of the LEHD data are wage records from state UI and federal personnel data linked to establishment data from the Quarterly Census of Employment and Wages (QCEW), provided to the Census Bureau by the state partners. In most cases, a common identifier is used to link together firm, job, and individual data. However, in the cases where a common identifier

Figure 2-1.

The LEHD Infrastructure Data



is absent, the data are integrated via statistical matching techniques.

Employment coverage in the LEHD microdata is very broad, including all jobs covered by state UI and federal workers in the Office of Personnel Management System.³ Because states entered the LEHD partnership at different times (and with different amounts of data in their archives), the available set

³ State UI covers most private employment, as well as state and local government employment. There are notable exceptions to coverage, namely most small agricultural employers, religious institutions, and much of the nonprofit sector. OPM federal employment data includes the civilian workforce, but not the armed forces or the postal service. Meanwhile, tax data on self-employed workers is currently being integrated into the LEHD data, but is not yet available in the public use data products at the time of this writing.

of states in LEHD data varies by year. While several states have data that start in the early 1990s, many states' data start in the late 1990s and early 2000s.

LEHD microdata are available to qualified researchers with approved projects in the Census Bureau's secure Research Data Centers. Projects must be of scientific merit and provide useful benefits to the Census Bureau's data programs. Projects using LEHD data from a state-provider must also receive approval from the data provider.

THE QUARTERLY WORKFORCE INDICATORS

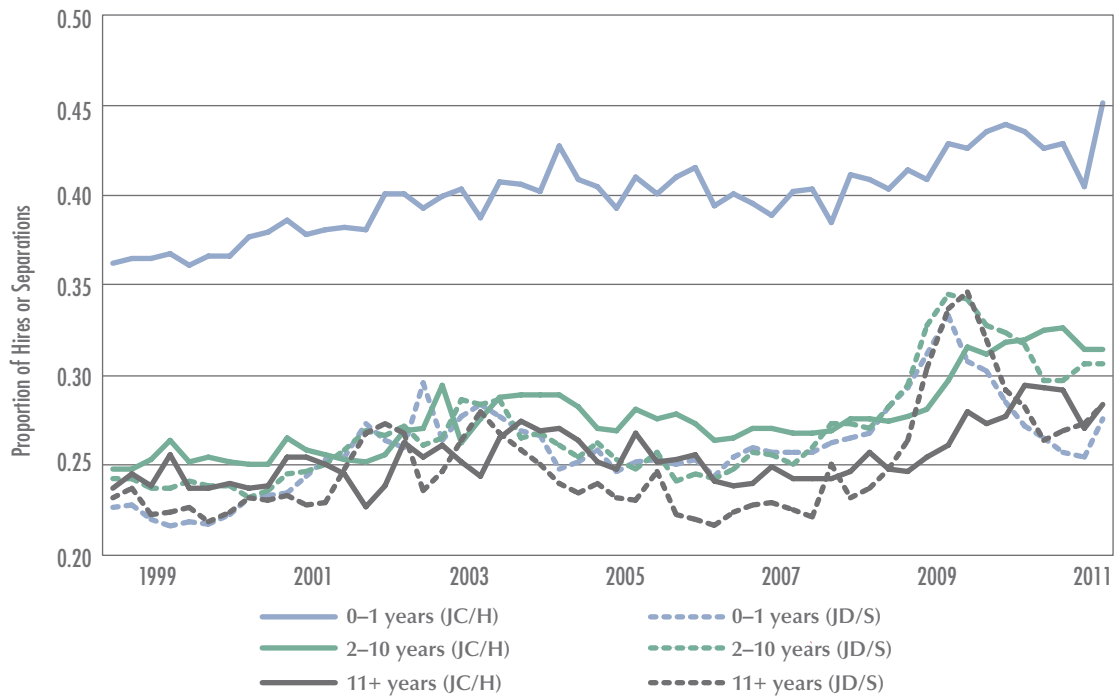
The QWI are derived from the LEHD microdata, providing employment, wage, turnover,

and hires/separations data at the county by 4-digit NAICS level. The QWI are unique in being available at very detailed demographic-by-industry-by-county cells; this is accomplished both by the coverage of the jobs data as well as the use of noise infusion to protect the confidentiality of the underlying data.⁴

In addition to providing detailed workforce characteristics, a key strength of the QWI is the ability to track worker flows—hires, separations, and turnover—as well as net employment growth. Figure 2-2 replicates a figure from a recent Kauffman Foundation report (Haltiwanger

⁴ The QWI was the first Census Bureau data product to use noise infusion to protect confidentiality, a technique now used by several other data programs.

Figure 2-2.
Shares of Hires and Separations Due to Job Creation and Destruction in Young Versus Established Firms



Source: Haltiwanger, Hyatt, McEntarfer, and Sousa (2012).

et al. 2012) examining worker turnover and wages at young businesses. This figure shows the ratio of job creation to hires for young versus established firms. As can be seen in here, the share of hires that increase employment is much larger for young than for established firms, with four out of every ten hires accounted for by job creation, compared to approximately one-quarter to one-third for older firms. Interestingly, the share of separations that constitute job destruction is the same

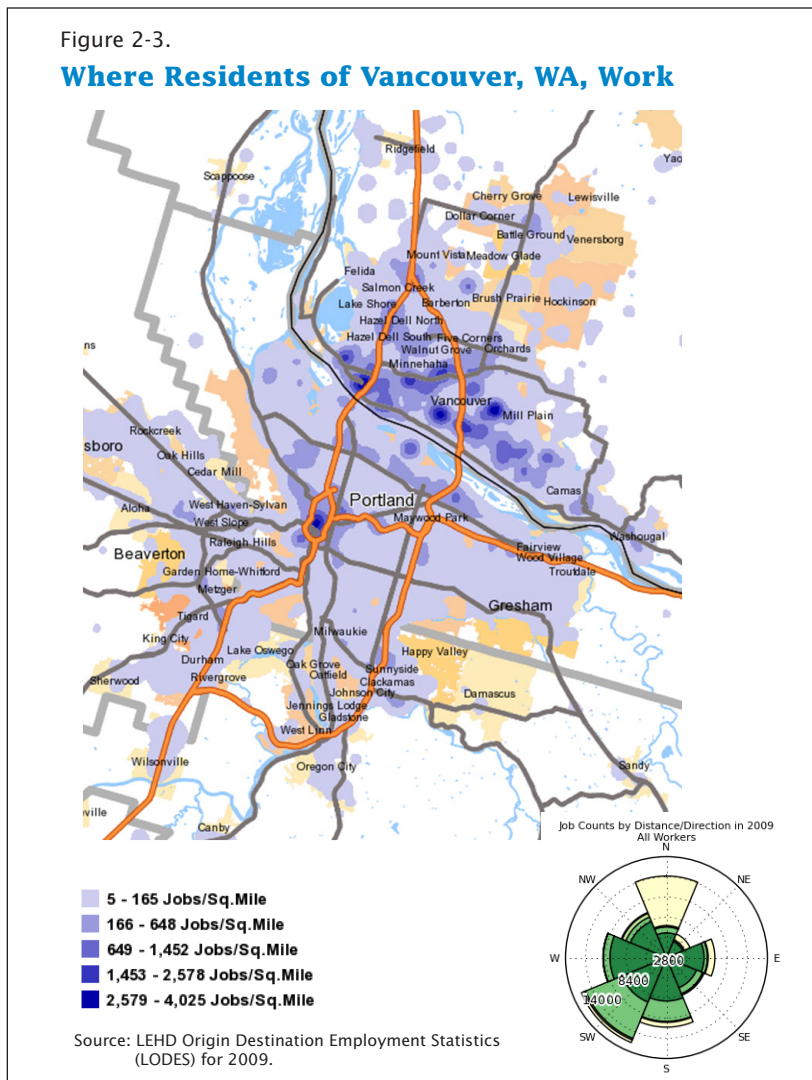
at young as well as established businesses.

LODES/ONTHEMAP

The second public use data product derived from the LEHD microdata reports employment by both place of work and place of residence at block-level geography. This is the LEHD Origin-Destination Employment Statistics (LODES), first released in 2006 and more commonly referred to as OnTheMap, the online application used to disseminate and analyze the data.

The ability to analyze employment by both place of residence as well as place of work is critical for identifying regional labor markets and understanding the interconnectedness of geographic areas that lie across state and metro area boundaries. A combination of noise infusion (similar to QWI) and synthetic data methods are used to protect worker and firm characteristics, including residential location.⁵

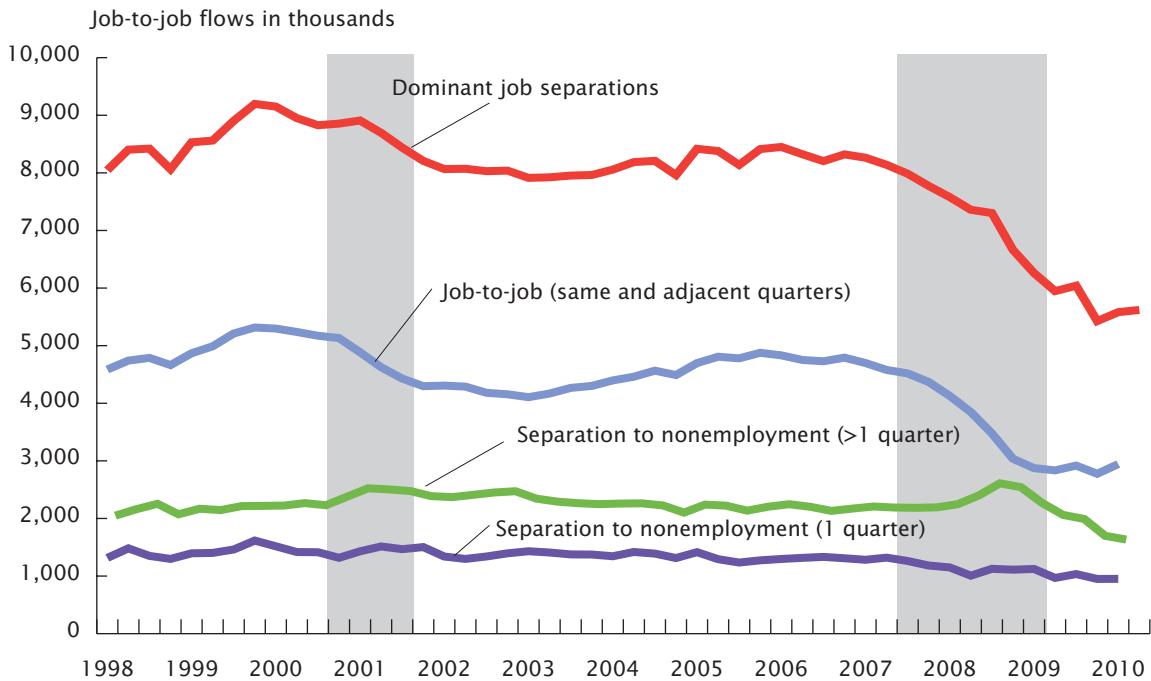
The OnTheMap Web-based mapping application provides an easy-to-use interface for mapping small-area workforce characteristics. Figure 2-3 shows an example of one type of analysis, depicting where the residents of Vancouver, Washington work. As can be seen in the map, many Vancouver residents work in nearby Portland, Oregon. The application also provides tabulations to accompany the workforce maps on employer and worker characteristics, and allows users to create analysis of custom geographies. OnTheMap won a U.S. Department of Commerce Gold Medal Award for Scientific/Engineering Achievement award in 2010 in recognition of the innovative nature of the application and underlying data. Also in 2010, OnTheMap for Emergency Management was introduced, which provides real-time information on population and labor force characteristics for areas affected by hurricanes, floods, wildfires, and other disasters.



⁵ For a detailed discussion of confidentiality protection in LODES, see Machanavajjhala et al. (2008).

Figure 2-4.

Decline in Separations in Great Recession Is Driven by Fall in Flows to New Jobs



Source: Hyatt and McEntarfer (2012a).

JOB-TO-JOB FLOWS (IN DEVELOPMENT)

Movements of workers between jobs are the principal mechanism by which labor markets allocate workers more efficiently. While these flows are large and economically important, they represent a significant gap in available economic statistics. This gap is understandable; few longitudinal person-level data sources are of sufficient sample size to allow detailed tabulations of worker flows across jobs.

The next LEHD data product in development seeks to fill this gap by producing estimates of worker flows across jobs, by detailed industry, and including

direct transitions as well as those with spells of nonemployment between jobs.⁶ Currently, the LEHD program plans to release the new job-to-job flows data during calendar year 2014.

Research using the prototype job-to-job flows data shows a marked decline in job mobility in recent years. Figure 2-4 shows trends in the rate of job change from an initial prototype job-to-job flows database. As shown in the figure, the decline in job separations over the 13 year period from 1998-2010 is driven entirely by

a decline in direct flows to new jobs. These declines are concentrated in the two recessions, with a particularly sharp decline in the rate of job change in the Great Recession. If this slowdown reflects better worker matching, this may be a positive development. If it instead reflects a slowdown in the ability of workers to obtain better employment opportunities, the implications of this slowdown are less benign. Disentangling the causes and consequences of this decline is a subject of ongoing research.

⁶The job-to-job flows public use data is an outgrowth of ongoing research at LEHD on measuring flows of workers between jobs, particularly Bjelland et al. (2011), Fallick et al. (2012) and Hyatt and McEntarfer (2012a and 2012b).

TAPPING THE POTENTIAL OF ADMINISTRATIVE DATA IN THE FEDERAL STATISTICAL SYSTEM

A core mission of LEHD research is to enhance the infrastructure for use of administrative data in the production of federal statistics. This includes activities such as developing statistical matching and imputation methods for data linkage, research comparing administrative and survey data to understand sources of error in each, and developing new prototypes for data products.

In a time of declining survey response rates and budgetary cutbacks, administrative data has enormous potential to improve data quality and lower costs. In addition to demonstrating the utility of data linkage in developing new data products, LEHD researchers also work to build the necessary knowledge and data infrastructure to allow administrative data to enhance Census Bureau survey program areas.

For example, a current project matches jobs between the LEHD administrative data and American Community Survey (ACS) to better understand discrepancies between the two data sources and to establish an infrastructure for better missing data imputations. Both the ACS and LEHD data are key data sources for sub-state labor market and commuting information. Place of work has a relatively high item nonresponse rate in the ACS, and imputations can be improved using matched administrative data. The match will also allow improvements to

worker-to-establishment imputes for multiunit firms in the LEHD data.

RESEARCH AND DEVELOPMENT

The LEHD program maintains an active research program focused on the use of longitudinally linked employer-employee data. The LEHD data make possible new research on interactions of workers and firms in the economy, the sorting of workers across firms, trends in worker and firm dynamics over time, as well as the development of new statistical products. Research and product development at LEHD is conducted collaboratively via a network of senior research fellows from academia, full-time Census research staff, and graduate students from Ph.D. programs. LEHD researchers are expected to publish the results of their research in scientific journals and present at academic conferences.

Housed in the federal statistical system, some LEHD research is unsurprisingly oriented toward innovations in the provision and quality of data. One such project is the development of a methodology to produce a national QWI series (Abowd and Vilhuber 2011). Other research has focused on using the flows of workers across firms to identify merger and acquisition events in administrative data (Benedetto et al. 2007). The sources of administrative data error and their implications for inference are also not well understood. Abowd and Vilhuber (2005) measure the impact of errors in reporting of personal identifiers

on hires and separations in the QWI, finding that such errors inflate estimates of hires and separations by up to 15 percent. These projects have resulted in improved processes and significant enhancements to the underlying LEHD data.

Different data sources can sometimes provide conflicting evidence on the state of the labor market. A promising area for LEHD research is utilizing linked data to better understand such discrepancies. A recent paper by Abraham et al. (forthcoming) links LEHD and Current Population Survey data to explain divergence in payroll and household employment that occurred during the 2001 recession. They find that marginally attached workers and very short jobs account for much of the discrepancy; these jobs are more likely to be captured in the administrative data and underreported in survey data. If marginal jobs and workers have different cyclical sensitivity, this may explain the stronger cyclical pattern in payroll employment in the 1998–2003 period.

A pervasive and difficult to explain phenomena in economics is the persistence of inter-industry wage differences for measurably similar workers. Research into why some firms appear to offer a wage premium to workers has previously been constrained by a lack of good data to investigate causal factors. Are these wage differences due to worker heterogeneity or to firm-specific compensation policies? Abowd et al. (2012) use LEHD to disentangle these two components, finding evidence

that in the U.S., much of the differential is accounted for by occupational and educational sorting across industries as well as industry specific capital.

This discussion covers only a subset of LEHD research projects and is intended to give a general sense of how linked employer-employee data is uniquely suited to answering important unanswered questions in economics. The data are still relatively new, and the potential for LEHD data to provide important insights for economic research has really only begun to be tapped.

LOOKING FORWARD

Over the last decade, the LEHD program has grown from a pilot program with a handful of state partners to a full-fledged national statistical program with two well-developed data products and a third in development. The passing of the LED budget initiative and the move of the program into the innovative and research-oriented Center for Economic Studies have insured a promising period of growth and stability for the program. Stable funding and supportive program management have allowed LEHD to attract new and talented staff. The immediate future for the LEHD program looks quite bright indeed.

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Chapter 3.

Recent Research at the Center for Economic Studies

For three decades, staff at the Center for Economic Studies have used confidential survey microdata on businesses and households, linked employer-employee data, and administrative records from federal and state agencies to carry out empirical research on a wide variety of topics in applied microeconomics, including (but not limited to) productivity, firm behavior, innovation, entrepreneurship, business dynamics, labor and labor dynamics, trade, health care, industrial location, energy, and the environment. This research increases our understanding of the U.S. economy and its people, yields insights that help improve Census Bureau surveys and data products, and leads to the development of new data products for public use. Here we feature some recent research by CES research staff.

DECOMPOSING AGGREGATE TRADE FLOWS

National export promotion policies, including the United States' National Export Initiative, which seeks to double exports by the end of 2014, highlight the important role of exporters in an economy's growth. Understanding the overall patterns of exports is a first step towards uncovering the channels that lead to export growth. Previous studies have shown that changes in U.S. exports are mainly due to incumbent firms

(the intensive margin) while entry and exit into and out of the export market (the extensive margin) explains only a relatively small share.



Fariha Kamal

Less is known about the types of firms associated with export creation and destruction. In a recent working paper (CES-12-17), CES economists **Fariha Kamal** and **C.J. Krizan** use firm-level data on export transactions to explore the relationship between firm characteristics and annual export growth between 1992 and 2009. The authors find that incumbent exporters account for 90 percent (85 percent) of increases (decreases) in annual export flows while entrants and exits out of the export market account for the rest. Focusing on just the increases, the authors find that among firms employing fewer than 100 workers, the entry margin accounts for a quarter of the increases in export flows, while among firms that employ 250 workers or more, the entry margin

accounts for less than 3 percent of total increases. A similar picture emerges when comparing young and old firms. The entry margin accounts for almost 40 percent of total increases among firms four years old or younger, whereas entries account for less than 7 percent of total increases among firms ten years or older. It seems that smaller, younger firms are more likely to contribute to annual export growth relative to their larger, older counterparts, but those older and larger firms are more stable and tend to experience fewer interruptions in their exporting. In ongoing work, Kamal and Krizan are examining firms' responses to shocks such as the Great Recession. Preliminary evidence suggests that small and young firms experience higher export growth during crises periods relative to their larger and older counterparts.

HOW DO JOBS INFLUENCE RETIREMENT DECISIONS?

As the aging of the U.S. population places increased demands on public programs such as Social Security, an important question is how long older Americans are willing and able to work before they retire from the labor force. Research has shown that pay and benefits, including pensions and health insurance, have important effects on when people retire. Much of what is known is based on surveys of individuals, who report their income,

benefits, savings, health, and household composition. While all of those factors are important, it is likely that the retirement decision also depends on the workplace. For example, is the employee's employer large or small, and is it growing or shrinking? This sort of information is very difficult to collect from individuals. While businesses are better at answering those questions, they are not capable of providing accurate information on their employees' savings, health, and so forth.



Kristin McCue

One promising approach is to integrate data from both individuals and employers. In a recent working paper (CES-12-31), CES economist **Kristin McCue** and coauthor Chinhui Juhn use linked employer-employee data to explore the relationship between the characteristics of jobs workers held at 55 and their decision to retire early. In particular, the authors focus on a sample of 63-year-olds from the 2005-2008 American Community Survey, matched to their history of earnings, employment, employers, and coworkers from the Longitudinal Employer-Household Dynamics

(LEHD) data. Juhn and McCue find that those that retired by age 63 were more likely to have been employed by larger employers at age 55 than those that continued to work, even when controlling for pension coverage and industry of employment. These retirees also worked for employers with somewhat higher pay, and they were less likely to have young coworkers. One potential explanation for this difference in coworker age is that early retirees are less likely to work in growing firms—a possibility the authors plan to explore in future work.

Research in this area may lead to development of new statistics (based on existing data sources) that are useful in understanding trends in retirement rates, such as indices of whether employment of older workers is shifting towards jobs with relatively high or low retirement rates.

IMPUTATION FOR MISSING DATA

In any survey, some households or businesses will leave some answers blank. For example, in the Census of Manufactures, a respondent may report the manufacturing plant's total value of shipments, but leave blank the total cost of its material inputs. In order to tabulate the total cost of materials used by the industry, the Census Bureau imputes data for missing values, using data from similar manufacturing plants, data from other sources, data from earlier years, and/or known relationships between the cost of materials and other variables in the same industry.

Although an imputed value will probably not be correct for any given plant, the expectation is that imputed values will be correct on average.



T. Kirk White

A recent working paper (NBER Working Paper #17816) by CES economist **T. Kirk White** and coauthors Jerome Reiter and Amil Petrin examines imputation in the Census of Manufactures (CM). The authors find that traditional imputation methods can lead to biased estimates of the relationships between variables. This is especially true for methods that employ historical data and assume a fixed relationship within an industry between, say, a plant's cost of materials and its total salaries and wages. If this relationship in fact varies systematically over time or across plants of different sizes then imputations will be inaccurate.

White et al. employ an alternative strategy for handling missing data in the CM and Annual Survey of Manufactures (ASM), based on multiple imputation via sequences of classification and regression trees. Using their imputations, the authors' findings suggest that there may be more within-industry

productivity dispersion than previous research has indicated, which was already found to be relatively large. The authors conclude that researchers using CM and ASM microdata should consider how the Census Bureau's imputations may affect their estimates and consider alternative methods of imputation that try to preserve the key relationships in the data.

A DECLINE IN JOB MOBILITY AMONG YOUNG WORKERS

The Longitudinal Employer-Household Dynamics (LEHD) program at CES is developing a new public-use data product on flows of workers between jobs. These new statistics will permit an understanding of worker movements between jobs, between industries, and between locations that is more comprehensive and detailed than is possible using other data sources. Using a research prototype of this database, a recent working paper (CES-12-04) by CES economists **Henry Hyatt** and **Erika McEntarfer** investigate recent trends in job mobility.



Henry Hyatt

In their paper, Hyatt and McEntarfer provide benchmark statistics on gross employment flows, origin and destination industries, nonemployment, and associated earnings since 1999. The authors document that job mobility rates are procyclical: they rise during economic expansions and fall during recessions. The authors also find a sharp drop in job mobility in the "Great Recession" of 2007–2009—a much sharper drop than that in the previous recession of 2001.

This decline in job mobility is especially pronounced for younger workers. Figure 3-1 shows the quarterly rate of job change for workers of different ages. Younger workers generally change jobs much more frequently than older workers, however the difference between younger and older workers narrowed substantially from 1998–2010, due to larger decreases in the rate of job change among young workers. In particular, in the late 1990s, about 15 percent of employed workers in their twenties switched jobs each quarter, while in 2010 less than 10 percent did. The respective



Erika McEntarfer

decline for workers in their forties was 6 percent to 4 percent.

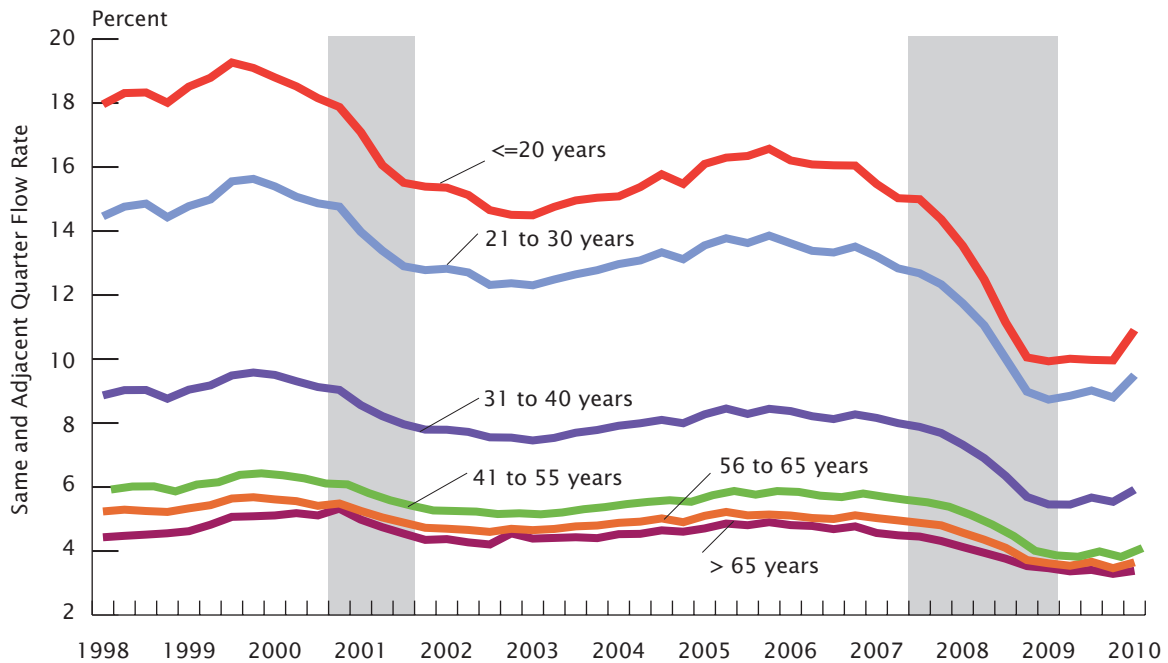
The decline in job mobility among younger workers is a potentially worrisome trend, as wage changes associated with job change constitute a substantial portion of wage growth for young workers. In on-going work, Hyatt and McEntarfer are decomposing the impact of the fall in job mobility on wage growth for workers entering the labor market in the 2000s.

IDENTIFYING CONCENTRATIONS OF EMPLOYMENT IN METROPOLITAN AREAS

Since 1980, large concentrations of employment have developed outside traditional central business districts (CBDs). Current definitions of metropolitan areas do not recognize the extent of multinucleation in metro areas. In a forthcoming article in *Urban Geography*, CES researcher **Todd Gardner** and Census Bureau colleague Matthew Marlay address this issue by analyzing the changing distribution of employment in metropolitan areas, using tract-to-tract commuting data from Census 2000, to identify high-employment nodes within large metropolitan areas. Gardner and Marlay propose a new method to delineate clusters of contiguous high-employment tracts based on job density.

The authors' approach has a number of nice features. First, it is conceptually simple, derived from broadly used definitions for metropolitan areas. Second,

Figure 3-1.
Job-to-Job Flow Rates by Age: 1998:2–2010:2



Source: Hyatt and McEntarfer (2012).

all of the data necessary to apply their method are publicly available. Third, it uses census tracts as its unit of analysis—a statistical unit of geography that is applicable across the entire United States. Fourth, their approach is flexible enough to be used at other geographic levels, such as county or block group. Finally, their methodology’s flexibility allows examination of data from multiple census years, as well as the American Community Survey.

Gardner and Marlay compare outlying employment clusters with traditional CBDs and contrast employment clusters of varying job densities. They find

that, in general, low-job-density employment clusters are more car-dependent and service-oriented than high-job-density clusters, which have greater mass transit use and a greater concentration of jobs in finance, insurance, and real estate. These differences are more apparent in larger metro areas, but the pattern is evident in small metro areas as well.

THE SYNTHETIC LONGITUDINAL BUSINESS DATABASE

In most countries, statistical agencies do not release establishment-level business microdata because doing so

represents too large a risk to establishments’ confidentiality. One potential approach for overcoming these risks is to release synthetic data. Here, establishment data are simulated from statistical models designed to mimic the distributions of the real, underlying microdata.

In a recent article published in the *International Statistical Review*, CES economists **Javier Miranda** and **Arnie Reznick**, along with former CES chief economist Ron Jarmin, and academic colleagues Satkartar Kinney, Jerome Reiter, and John Abowd, describe an application of this strategy to create a public use file for the Longitudinal

Business Database (LBD), an annual census of establishments in the United States comprising more than 20 million records dating back to 1976. The resulting product, dubbed the SynLBD, is the first-ever business micro-data set publicly released in the United States and includes data on establishments' employment and payroll, birth and death years, and industrial classification. The authors describe how they created the synthetic data, evaluated analytical validity, and assessed disclosure risk. Further information about the SynLBD, as well as procedures for accessing the data, can be found at www.census.gov/ces/dataproducts/synlbd.

Work on an expanded and improved SynLBD is underway. Changes and improvements planned include switching industrial classification from SIC to NAICS and adding geography, firm size, establishment age, and multiple implicates. Meanwhile, analysts who use the SynLBD can request that the Census Bureau provide results of the same analysis using the confidential LBD data. This encourages researchers who might otherwise be hesitant to use synthetic data for research, and it provides the team with important feedback that can be used to generate improvements to the SynLBD.



Randy Becker

DO ENVIRONMENTAL REGULATIONS DISPROPORTIONATELY AFFECT SMALL BUSINESSES?

There is significant interest in whether the impact of environmental regulations differs by the size of the business. Such differences might be expected because of statutory, enforcement, and/or compliance asymmetries. In a recent working paper (CES-12-25), CES economist **Randy Becker** and coauthors Carl Parsurka and Ronald Shadbegian, from the U.S. Environmental Protection Agency's National Center for Environmental Economics, explore this issue using establishment-level data on U.S. manufacturers from the Pollution Abatement Costs and Expenditures (PACE) survey.

Specifically, the authors examine pollution abatement operating costs per unit of economic activity (PAOC intensity) for some 321,500 manufacturing plants from 1974 to 2005. In its simplest form, PAOC intensity is modeled as a function of establishment size, industry,

and year. Because zero expenditure is somewhat common, the authors employ methodologies considered to be well suited to estimating corner solutions, including the two-part model (TPM) and the Heckman two-step selection model (Heckit).

The authors find that spending on pollution abatement operating costs per unit of output increases with establishment size. In the Heckit model, controlling for industry and year, the very largest establishments (with 1000+ employees) had \$5.61 more PAOC per \$1000 of output than the establishments with 1–49 employees. In the TPM, establishments with 1000+ employees had about \$1.92 more PAOC per \$1000 of output than establishments with 1–49 employees. The true relationship lies somewhere between these two extremes, depending on what one assumes about the nature of zero PAOC expenditure. This positive relationship between PAOC intensity and size is also found if one considers firm size rather than establishment size. Controlling for state or for plant age also does not change the basic relationship between PAOC intensity and establishment size.

This paper's findings suggest that there are statutory and/or enforcement asymmetries that favor smaller establishments and that outweigh any compliance asymmetries. The results in this paper are contrary to the claims by some, who suggest environmental compliance costs for small businesses are multiples of those for large businesses.

RECENT WORKING PAPERS BY CES ECONOMISTS

CES authors are in bold. Center for Economic Studies discussion papers can be downloaded at <www.census.gov/ces/publications>. For a list of recent journal publications by CES staff, see Appendix 2.

Workplace Characteristics and Employment of Older Workers

*Chinhui Juhn and **Kristin McCue***

CES-12-31

As aging of the U.S. population places increased demands on public programs such as Social Security, an important question is how long older Americans are willing and able to work before they retire from the labor force. While studies based on household surveys have provided information on the role of savings, health status, pension and health insurance coverage, there is relatively little information on how workplace and employer characteristics affect the employment of older workers. In this study we use linked employer-employee data to explore the relationship between the characteristics of jobs held at age 55 and early retirement. We focus on a sample of 63-year-olds drawn from the 2005-2008 American Community Survey. We match this sample to information on their earnings, employment, employers and coworkers drawn from the Longitudinal Employer-Household Dynamics data for the years in which they age from 55 to 63. We use employment status as reported in the ACS to split the sample into those who have retired by age 63 and those who continue to work. We then examine differences between early retirees and continuing workers in the characteristics of their employment at age 55, and at how these characteristics change as they approach age 63. We find that early retirees are more likely to be employed by larger employers at age 55 than are continuers. They work for employers with somewhat higher pay than do continuers, and are less likely to have young coworkers.

Do Labor Market Networks Have An Important Spatial Dimension?

*Judith K. Hellerstein, **Mark J. Kutzbach**, and David Neumark*

CES-12-30

We test for evidence of spatial, residence-based labor market networks. Turnover is lower for workers more connected to their neighbors generally and more connected to neighbors of the same race or ethnic group. Both results are consistent with networks producing better job matches, while the latter could also reflect preferences for working with neighbors of the same race or ethnicity. For earnings, we find a robust positive effect of the overall residence-based network measure, whereas we usually find a negative effect of the same-group measure, suggesting that the overall network measure reflects productivity enhancing positive network effects, while the same-group measure captures a non-wage amenity.

Estimation of Job-to-Job Flow Rates Under Partially Missing Geography

*Cody Henderson and **Henry Hyatt***

CES-12-29

Integration of data from different regions presents challenges for the calculation of entity-level longitudinal statistics with a strong geographic component: for example, movements between employers, migration, business dynamics, and health statistics. In this paper, we consider the estimation of worker-level employment statistics when the geographies (in our application, U.S. states) over which such measures are defined are partially missing. We focus on the recent pilot set of job-to-job flow statistics produced by the US Census Bureau's Longitudinal Employer-Household

Dynamics (LEHD) program, which measure the frequency of worker movements between jobs and into and out of nonemployment. LEHD's coverage of the labor force gradually increases during the 1990s and 2000s because some states have a longer time series than others, so employment transitions involving missing states are only partially or not at all observed. We propose and implement a method for estimating national-level job-to-job flow statistics that involves dropping observed states to recover the relationship between missing states and directly tabulated job-to-job flow rates. Using the estimated relationship between the observable characteristics of the missing states and changes in the employment measures, we provide estimates of the rates of job-to-job, and job-to-nonemployment, job-to-nonemployment-to-job flows were all states uniformly available.

The United States Labor Market: Status Quo or a New Normal?

Edward P. Lazear and James R. Spletzer

CES-12-28

The recession of 2007-09 witnessed high rates of unemployment that have been slow to recede. This has led many to conclude that structural changes have occurred in the labor market and that the economy will not return to the low rates of unemployment that prevailed in the recent past. Is this true? The question is important because central banks may be able to reduce unemployment that is cyclic in nature, but not that which is structural. An analysis of labor market data suggests that there are no structural changes that can explain movements in unemployment rates over recent years. Neither industrial nor demographic shifts nor a mismatch of skills with job vacancies is behind the increased rates of unemployment. Although mismatch increased during the recession, it retreated at the same rate. The patterns observed are consistent with unemployment being caused by cyclic phenomena that are more pronounced during the current recession than in prior recessions.

Do SBA Loans Create Jobs? Estimates From Universal Panel Data and Longitudinal Matching Methods

J. David Brown and John S. Earle

CES-12-27

This paper reports estimates of the effects of the Small Business Administration (SBA) 7(a) and 504 loan programs on employment. The database links a complete list of all SBA loans in these programs to universal data on all employers in the U.S. economy from 1976 to 2010. Our method is to estimate firm fixed effect regressions using matched control groups for the SBA loan recipients we have constructed by matching exactly on firm age, industry, year, and pre-loan size, plus kernel-based matching on propensity scores estimated as a function of four years of employment history and other variables. The results imply positive average effects on loan recipient employment of about 25 percent or 3 jobs at the mean. Including loan amount, we find little or no impact of loan receipt per se, but an increase of about 5.4 jobs for each million dollars of loans. When focusing on loan recipients and control firms located in high-growth counties (average growth of 22 percent), places where most small firms should have excellent growth potential, we find similar effects, implying that the estimates are not driven by differential demand conditions across firms. Results are also similar regardless of distance of control from recipient firms, suggesting only a very small role for displacement effects. In all these cases, the results pass a "pre-program" specification test, where controls and treated firms look similar in the pre-loan period. Other specifications, such as those using only matching or only regression imply somewhat higher effects, but they fail the pre-program test.

Occupation Inflation in the Current Population Survey

Jonathan Fisher and *Christina Houseworth*

CES-12-26

A common caveat often accompanying results relying on household surveys regards respondent error. There is research using independent, presumably error-free administrative data, to estimate the extent of error in the data, the correlates of error, and potential corrections for the error. We investigate measurement error in occupation in the Current Population Survey (CPS) using the panel component of the CPS to identify those that incorrectly report changing occupation. We find evidence that individuals are inflating their occupation to higher skilled and higher paying occupations than the ones they actually perform. Occupation inflation biases the education and race coefficients in standard Mincer equation results within occupations.

Do Environmental Regulations Disproportionately Affect Small Businesses? Evidence From the Pollution Abatement Costs and Expenditures Survey

Randy A. Becker, *Carl Pasurka, Jr.*, and *Ronald J. Shadbegian*

CES-12-25

It remains an open question whether the impact of environmental regulations differs by the size of the business. Such differences might be expected because of statutory, enforcement, and/or compliance asymmetries. Here, we consider the net effect of these three asymmetries, by estimating the relationship between plant size and pollution abatement expenditures, using establishment-level data on U.S. manufacturers from the Census Bureau's Pollution Abatement Costs and Expenditures (PACE) surveys of 1974–1982, 1984–1986, 1988–1994, 1999, and 2005, combined with data from the Annual Survey of Manufactures and Census of Manufactures. We model establishments' PAOC intensity—that is, their pollution abatement operating costs per unit of economic activity—as a function of establishment size, industry, and year. Our results show that PAOC intensity increases with establishment size. We also find that larger firms spend more per unit of output than do smaller firms.

Decomposing Aggregate Trade Flows: New Evidence From U.S. Traders

Fariha Kamal and **C.J. Krizan**

CES-12-17

Using firm-level data on export transactions, we uncover a rich set of results about the extensive margins of exporting and exporter responses during periods of global downturns. We perform our analysis with respect to firm size, age, ownership status, and sector to emphasize the role of firm heterogeneity. We uncover a larger role for firm entry and exit in changes in annual export flows of single-unit, smaller, and younger firms. Young, small firms perform best during both periods of crises as well as non-crises periods. We also decompose the margins of U.S. imports at the U.S. importer, foreign supplier, and U.S. importer-foreign supplier pair levels. While export flows are closely correlated with global business cycles, import flows more closely approximate U.S. economic cycles. Additionally, both pair and foreign supplier flows are far more volatile than U.S. import flows, that is, U.S. importer-foreign supplier matches experience more churning on average than do either U.S. importers or foreign suppliers.

Getting Patents and Economic Data to Speak to Each Other: An ‘Algorithmic Links With Probabilities’ Approach for Joint Analyses of Patenting and Economic Activity

Travis J. Lybbert and **Nikolas J. Zolas**

CES-12-16

International technological diffusion is a key determinant of cross-country differences in economic performance. While patents can be a useful proxy for innovation and technological change and diffusion, fully exploiting patent data for such economic analyses requires patents to be tied to measures of economic activity. In this paper, we describe and explore a new algorithmic approach to constructing concordances between the International Patent Classification (IPC) system that organizes patents by technical features and industry classification systems that organize economic data, such as the Standard International Trade Classification (SITC), the International Standard Industrial Classification (ISIC) and the Harmonized System (HS). This ‘Algorithmic Links with Probabilities’ (ALP) approach incorporates text analysis software and keyword extraction programs and applies them to a comprehensive patent dataset. We compare the results of several ALP concordances to existing technology concordances. Based on these comparisons, we select a preferred ALP approach and discuss advantages of this approach relative to conventional approaches. We conclude with a discussion on some of the possible applications of the concordance and provide a sample analysis that uses our preferred ALP concordance to analyze international patent flows based on trade patterns.

Dynamically Consistent Noise Infusion and Partially Synthetic Data as Confidentiality Protection Measures for Related Time-Series

John M. Abowd, Kaj Gittings, **Kevin L. McKinney**, Bryce E. Stephens, Lars Vilhuber, and Simon Woodcock

CES-12-13

The Census Bureau’s Quarterly Workforce Indicators (QWI) provide detailed quarterly statistics on employment measures such as worker and job flows, tabulated by worker characteristics in various combinations. The data are released for several levels of NAICS industries and geography, the lowest aggregation of the latter being counties. Disclosure avoidance methods are required to protect the information about individuals and businesses that contribute to the underlying data. The QWI disclosure avoidance mechanism we describe here relies heavily on the use of noise infusion through a permanent multiplicative noise distortion factor, used for magnitudes, counts, differences and ratios. There is minimal suppression and no complementary suppressions. To our knowledge, the release in 2003 of the QWI was the first large-scale use of noise infusion in any official statistical product. We show that the released statistics are analytically valid along several critical dimensions—measures are unbiased and time series properties are preserved. We provide an analysis of the degree to which confidentiality is protected. Furthermore, we show how the judicious use of synthetic data, injected into the tabulation process, can completely eliminate suppressions, maintain analytical validity, and increase the protection of the underlying confidential data.

The Rise and Fall of Unions in the U.S.

Emin Dinlersoz and **Jeremy Greenwood**

CES-12-12

Union membership displayed an inverted U-shaped pattern over the 20th century, while the distribution of income sketched a U. A model of unions is developed to analyze these phenomena. There is a distribution of firms in the economy. Firms hire capital, plus skilled and unskilled labor. Unionization is a costly process. A union decides how many firms to organize and its members' wage rate. Simulation of the developed model establishes that skilled-biased technological change, which affects the productivity of skilled labor relative to unskilled labor, can potentially explain the above facts. Statistical analysis suggests that skill-biased technological change is an important factor in de-unionization.

The Slow Growth of New Plants: Learning about Demand?

Lucia Foster, **John Haltiwanger**, and **Chad Syverson**

CES-12-06

It is well known that new businesses are typically much smaller than their established industry competitors, and that this size gap closes slowly. We show that even in commodity-like product markets, these patterns do not reflect productivity gaps, but rather differences in demand-side fundamentals. We document and explore patterns in plants' idiosyncratic demand levels by estimating a dynamic model of plant expansion in the presence of a demand accumulation process (e.g., building a customer base). We find active accumulation driven by plants' past production decisions quantitatively dominates passive demand accumulation, and that within-firm spillovers affect demand levels but not growth.

Job-to-Job Flows and the Business Cycle

Henry Hyatt and **Erika McEntarfer**

CES-12-04

Job-to-job flows represent one of the most significant opportunities for the development of new economic statistics, having been made possible by the increased availability of matched employer-employee datasets for statistical tabulation. In this paper, we analyze a new database of job-to-job flows from 1999 to 2010 in the United States. This analysis provides definitive benchmarks on gross employment flows, origin and destination industries, nonemployment, and associated earnings. To demonstrate the usefulness of these statistics, we evaluate them in the context of the recessions of 2001 and 2007, as well as the economic expansion between the two. We find a sharp drop in job mobility in the Great Recession, much sharper than the previous recession, and higher earnings penalties for job transitions with an intervening nonemployment spell. This fall in job mobility is found within all age groups but is largest among younger workers. We also examine outcomes for displaced workers and examine labor market adjustment in several specific industries. Generally, we find higher rates of nonemployment upon job separation, increasing rates of industry change and higher earnings penalties from job change in the Great Recession.

Appendix 1.

OVERVIEW OF THE CENTER FOR ECONOMIC STUDIES (CES) AND THE CENSUS RESEARCH DATA CENTERS (RDCs)

THE CENTER FOR ECONOMIC STUDIES (CES)

CES supports core functions of the U.S. Census Bureau—providing relevant, reliable, and useful information about the economy and people of the United States—through its three programs:

- Economic Research
- Research Data Centers (RDCs)
- Longitudinal Employer-Household Dynamics (LEHD)

CES PROGRAMS

Economic Research	Research Data Centers (RDCs)	Longitudinal Employer-Household Dynamics (LEHD)
Conducts research in economics and other social sciences: <ul style="list-style-type: none"> ▪ Produces CES discussion papers series ▪ Publishes in leading professional journals 	Provide secure access to restricted-use microdata for statistical purposes to qualified researchers with approved research projects that benefit Census Bureau programs. (See Text Box A-1.1.)	Produces new, cost effective, public-use information combining federal, state, and Census Bureau data on employers and employees.
Gathers, processes, and archives Census Bureau microdata for research use.	Partner with leading research organizations. (See Appendix 6.)	Works with states under the Local Employment Dynamics (LED) Partnership (See Appendix 7.)
Creates public-use microdata from existing data, including: <ul style="list-style-type: none"> ▪ <i>Business Dynamics Statistics</i>: Tabulations on establishments and firms, 1976–2010 ▪ <i>Synthetic Longitudinal Business Database</i>: Synthetic data on establishments and firms, 1976–2000 	Operate in 15 locations: <ul style="list-style-type: none"> ▪ Atlanta ▪ Boston ▪ California (Berkeley) ▪ California (Stanford) ▪ California (UCLA) ▪ Census Bureau Headquarters (CES) ▪ Chicago ▪ Michigan ▪ Minnesota ▪ New York (Baruch) ▪ New York (Cornell) ▪ Northwest (Seattle) ▪ Texas ▪ Triangle (Duke) ▪ Triangle (RTI) 	Main products: <ul style="list-style-type: none"> ▪ <i>Quarterly Workforce Indicators (QWI)</i>: Workforce statistics by demography, geography, and industry for each state ▪ <i>OnTheMap</i>: User-defined maps and data on where workers live and work ▪ <i>Industry Focus</i>: Information about a particular industry and its workers
Administers Research Data Centers (RDCs): <ul style="list-style-type: none"> ▪ Staffs RDCs ▪ Reviews and makes decisions on proposals ▪ Creates and maintains the proposal management system 		

Text Box A-1-1.

WHAT IS A CENSUS RESEARCH DATA CENTER (RDC)?

RDCs are U.S. Census Bureau facilities, staffed by a Census Bureau employee, which meet all physical and computer security requirements for access to restricted-use data. At RDCs, qualified researchers from academia, federal agencies, and other institutions with approved projects receive restricted access to selected nonpublic Census Bureau data files to conduct research that benefits Census Bureau programs.

The Center for Economic Studies (CES) judges each proposal against five standards:

- Potential benefits to Census Bureau programs.
- Scientific merit.
- Clear need for nonpublic data.
- Feasibility with data available in the RDC system.
- No disclosure risk.

Proposals meeting these standards are reviewed by the Census Bureau's Office of Analysis and Executive Support. Proposals approved by the Census Bureau may also require approval by the federal agency sponsoring the survey or supplying the administrative data.

Researchers must become Special Sworn Status (SSS) employees of the Census Bureau. Like career Census Bureau employees, SSS employees are sworn for life to protect the confidentiality of the data they access. Failing to protect confidentiality subjects them to significant financial and legal penalties. The RDC system and the CES proposal process are described in detail on the CES Web site <www.census.gov/ces/>.

Selected restricted-access data from the Agency for Healthcare Research and Quality (AHRQ) and the National Center for Health Statistics (NCHS) can be accessed in the RDCs. Proposals must meet the requirements of AHRQ <meps.ahrq.gov/mepsweb/data_stats/onsite_datacenter.jsp> or NCHS <www.cdc.gov/rdc>.

Text Box A-1-2.

CENTER FOR ECONOMIC STUDIES (CES) PARTNERS

CES relies on networks of supporters and partners within and outside the U.S. Census Bureau. Our primary partners are listed below. All of our partners make vital contributions, and we thank them.

Census Bureau business and household program areas. CES and the Research Data Centers (RDCs) receive ongoing help from many areas of the Census Bureau that produce business and household data. This help takes many forms, including:

- Microdata:
 - Additions and expansions of data available to RDC researchers in 2012 are listed in Appendix 5.
 - Census Bureau business and household datasets that are part of the Longitudinal Employer-Household Dynamics (LEHD) data infrastructure.
- Expert knowledge of the collection and processing methodologies underlying the microdata.
- Reviews of RDC research proposals, particularly for household data.

RDC partners. CES currently operates at 15 locations across the country in partnership with a growing roster of prominent research universities and nonprofit research organizations. Our RDC partners are recognized in Appendix 6.

LEHD partners. The LEHD program produces its public-use data products through its Local Employment Dynamics partners. Partners as of December 2012 are acknowledged in Appendix 7.

Other Census Bureau partners. Colleagues from both the Economic Directorate and the Research and Methodology Directorate provide administrative support to CES. The CES also benefits from colleagues in several other Census Bureau divisions who support our computing infrastructures.

Appendix 2.

CENTER FOR ECONOMIC STUDIES (CES) STAFF AND RESEARCH DATA CENTER (RDC) SELECTED PUBLICATIONS AND WORKING PAPERS: 2012

[Term inside brackets indicates work by CES staff or RDC researchers.]

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Appendix 3-A.

ABSTRACTS OF PROJECTS STARTED IN 2012: U.S. CENSUS BUREAU DATA

Projects in this portion of the appendix use data provided by the Census Bureau.

THE LONG-RUN EFFECTS OF POSITIVE SHOCKS TO PRENATAL CONDITIONS IN THE UNITED STATES

Maya Rossin-Slater – Columbia University

Janet Currie – Columbia University

W. Reed Walker – University of California, Berkeley

David Silver – University of California, Berkeley

Adam Isen – University of Pennsylvania

This research examines the long-run effects of positive shocks to prenatal health on adult outcomes for cohorts born in the 1960s and 1970s in the United States. This research uses data from the Longitudinal Employer-Household Dynamics (LEHD) program linked to the Survey of Income and Program Participation (SIPP) and Current Population Survey (CPS) to

analyze how the implementation of the Supplemental Nutritional Program for Women, Infants, and Children (WIC) in the 1970's, the reduction of maternal smoking during pregnancy following the publication of the 1964 Surgeon General Report, and the reduction of prenatal exposure to air pollution following the Clean Air Act of 1970 have impacted numerous later-life measures of

adult well-being such as health, income, educational attainment, and characteristics of the neighborhood of residence. The findings will shed light on whether the “fetal origins hypothesis”, which postulates an important link between prenatal health and adult well-being, holds for the current adult population in the United States.

THE EFFECT OF SHIPPING COSTS ON PRODUCT QUALITY CHOICES

Jonathan Dingel – Columbia University

Eric Verhoogen – Columbia University

This project investigates the relationship between product quality and shipping costs. Using the Commodity Flow Surveys and the Census of Manufactures of 1997, 2002, and 2007, establishment-level

regressions of output unit values on shipment distance, and input unit values on average shipment distance, will test whether establishments sell higher-quality goods to more distant destinations. Using these domestic

data is a significant improvement relative to existing studies (which use national export data) due to the precision of the distance measures and the data on shipments originating from many locations.

NEW FIRM FORMATION, INNOVATION, AND ENTREPRENEURIAL GROWTH: THE ROLE OF CREDIT

Gordon Phillips – University of Southern California
Vojislav Maksimovic – University of Maryland
Daniel Carvalho – University of Southern California

This project tests for key relationships between entrepreneurship, personal credit and income history, and firm success. In particular, this research will shed light on the role of credit constraints on individual decisions

regarding personal and business finance. These relationships are essential for understanding (a) consumption patterns including delinquency, default, and bankruptcy; (b) formation, success, and failure of small business

funded by personal finance; (c) the link between human capital accumulation and the availability of credit; and (d) firm credit history and the mergers and acquisitions of firms.

THE FIRM LEVEL EVOLUTION OF ENERGY EFFICIENCY

Hunt Allcott – New York University
Daniel Keniston – Massachusetts Institute of Technology

This research will analyze the energy intensity of individual manufacturing establishments in order to understand how dynamics such as entry, exit, and within-plant changes contribute to trends in the energy intensity

of the overall economy. This project will benefit the Census Bureau by examining the quality of energy expenditure data in the Census of Manufacturers and Annual Survey of Manufacturers, and the implications of different

imputation procedures—regression imputation, hot-decking, and single vs. multiple imputation—on statistics derived from the data.

GENERATING A GEOGRAPHIC WAGE COMPARISON INDEX

Satkartar Kinney – National Institute of Statistical Sciences
Alan Karr – National Institute of Statistical Sciences
Ivan Carrillo-Garcia – National Institute of Statistical Sciences

This research will create a new implementation of the National Center for Education Statistics (NCES) comparable wage index (CWI), based on confidential data from the 2005-2009 American Community Survey (ACS). The CWI is an annual measure of uncontrollable variation in wages across geographical regions, and has been published by NCES for the years 1997 through 2005. The base

year CWI was originally created using 2000 Decennial Census long form Integrated Public Use Microdata Series data (IPUMS), and the CWI for the other years were created using data from the Bureau of Labor Statistics' (BLS) Occupational Expenditure Survey (OES). This project aims to produce a new CWI using restricted-access ACS data for the years 2005 forward, and to compare index estimates

produced from these files to estimates computed using public use ACS microdata. In the process, the CWI methodology will be modified based on recommendations of a Technical Expert Panel convened on behalf of NCES. The project will benefit the ACS data by producing population estimates (the wage index) that allow a direct comparison with estimates produced using publicly available data.

MEASURING THE IMPACT OF TRADE ON THE U.S. ECONOMY

J. Bradford Jensen – Georgetown University

Andrew Bernard – Dartmouth College

Peter Schott – Yale University

Justin Pierce – Board of Governors of the Federal Reserve

Stephen Redding – Princeton University

Antoine Gervais – University of Notre Dame

Daniel Reyes – Georgetown University

Zhi Yu – Georgetown University

This research will track large firms over time in both the Census Bureau trade transaction data and its Business Register. By tracking firms with large volumes of imports and exports, we will test the methodology used to create the Longitudinal Foreign Trade Transactions Database (LFTTD). There appear to be a number of firms that either do not export one year and then exhibit large export transaction values the following year, or export large amounts

followed immediately by zero exports. Focusing on the source of these large changes would help identify potential bad matches, high firm level export volatility or important mergers & acquisitions in the Business Register. This project will also examine whether imports displace domestic production and exports. This would require linking detailed information from the Census of Manufactures product trailer data, detailed information on products used

from the material trailer data, other product information from the Current Industrial Reports, and product information from the LFTTD to examine the product composition of U.S. firms' domestic production, imports, and exports. A number of firms import products they do not report using and report exporting products they do not report producing. Examining the product displacement from imports would require linking production and trade data at the firm level.

THE DETERMINANTS AND RAMIFICATIONS OF FIRMS' GLOBAL PRODUCTION

Teresa Fort – Dartmouth College

This research will develop a new product that measures firms' global production choices. The new dataset will be constructed by combining plant- and firm-level data from various economic censuses, administrative record sources, and U.S.

Customs transactions. These new data will not only improve our understanding of current datasets' strengths and weaknesses, it will also expand the scope and range of the economic activity that can be studied at the plant and firm levels.

The new data will be used to construct industry-level offshoring measures, and to assess the domestic ramifications of firms' global production decisions.

THE ANTECEDENTS AND CONSEQUENCES OF EMPLOYEE ENTREPRENEURSHIP

Benjamin Campbell – Ohio State University

Martin Ganco – University of Minnesota

Seth Carnahan – University of Illinois, Champaign-Urbana

Daniel Olson – University of Maryland

Florence Honore – University of Minnesota

Justin Frake – University of Maryland

This research will examine the antecedents and consequences of employee entrepreneurship within and across multiple levels of analysis. There is little extant literature that explores the importance of interactions

across multi-levels in the origination of employee entrepreneurship and its effects on entrepreneurs, the firms that they exit, the firms that they form, and the industries in which they operate. This project studies

these issues from a multi-level perspective focusing on the individual level, the establishment level, and the industry level, as well as interactions across levels.

EXPLORATION OF THE USE OF FREIGHT DEMAND MODELS TO IDENTIFY OUTLIERS, DATA CODING ERRORS, AND IMPROVE SAMPLE DESIGN OF THE COMMODITY FLOW SURVEY

Miguel Jaller – Rensselaer Polytechnic Institute

Ivan Sanchez-Diaz – Rensselaer Polytechnic Institute

The project entails systematic econometric modeling of a number of freight demand processes: freight generation, distribution, mode/vehicle choice. The goals are to: (1) test

the usefulness and practicality of using these models to identify outliers in the Census Bureau's Commodity Flow Survey and improve sample design, and (2) provide the transportation

planning community with a set of basic freight demand models to support the planning process, infrastructure renewal decisions, and analyses of policies to spur economic activity.

Appendix 3-B.

ABSTRACTS OF PROJECTS STARTED IN 2012: AGENCY FOR HEALTHCARE RESEARCH AND QUALITY (AHRQ) DATA OR NATIONAL CENTER FOR HEALTH STATISTICS (NCHS) DATA

Projects in this portion of the appendix use data provided by the Agency for Healthcare Research and Quality (AHRQ) or data provided by the National Center for Health Statistics (NCHS). Under authority of the Economy Act, the Center for Economic Studies hosts projects in Research Data Centers using data provided by AHRQ or NCHS. AHRQ or NCHS is solely responsible for selecting projects and for conducting disclosure avoidance review.

CONTEXTUAL EFFECTS OF COMMUNITY CHARACTERISTICS ON HEALTH CARE BEHAVIORS AMONG OLDER FOREIGN BORN INDIVIDUALS (AHRQ)

Sunha Choi – University of Tennessee at Knoxville

Older immigrants constitute one of the most vulnerable populations in the U.S. in terms of accessing health care. Facilitating the informed development of community-based interventions that consider the socioeconomic and political context of where older immigrants reside will more effectively promote older foreign-born individuals' health and access to health care. Although the effects of contextual factors on individuals' health service utilization are important considerations, few studies focus on older

immigrants. This study conducts a secondary data analysis of the pooled 2000-2007 Medical Expenditure Panel Survey (MEPS; individual-level data) linked with county- and state-level data, such as the Area Resources File (ARF), to examine the effect of contextual factors on individual-level health care behaviors. This study will add to the existing body of literature that examines individual-level factors to explain the health service utilization of older foreign-born individuals, and test how the relationship between individual

characteristics and health service utilization is affected by community-level contextual factors (interaction effects). Also, this research will test whether the hypothesized moderating effects of community-level factors that affect individual-level health service utilization characteristics remain the same across foreign-born groups of different ages (three-way interaction or moderated moderation). The results will contribute to designing a better-targeted intervention geared toward older foreign-born individuals.

DECOMPOSITION OF MORAL HAZARD (AHRQ)

John Nyman – University of Minnesota

Yelena Markelova – University of Minnesota

Ellen McCreedy – University of Minnesota

This project will match Medical Expenditure Panel Survey (MEPS)-Household Component

and Medical Component files from 1996 to 2010 and MEPS-Insurance Component files for

1996–1999 and 2001 to estimate premiums for the income effects robustness analysis.

EXPLORING TRENDS IN U.S. HEALTH INEQUITIES IN CONTEXT: NHES TO NHANES, 1959–2006 (NCHS)

Jason Beckfield – Harvard University

Jarvis Chen – Harvard School of Public Health

Anna Kosheleva – Harvard School of Public Health

Nancy Krieger – Harvard School of Public Health

Pamela Waterman – Harvard School of Public Health

This project explores novel multilevel approaches to developing the methods and database that would enable addressing a new debate about whether, as overall population health improves, the absolute and relative magnitude of socioeconomic disparities

increases, stays the same, or decreases. Should results show that all 3 patterns are possible, they would refute hypotheses, based on post-1980 data, that inequities necessarily widen. Knowledge produced by this study has the potential to

significantly change concepts, methods, and preventive interventions regarding U.S. socioeconomic and racial/ethnic disparities in health, whose elimination is a key objective of Healthy People 2010.

A STUDY OF ASIAN AMERICAN, NATIVE HAWAIIAN, AND PACIFIC ISLANDER HEALTH (NCHS)

Won Kim Cook – Asian and Pacific Islander American Health Forum

This project addresses three specific aims: (1) to develop national epidemiologic profiles of potentially life-threatening health conditions including cancers, heart diseases, diabetes, hypertension, sexually-transmitted diseases other than HIV/AIDS, and viral hepatitis for Asian American, Native Hawaiian, and Pacific Islanders (AA and NHPI) adults; (2) to develop national epidemiologic

profiles of child health conditions such as birth weight, overweight/obesity, diabetes, and asthma for AA and NHPI children; and (3) to identify social determinants of selected health outcomes and health care access/use for AA and NHPI adults and children. Pooled National Health Interview Survey (NHIS) data of 2005-2009 will be used. Analyses using AA samples will be stratified on

ethnicity. The analyses will include univariate analyses to understand characteristics of AA and NHPI adults and children; bivariate χ^2 tests to assess the associations between individual characteristics and health outcomes, as well as health care use; and multiple regression analyses, linear and logistic, to identify major social determinants of AA and NHPI health.

STRATEGIES TO EXPAND THE USE OF THE NHIS FOR STATE LEVEL ANALYSES TO SUPPORT THE IMPLEMENTATION AND EVALUATION OF PPACA AND HEALTH INSURANCE COVERAGE (NCHS)

*Lynn Blewett – University of Minnesota
Michel Boudreaux – University of Minnesota
Kathleen Call – University of Minnesota
Heather Dahlen – University of Minnesota
Gilbert Gonzales – University of Minnesota
Lacey Hartman – University of Minnesota
Sharon Long – Urban Institute
Jessie Pintor – University of Minnesota
Julie Sonier – University of Minnesota
Joanna Turner – University of Minnesota
Karen Turner – University of Minnesota*

The recently enacted federal health reform legislation—the Patient Protection and Affordable Care Act of 2010 (ACA)—will make significant changes in health insurance coverage and health care systems across the United States, with states responsible for many of the key elements of reform. This research will help to develop

strategies to enhance the state-level data in the National Health Interview Survey (NHIS) so as to expand the role of the NHIS in helping states implement and monitor the impacts of health reform. Specifically, the project will: (1) explore the use of small-area estimation methods to develop estimates of insurance coverage and other key

outcomes for all states in the NHIS; (2) explore the use of state-specific weights to facilitate state-specific studies of key populations groups; and (3) impute legal status for immigrants to facilitate estimates of the populations who will be excluded from the Medicaid expansion under the ACA.

THE CONTRIBUTION OF OBESITY TO INTERNATIONAL DIFFERENCES IN LIFE EXPECTANCY (NCHS)

Neil Mehta – Emory University

This project comprises one component of a larger research project on the contribution of obesity to international differences in life expectancy, with a focus on the poor ranking of the United States in life expectancy

compared to other wealthy nations. The primary objective of this proposal is to develop an improved set of mortality risks from obesity that accounts for an individual's history of obesity and smoking status. The current

project also builds on previous attempts at identifying whether the mortality risks associated with obesity have declined and potential explanations for these declines. Multiple NHANES surveys will be used.

THE DISTRIBUTIONAL EFFECTS OF TOBACCO CONTROL POLICIES (NCHS)

Erik Nesson – Emory University

This study examines the effects of tobacco control policies on smoking behavior and non-smokers' exposure to second-hand smoke. The study addresses the following questions: (1) What effect do tobacco control policies have on adult

smoking behavior, and how do these effects vary across the distribution of adult smoking behaviors? (2) What effect do tobacco control policies have on youth smoking behavior, and how do these effects vary across the distribution of

youth smoking behaviors? (3) What effect do tobacco control policies have on second-hand smoke, and how do these effects vary across the distribution of second-hand smoke exposure?

SOFT DRINK TAXES AND CHILDHOOD OBESITY (NCHS)

David Frisvold – Emory University

Animesh Giri – Emory University

Soft drink consumption has been hypothesized as one of the major factors in the growing rates of obesity in the United States. Nearly two-thirds of all states currently tax soft drinks using excise taxes, sales taxes, or special exemptions to food exemptions from sales taxes to reduce consumption of this product, raise revenue, and

improve public health. The goal of this project is to evaluate the impact of changes in state soft drink taxes on soft drink consumption, body mass index (BMI), obesity, and overweight for children and adolescents. The researchers will analyze changes in soft drink tax rates within states over time and compare outcomes following the

large change in Ohio's soft drink tax rates in 1993 and 1994 to outcomes in similar states using NHANES data. The results will represent the first rigorous analysis of individuals' responses to these policy changes and inform policymakers of the potential benefits of changes in soft drink tax rates.

WHY DO PEOPLE GET STERILIZED? (NCHS)

Seth Kerstein – University of California at Los Angeles

Adriana Lieras-Muney – University of California at Los Angeles

Existing research thoroughly documents many facts about surgical sterilization, including its immense popularity in the United States and in many other countries. However, the most central and compelling question about sterilization—what motivates people to do it—remains unanswered. This

project uses data from multiple waves of the National Survey of Family Growth (NSFG) to test several simple hypotheses about sterilization. First, it tests how strongly sterilization responds to pecuniary incentives. The identifying variation for this test comes from state-level contraceptive coverage mandates.

Second, it tests how strongly sterilization responds to the costs and benefits of pregnancy. The identifying variation for this test comes from state-level changes in Medicaid funding for abortion and from state-level changes in the timing of abortion legalization.

ENGAGING ABSENT FATHERS: LESSONS FROM PATERNITY ESTABLISHMENT PROGRAMS (NCHS)

Maya Rossin-Slater – Columbia University

This project will conduct the first comprehensive analysis of the causal effects of in-hospital voluntary paternity establishment (IHVPE) programs on child health. IHVPE programs provide all unmarried new parents with a costless opportunity to legally establish paternity at the time of childbirth and education about parental rights and obligations. Past research, using variation in the timing of IHVPE program initiation across states and years, has shown that IHVPE programs increase paternity establishment rates by about 34 percent.

Further, IHVPE programs reduce the likelihood of parental marriage post-childbirth and have an overall negative effect on parental health insurance provision for their children. Since IHVPE programs influence family structure and child health insurance coverage, assessing the overall effects on child health and access to care is policy-relevant. This research uses restricted data from the National Health Interviews Surveys over 1997-2010 with state identifiers to study effects on several measures of children's physical

and mental health, and access to care. The research design can arguably uncover the true causal effects of IHVPE programs on child health, which can guide policymakers in assessing the costs and benefits of the programs. Thus, the proposed evaluation of IHVPE programs' effects on child health provides an important public health benefit in addition to shedding light on the trade-offs unmarried parents face in their decisions regarding involvement with their children and each other.

DETERMINANTS OF EDUCATIONAL AND DEVELOPMENTAL OUTCOMES AMONG ADOPTED AND NON-ADOPTED CHILDREN (NCHS)

Irene Brown – Emory University

Tomeka Davis – Georgia State University

This project investigates whether an association exists between differences in family structure (including adoption), parental investments, and children's school-related and developmental outcomes. To identify the mechanisms underlying the relation between adoption and educational/developmental

outcomes, National Survey of Children's Health (NSCH) and Nation Survey of Adoptive Parents (NSAP) data are used. First, the research examines how differences in family structure and parental investments affect educational and related developmental outcomes for the entire NSCH sample, comparing

educational and developmental outcomes of non-adopted children with those of adopted children. Second, it examines how differences in adoption context, family structure, and parental investments affect educational and related developmental outcomes for the NSAP sample of adopted children.

PREDICTORS OF PRENATAL CARE PROVIDERS COUNSELING WOMEN ON TOBACCO USE/EXPOSURE (NCHS)

Beth Pineles – University of Southern California

Jonathan Samet – University of Southern California

Physician advice on smoking cessation and assistance in quitting has been a successful preventive health service, and is still needed, particularly for key target populations. Approximately 40% of pregnant women are exposed to tobacco smoke during pregnancy through either active or passive smoking. Low birth-weight, preterm birth, stillbirth, and sudden infant death syndrome are among the most prominent effects of maternal smoking and secondhand smoke exposure during pregnancy. These consequences are in addition to the additional risks of smoking; active smoking in women alone caused an estimated 2.1 million lost years of life annually in the 1990s. More women quit smoking during pregnancy

than at any other point in their lives. Physician counseling is effective in increasing quit rates and decreasing secondhand smoke exposure, and the U.S. Public Health Service (PHS), the U.S. Preventive Services Task Force (USPSTF) and the American College of Obstetrics and Gynecology (ACOG) recommend that physicians counsel all patients about tobacco use. However, many physicians do not assess smoking or counsel pregnant patients about tobacco use or secondhand smoke exposure. This project proposes to characterize the physicians who do not identify smoking among their patients and who do not counsel pregnant patients about tobacco use or avoiding secondhand smoke exposure. This will be done through analysis of the

National Ambulatory Medical Care Survey (NAMCS) and the National Hospital Ambulatory Medical Care Survey (NHAMCS). Tobacco use identification and counseling of pregnant smokers and nonsmokers will be the main outcome variables. Vital statistics information will be used to compute the rate of maternal smoking in the state of the provider's office, and along with provider/OPD and patient characteristics, this rate will be studied as a predictor of smoking identification and counseling. This integration of national datasets will lead to a better understanding of those physicians who follow PHS, USPSTF, and ACOG guidelines, and how to identify those who do not.

SELECTION AND VITAMIN D ASSOCIATIONS (NCHS)

Emily Oster – University of Chicago

Although randomized trials are the gold standard for causal inference in medicine and elsewhere, in many cases they are not feasible, and medical research often relies on controlled observational studies. It can be challenging to evaluate how effective the controls are in these studies, especially since in most cases it is clear that we do not observe all differences across individuals. This project suggests importing a technique from the social sciences to provide a benchmark on how coefficients in such papers would change if all unobserved

variable were observed and controlled for. In simplest terms, this technique asks how much the coefficients would change if we observed all unobserved variables and they had a similar relationship to the “X” coefficients as the observed variables. This technique is tested by combining observational data with randomized trials. One application is to Vitamin D. Because of the National Health and Nutrition Examination Survey (NHANES), there are many studies which connect vitamin D with various outcomes in observational data. There are also a number

of randomized trials of similar outcome. The hope is to test this technique by asking whether the adjusted coefficients in the observational studies match (either in magnitude or significance) the randomized trial results. The research uses the NHANES III (which measured Vitamin D status) and information on diseases in which vitamin D deficiency has been implicated (cancer, heart disease, fractures). The CMS Medicare linkages will provide evidence on these latter outcomes.

ANALYSIS OF THE NATIONAL SURVEY OF RESIDENTIAL CARE FACILITIES (NCHS)

Ruby Johnson – RTI International

Joshua Wiener – RTI International

This project will conduct secondary data analyses using the merged facility and resident files of the National Survey of Residential Care Facilities (NSRCF). A limited amount of data from the Area Resource File (ARF) will also be used. The study will analyze the match between services in residential

care facilities (RCFs) and the needs of residents, the characteristics of facilities serving Medicaid beneficiaries compared to those that do not serve Medicaid beneficiaries, the characteristics of Medicaid and non-Medicaid beneficiaries, and the potential impact on access to residential care services of the

Centers for Medicare & Medicaid Services’ (CMS’s) proposed rule on Medicaid home and community-based services waivers. Descriptive and multivariate analyses will be conducted to answer research questions for each topic.

Appendix 4.

CENTER FOR ECONOMIC STUDIES (CES) DISCUSSION PAPERS: 2012

CES Discussion Papers are available at <www.census.gov/ces>.

- 12-01 “The Spatial Extent of Agglomeration Economies: Evidence from Three U.S. Manufacturing Industries,” by Joshua Drucker, January 2012.
- 12-02 “The Transitional Costs of Sectoral Reallocation: Evidence from the Clean Air Act and the Workforce,” by W. Reed Walker, January 2012.
- 12-03 “Wholesalers and Retailers in U.S. Trade (Long Version),” by Andrew B. Bernard, J. Bradford Jensen, Stephen J. Redding, and Peter K. Schott, February 2012.
- 12-04 “Job-to-Job Flows and the Business Cycle,” by Henry Hyatt and Erika McEntarfer, March 2012.
- 12-05 “Micro Data and the Macro Elasticity of Substitution,” by Ezra Oberfield and Devesh Raval, March 2012.
- 12-06 “The Slow Growth of New Plants: Learning about Demand?” by Lucia Foster, John Haltiwanger, and Chad Syverson, March 2012.
- 12-07 “IPO Waves, Product Market Competition, and the Going Public Decision: Theory and Evidence,” by Thomas J. Chemmanur and Jie He, March 2012.
- 12-08 “Growth through Heterogeneous Innovations,” by Ufuk Akcigit and William R. Kerr, June 2012.
- 12-09 “Agglomerative Forces and Cluster Shapes,” by William R. Kerr and Scott Duke Kominers, June 2012.
- 12-10 “University Innovation, Local Economic Growth, and Entrepreneurship,” by Naomi Hausman, June 2012.
- 12-11 “Materials Prices and Productivity,” by Enghin Atalay, June 2012.
- 12-12 “The Rise and Fall of Unions in the U.S.,” by Emin Dinlersoz and Jeremy Greenwood, June 2012.
- 12-13 “Dynamically Consistent Noise Infusion and Partially Synthetic Data as Confidentiality Protection Measures for Related Time-Series,” by John M. Abowd, Kaj Gittings, Kevin L. McKinney, Bryce E. Stephens, Lars Vilhuber, and Simon Woodcock, July 2012.
- 12-14 “The Real Effects of Hedge Fund Activism: Productivity, Risk, and Product Market Competition,” by Alon Brav, Wei Jiang, and Hyunseob Kim, July 2012.
- 12-15 “Evaluating the Impact of MEP Services on Establishment Performance: A Preliminary Empirical Investigation,” by Christopher Ordowich, David Cheney, Jan Youtie, Andrea Fernández-Ribas, and Philip Shapira, July 2012.
- 12-16 “Getting Patents and Economic Data to Speak to Each Other: An ‘Algorithmic Links with Probabilities’ Approach for Joint Analyses of Patenting and Economic Activity,” by Travis J. Lybbert and Nikolas J. Zolas, September 2012.
- 12-17 “Decomposing Aggregate Trade Flows: New Evidence from U.S. Traders,” by Fariha Kamal and C.J. Krizan, September 2012.
- 12-18 “The Empirics of Firm Heterogeneity and International Trade,” by Andrew B. Bernard, J. Bradford Jensen, Stephen J. Redding, and Peter K. Schott, September 2012.
- 12-19 “The Location of Displaced New Orleans Residents in the Year after Hurricane Katrina,” by Narayan Sastry and Jesse Gregory, September 2012.
- 12-20 “The Life Cycle of Plants in India and Mexico,” by Chang-Tai Hsieh and Peter J. Klenow, September 2012.
- 12-21 “A Quasi-Experimental Approach to Identifying Compensating Wage Differentials for Occupational Risks,” by Jonathan M. Lee and Laura O. Taylor, September 2012.

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- 12-22 "The Dynamics of House Price Capitalization and Locational Sorting: Evidence from Air Quality Changes," by Corey Lang, September 2012.
- 12-23 "Testing for Wage Discrimination in U.S. Manufacturing," by Joyce Burnette, September 2012.
- 12-24 "Intergenerational Transmission of Race: Permeable Boundaries between 1970 and 2010," by Carolyn A. Liebler and Marie DeRousse-Wu, September 2012.
- 12-25 "Do Environmental Regulations Disproportionately Affect Small Businesses? Evidence from the Pollution Abatement Costs and Expenditures Survey," by Randy A. Becker, Carl Pasurka, Jr., and Ronald J. Shadbegian, September 2012.
- 12-26 "Occupation Inflation in the Current Population Survey," by Jonathan Fisher and Christina Houseworth, September 2012.
- 12-27 "Do SBA Loans Create Jobs? Estimates from Universal Panel Data and Longitudinal Matching Methods," by J. David Brown and John S. Earle, September 2012.
- 12-28 "The United States Labor Market: Status Quo or A New Normal?" by Edward P. Lazear and James R. Spletzer, September 2012.
- 12-29 "Estimation of Job-to-Job Flow Rates under Partially Missing Geography," by Cody Henderson and Henry Hyatt, September 2012.
- 12-30 "Do Labor Market Networks Have An Important Spatial Dimension?" by Judith K. Hellerstein, Mark J. Kutzbach, and David Neumark, September 2012.
- 12-31 "Workplace Characteristics and Employment of Older Workers," by Chinhui Juhn and Kristin McCue, September 2012.
- 12-32 "Testing for Factor Price Equality with Unobserved Differences in Factor Quality or Productivity," by Andrew B. Bernard, Stephen J. Redding, and Peter K. Schott, September 2012.
- 12-33 "Spatial Organization of Firms: Internal and External Agglomeration Economies and Location Choices through the Value Chain," by Juan Alcacer and Mercedes Delgado, September 2012.

Appendix 5.

NEW DATA AVAILABLE THROUGH CENSUS RESEARCH DATA CENTERS (RDCs) IN 2012¹

BUSINESS DATA

Data product	Description	New or updated years
Annual Capital Expenditures Survey (ACES) and Information and Communication Technology (ICT) Survey	The Annual Capital Expenditures Survey (ACES) is a firm-level survey that collects industry-level data on capital investment in new and used structures and equipment. Every 5 years, additional detail on expenditure by asset type (by industry) is collected. Beginning in 2003, the Information and Communication Technology (ICT) supplement to the ACES collects data on noncapitalized and capitalized expenditure on ICT equipment and computer software. All nonfarm sectors of the economy are covered by these surveys.	2010
Annual Retail Trade Survey	The Annual Retail Trade Survey (ARTS) provides estimates of total annual sales, e-commerce sales, end-of-year inventories, inventory-to-sales ratios, purchases, total operating expenses, inventories held outside the United States, gross margins, and end-of-year accounts receivable for retail businesses and annual sales and e-commerce sales for accommodation and food service firms located in the United States.	2010
Annual Survey of Manufactures	The Annual Survey of Manufactures (ASM) provides data on manufactures including employment, payroll, workers' hours, payroll supplements, cost of materials, value added by manufacturing, capital expenditures, inventories, and energy consumption. It also provides estimates of value of shipments by product class and materials consumed by material code.	2010–2011
Annual Wholesale Trade Survey	The Annual Wholesale Trade Survey (AWTS) provides data on sales and inventories for wholesale trade activities. Merchant wholesalers and manufacturers' sales branches and offices (MSBOs) provide estimates on annual sales, end-of-year inventories, inventory valuation, purchases, operating expenses, and e-commerce sales. The AWTS also began collecting sales, commissions, and operating expenses data for agents, brokers, and electronic markets (AGBRs) in 2005.	1995–2010
Business Expenses Supplement	The Business Expenses Supplement (BES) provides data on business operating expenses for the wholesale, retail, and service sectors. Over two dozen expense items are collected, including personnel costs (payroll, fringe benefits), equipment, materials, software, computer & communications services, repairs & maintenance, rent, utilities, professional services (advertising, accounting, legal, etc.), and taxes. This survey was previously called the Business Expenses Survey and the Business Expenditures Survey.	2007

¹These tables do not include custom extract data made available to approved projects from the U.S. Census Bureau, the National Center for Health Statistics, and the Agency for Healthcare Research and Quality.

Data product	Description	New or updated years
Business Research and Development and Innovation Survey (BRDIS)	The Survey of Industrial Research and Development (SIRD) is the primary source of information on R&D performed by industry within the United States from 1953–2007. Key variables include expenditures on R&D, sales, employment, source of financing (company or federal), character of R&D work (basic research, applied research, and development), R&D scientists and engineers (full-time equivalent), and type of cost (salaries, fringe benefits, etc.). In 2008, the SIRD was replaced by the Business Research and Development and Innovation Survey (BRDIS), which collects a broad range of R&D data from both manufacturing and service companies along with select innovation data. Data include financial measures of R&D activity, measures related to R&D management and strategy, measures of company R&D activity funded by organizations not owned by the company, measures related to R&D employment, and measures related to intellectual property, technology transfer, and innovation.	2009
Foreign Trade—Import Transactions	This database covers the universe of firms operating in the United States that engage in merchandise import from a foreign destination. Information is compiled from automated data submitted through the U.S. Customs' Automated Commercial System. Data are also compiled from import entry summary forms, warehouse withdrawal forms, and Foreign Trade Zone documents as required by law to be filed with the U.S. Customs and Border Protection. Data on imports of electricity and natural gas from Canada are obtained from Canadian sources.	2011
Foreign Trade—Export Transactions	This database contains transactions level data on the exports of the universe of firms operating in the United States that engage in merchandise export to a foreign destination. Information is compiled from copies of the Shipper's Export Declaration (SED) forms. For U.S. exports to Canada, the United States uses Canadian import statistics. Exports measure the total physical movement of merchandise out of the United States to foreign countries whether such merchandise is exported from within the U.S. Customs territory or from a U.S. Customs bonded warehouse or a U.S. Foreign Trade Zone.	2011
Longitudinal Business Database	The LBD is a research dataset constructed at the Center for Economic Studies. Currently, the LBD contains the universe of all U.S. business establishments with paid employees from 1976 to 2010. The LBD is invaluable to researchers examining entry and exit, gross job flows, and changes in the structure of the U.S. economy. The LBD can be used alone or in conjunction with other Census Bureau surveys at the establishment and firm level of microdata.	2010
Manufacturers' Shipments, Inventories, and Orders	The Manufacturers' Shipments, Inventories, and Orders (M3) survey provides monthly data on current economic conditions and indications of future production commitments in the manufacturing sector. The M3 contains data on manufacturers' value of shipments, new orders (net of cancellations), end-of-month order backlog (unfilled orders), end-of-month total inventory, materials and supplies, work-in-process, and finished goods inventories (at current cost or market value). The sample M3 is from manufacturing establishments with \$500 million or more in annual shipments.	2011

Data product	Description	New or updated years
Medical Expenditure Panel Survey (MEPS)—Insurance Component (IC)	The MEPS-IC collects data on health insurance plans obtained through employers. Data collected include the number and type of private insurance plans offered, benefits associated with these plans, premiums, contributions by employers and employees, eligibility requirements, and out-of-pocket costs. Data also include both employer (e.g., size, age, location, industry) and workforce characteristics (e.g., percent of workers female, 50+ years of age, belong to union, earn low/medium/high wage).	2011
Quarterly Financial Report	The Quarterly Financial Report (QFR) is conducted quarterly and collects data on estimated statements of income and retained earnings, balance sheets, and related financial and operating ratios for manufacturing corporations with assets of \$250,000 and over, and corporations in mining, wholesale trade, retail trade, and selected service industries with assets of \$50 million and over, or above industry-specific receipt cut-off values.	2009–2011
Quarterly Survey of Plant Capacity Utilization	The Quarterly Survey of Plant Capacity Utilization (QPC) provides data on the rates of capacity utilization for the U.S. manufacturing and publishing sectors on a quarterly basis. In 2007, the QPC replaced the Survey of Plant Capacity Utilization (PCU). The PCU contained data on the rates of capacity utilization in U.S. manufacturing plants. Data collected were for the fourth quarter and included number of days and hours worked, estimated value of production at full production capability, and estimated value of production achievable under national emergency conditions. Additional items included reasons why the plant may operate at less than full production; reasons why the estimate of full production capability changed from the prior year; and how quickly the plant could reach full production and national emergency levels of production.	2008–2011
Services Annual Survey	The Services Annual Survey (SAS) provides estimates of revenue and other measures for most traditional service industries. Collected data include operating revenue for both taxable and tax-exempt firms and organizations; sources of revenue and expenses by type for selected industries; operating expenses for tax-exempt firms; and selected industry-specific items. In addition, starting with the 1999 survey, e-commerce data were collected for all industries, and export and inventory data were collected for selected industries.	2010
Standard Statistical Establishment List	The Standard Statistical Establishment List (SSL) files maintained at CES are created from the old Standard Statistical Establishment List (prior to 2002) and the new Business Register (2002 and forward).	2008–2010

HOUSEHOLD DATA¹

Data product	Description	New or updated years
American Community Survey	The American Community Survey (ACS) is a nationwide survey designed to provide communities a constantly refreshed look at how they are changing. The ACS has eliminated the need for the long form in the decennial population census. The survey collects information from U.S. households similar to what was collected on the Census 2000 long form, such as income, commute time to work, home value, veteran status, and other important data.	2011
Current Population Survey	The Current Population Survey (CPS) collects data concerning work experience, several sources of income, migration, household composition, health insurance coverage, and receipt of noncash benefits.	2011
National Crime Victimization Survey	The National Crime Victimization Survey (NCVS) collects data from respondents who are 12 years of age or older regarding the amount and kinds of crime committed against them during a specific 6-month reference period preceding the month of interview. The NCVS also collects detailed information about specific incidents of criminal victimization that the respondent reports for the 6-month reference period. The NCVS is also periodically used as the vehicle for fielding a number of supplements to provide additional information about crime and victimization.	2010
Survey of Income and Program Participation	The Survey of Income and Program Participation (SIPP) collects data on the source and amount of income, labor force information, program participation and eligibility data, and general demographic characteristics. The data are used to measure the effectiveness of existing federal, state, and local programs, to estimate future costs and coverage for government programs, and to provide improved statistics on the distribution of income in the United States.	2008 Waves 6–10

¹ These demographic or decennial files maintained at the Center for Economic Studies and for the RDCs are the internal versions, and they provide researchers with variables and detailed information that are not available in the corresponding public-use files

Appendix 6.

CENSUS RESEARCH DATA CENTER (RDC) PARTNERS

Atlanta Census RDC

Julie Hotchkiss, Executive Director

Centers for Disease Control and Prevention
Clemson University
Emory University
Federal Reserve Bank of Atlanta
Georgia Institute of Technology
Georgia State University
University of Alabama at Birmingham
University of Georgia
University of Tennessee, Knoxville

Boston Census RDC

Wayne Gray, Executive Director

National Bureau of Economic Research

California Census RDC (Berkeley)

Jon Stiles, Executive Director

University of California, Berkeley

California Census RDC (Stanford)

Matthew Snipp, Executive Director

Stanford University

California Census RDC (UCLA)

David Rigby, Executive Director

University of California, Los Angeles

Census Bureau Headquarters RDC (CES)

Shawn Klimek, Director of Research, CES

Chicago Census RDC

Bhash Mazumder, Executive Director

Federal Reserve Bank of Chicago
Northwestern University
University of Chicago
University of Illinois
University of Notre Dame
Washington University in St. Louis

Michigan Census RDC (Ann Arbor)

Margaret Levenstein, Executive Director

University of Michigan
Inter-university Consortium for Political and Social
Research (ICPSR)

Minnesota Census RDC (Minneapolis)

Catherine Fitch, Co-Executive Director

J. Michael Oakes, Co-Executive Director

University of Minnesota

New York Census RDC (Baruch)

Diane Gibson, Executive Director

Baruch College
City University of New York
Columbia University
Cornell University
Federal Reserve Bank of New York
Mount Sinai School of Medicine
National Bureau of Economic Research
New York University
Princeton University
Russell Sage Foundation
University at Albany, State University of New York
Yale University

New York Census RDC (Cornell)

William Block, Executive Director

Baruch College
City University of New York
Columbia University
Cornell University
Federal Reserve Bank of New York
Mount Sinai School of Medicine
National Bureau of Economic Research
New York University
Princeton University
Russell Sage Foundation
University at Albany, State University of New York
Yale University

Northwest Census RDC

Mark Ellis, Executive Director

University of Washington
State of Washington, Office of Financial
Management

Texas Census RDC

Mark Fossett, Executive Director

Texas A&M University
Texas A&M University System
Baylor University
University of Texas at Austin

Triangle Census RDC (Duke and RTI)

Gale Boyd, Executive Director

Duke University
North Carolina State University
RTI International
University of North Carolina at Chapel Hill

Appendix 7.

LONGITUDINAL EMPLOYER-HOUSEHOLD DYNAMICS (LEHD) PARTNERS

LOCAL EMPLOYMENT DYNAMICS (LED) STEERING COMMITTEE

As of October 2012.

New England (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont)
Bruce DeMay
Economic and Labor Market Information Bureau
New Hampshire Employment Security

New York/New Jersey

Leonard Preston
Labor Market Information
New Jersey Department of Labor and Workforce Development

Mid-Atlantic (Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia)
Sue Mukherjee
Center for Workforce Information and Analysis
Pennsylvania Department of Labor and Industry

Southeast (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee)
Joe Ward
Labor Market Information
South Carolina Department of Employment and Workforce

Midwest (Illinois, Indiana, Iowa, Michigan, Minnesota, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin)
Richard Waclawek
Labor Market Information and Strategic Initiatives
Michigan Department of Technology, Management, and Budget

Mountain-Plains (Colorado, Kansas, Missouri, Montana, Utah, Wyoming)
Rick Little
Workforce Analysis and Research
Utah Department of Workforce Services

Southwest (Arkansas, Louisiana, New Mexico, Oklahoma, Texas)
Richard Froeschle
Labor Market Information
Texas Workforce Commission

Western (Alaska, Arizona, California, Hawaii, Idaho, Nevada, Oregon, Washington)
Bill Anderson
Research and Analysis Bureau
Nevada Department of Employment, Training, and Rehabilitation

FEDERAL PARTNERS

U.S. Department of Agriculture
U.S. Department of Commerce, National Oceanic and Atmospheric Administration
U.S. Department of Homeland Security, Federal Emergency Management Agency
U.S. Department of the Interior
U.S. Office of Personnel Management

STATE PARTNERS

As of October 2012.

Alabama

Jim Henry, Chief
Labor Market Information
Alabama Department of Industrial Relations

Alaska

Dan Robinson, Chief
Research and Analysis Section
Alaska Department of Labor and Workforce Development

Arizona

Paul Shannon, Assistant Director
Budget and Resource Planning
Arizona Department of Administration

Arkansas

Robert S. Marek, Administrative Services Manager
Employment and Training Program Operations
Arkansas Department of Workforce Services

California

Steve Saxton, Chief
Labor Market Information Division
California Employment Development Department

Colorado

Alexandra Hall, Labor Market Information
Director
Labor Market Information
Colorado Department of Labor and Employment

Connecticut

Andrew Condon, Ph.D., Director
Office of Research
Connecticut Department of Labor

Delaware

George Sharpley, Ph.D., Economist and Chief
Office of Occupational and Labor Market
Information
Delaware Department of Labor

District of Columbia

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District of Columbia Department of Employment
Services

Florida

Rebecca Rust, Director
Labor Market Statistics Center
Florida Department of Economic Opportunity

Georgia

Mark Watson, Director
Workforce Statistics and Economic Research
Georgia Department of Labor

Guam

Gary Hiles, Chief Economist
Bureau of Labor Statistics
Guam Department of Labor

Hawaii

Francisco P. Corpuz, Chief
Research and Statistics Office
Hawaii Department of Labor and Industrial
Relations

Idaho

Bob Uhlenkott, Bureau Chief
Research and Analysis
Idaho Department of Labor

Illinois

Evelina Tainer Loescher, Ph.D., Division Manager
Economic Information and Analysis
Illinois Department of Employment Security

Indiana

Vicki Seegert, Federal Studies Manager
Research and Analysis
Indiana Department of Workforce Development

Iowa

Jude E. Igbokwe, Ph.D., Division Administrator/
Labor Market Information Director
Labor Market and Workforce Information Division
Iowa Department of Workforce Development

Kansas

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Labor Market Information Services
Kansas Department of Labor

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Kentucky Office of Employment and Training

Louisiana

Raj Jindal, Director
Information Technology
Louisiana Workforce Commission

Maine

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Maine Department of Labor

Maryland

Carolyn J. Mitchell, Director
Office of Workforce Information and Performance
Maryland Department of Labor, Licensing
and Regulation

Massachusetts

Rena Kottcamp, Director
Economic Research
Massachusetts Division of Unemployment
Assistance

Michigan

Richard Waclawek, Director
Labor Market Information and Strategic Initiatives
Michigan Department of Technology, Management,
and Budget

Minnesota

Steve Hine, Ph.D., Research Director
Minnesota Department of Employment and
Economic Development

Mississippi

Mary Willoughby, Bureau Director
Mississippi Department of Employment Security

Missouri

William C. Niblack, Labor Market Information
Manager
Missouri Economic Research and Information
Center
Missouri Department of Economic Development

Montana

Todd Younkin, Chief
Research and Analysis Bureau
Montana Department of Labor and Industry

Nebraska

Phil Baker, Labor Market Information
Administrator
Nebraska Department of Labor

Nevada

Bill Anderson, Chief Economist
Research and Analysis Bureau
Nevada Department of Employment, Training,
and Rehabilitation

New Hampshire

Bruce DeMay, Director
Economic and Labor Market Information Bureau
New Hampshire Department of Employment
Security

New Jersey

Chester S. Chinsky, Labor Market Information
Director
Labor Market and Demographic Research
New Jersey Department of Labor and Workforce
Development

New Mexico

Mark Boyd, Chief
Economic Research and Analysis Bureau
New Mexico Department of Workforce Solutions

New York

Bohdan Wynnyk, Deputy Director
Research and Statistics Division
New York State Department of Labor

North Carolina

Stephanie G. McGarrah, Assistant Secretary for
Labor and Economic Analysis
North Carolina Department of Commerce

North Dakota

Michael Ziesch, Labor Market Information Contact
Labor Market Information Center
Job Service North Dakota

Ohio

Coretta Pettway, Chief
Bureau of Labor Market Information
Department of Job and Family Services

Oklahoma

Lynn Gray, Director
Economic Research and Analysis
Oklahoma Employment Security Commission

Oregon

Graham Slater, Administrator for Research
Oregon Employment Department

Pennsylvania

Sue Mukherjee, Director
Center for Workforce Information and Analysis
Pennsylvania Department of Labor and Industry

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Statistics
Puerto Rico Department of Labor

Rhode Island

Robert Langlais, Assistant Director
Labor Market Information
Rhode Island Department of Labor and Training

South Carolina

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South Carolina Department of Employment
and Workforce

South Dakota

Bernie Moran, Director
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South Dakota Department of Labor and Regulation

Tennessee

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Tennessee Department of Labor and Workforce
Development

Texas

Richard Froeschle, Director
Labor Market Information
Texas Workforce Commission

Utah

Rick Little, Director
Workforce Analysis and Research
Utah Department of Workforce Services

Vermont

Mathew J. Barewicz, Labor Market Information
Director
Economic and Labor Market Information Section
Vermont Department of Employment and Training

Virgin Islands

Gary Halyard, Director of Survey and Systems
Bureau of Labor Statistics
U.S. Virgin Islands Department of Labor

Virginia

Donald P. Lillywhite, Director
Economic Information Services
Virginia Employment Commission

Washington

Cynthia L. Forland, Director
Labor Market and Economic Analysis
Washington Employment Security Department

West Virginia

Jeffrey A. Green, Director
Research, Information and Analysis Division
Workforce West Virginia

Wisconsin

A. Nelse Grundvig, Director
Bureau of Workforce Training
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Wyoming

Tom Gallagher, Manager
Research and Planning
Wyoming Department of Workforce Services

Appendix 8. CENTER FOR ECONOMIC STUDIES (CES) STAFF LISTING (December 2012)

* Indicates contractor.

Senior Staff

Lucia Foster	Chief Economist and Chief of CES
Rob Sienkiewicz	Assistant Center Chief for LEHD [LEHD Area]
Shawn Klimek	Assistant Center Chief for Research [Economic Research Area]
J. Trent Alexander	Assistant Center Chief for Research Support [Research Support Area]
Randy Becker	Principal Economist and Special Assistant to the Chief Economist
Javier Miranda	Principal Economist
Jim Spletzer	Principal Economist
Erika McEntarfer	LERG Team Leader
Shigui Weng	Chief of Data Processing and Archiving Staff
Vickie Kee	Chief of Administrative Records Data Staff
Walter Kydd	Chief of LEHD Production and Development Branch
Vacant	Chief of LEHD Quality Assurance Branch
Kandice Kapinos	Lead RDC Administrator

Economic Research Area

Lulu Chen	SSDC Administrator
Arnold Reznak	Disclosure Avoidance Officer
David White*	IT Specialist

Business Economics Research Group

J. David Brown	Senior Economist
Leland Crane	Graduate Research Assistant
Ronald Davis	Statistician
Ryan Decker	Graduate Research Assistant
Emin Dinlersoz	Senior Economist
Chris Goetz	Economist
Cheryl Grim	Senior Economist
Fariha Kamal	Economist
C.J. Krizan	Senior Economist
Robert Kulick	Graduate Research Assistant
Kristin McCue	Senior Economist
T. Kirk White	Economist
Alice Zawacki	Senior Economist
Nickolas Zolas	Economist

Longitudinal Employer-Household Dynamics (LEHD) Economics Research Group (LERG)

Evan Buntrock	Graduate Research Assistant
Jason Fairbanks*	Data Analyst
Henry Hyatt	Economist
Emily Isenberg	Economist
Mark Kutzbach	Economist
Kevin Liu*	Data Analyst

Kevin McKinney	Economist
Esther Mezey	Graduate Research Assistant
Giordano Palloni	Graduate Research Assistant
Kristin Sandusky	Economist
Liliana Sousa	Economist
Stephen Tibbets	Economist
Ken Ueda	Graduate Research Assistant
Alexandria Zhang	Graduate Research Assistant
Chen Zhao	Graduate Research Assistant
Nellie Zhao	Graduate Research Assistant

Research Data Center (RDC) Administrators

Angela Andrus	California Census RDC (UC-Berkeley & Stanford)
Michael Babb	Northwest Census RDC (University of Washington, Seattle)
Melissa Banzhaf	Atlanta Census RDC (Federal Reserve Bank of Atlanta)
J. Clint Carter	Michigan Census RDC (University of Michigan, Ann Arbor)
Abigail Cooke	California Census RDC (UCLA)
James Davis	Boston Census RDC (National Bureau of Economic Research)
Bethany Desalvo	Texas Census RDC (Texas A&M University, College Station)
Gina Erickson	Minnesota Census RDC (University of Minnesota, Minneapolis)
Jonathan Fisher	New York Census RDC (Baruch College, New York City)
Andrew Green	New York Census RDC (Cornell University)
W. Bert Grider	Triangle Census RDC (Duke University & RTI)
Frank Limehouse	Chicago Census RDC (Federal Reserve Bank of Chicago)
Vacant	Census Bureau Headquarters RDC (Suitland, MD)

Longitudinal Employer-Household Dynamics (LEHD) Area

Gilda Beauzile	IT Specialist
Earlene Dowell*	Contractor
John Fattaleh	IT Manager
Kimberly Jones	Research/Program Administrator
George (Chip) Walker*	Communications and Marketing Consultant

LEHD Production and Development Branch

Samuel Groves*	Web Engineer
Tao Li*	SAS Programmer
Cindy Ma	SAS Programmer
Gerald McGarvey*	SAS Programmer
Jeronimo Mulato*	System Engineer
Camille Norwood	SAS Programmer
Rajendra Pillai*	SAS Programmer
Nanda Ramanathan*	SAS Programmer
C. Allen Sher*	Web Architect
Jun Wang*	SAS Programmer
Chaoling Zheng	Webmaster

LEHD Quality Assurance Branch

Carl Anderson* Contractor
Matthew Graham Geographer
Heath Hayward Geographer
Dan Northrup* Contractor
Robert Pitts* GIS Analyst Project Manager

Research Support Area

Cathy Buffington IT Specialist (Data Management)
Annetta Titus Administrative Support

Data Processing and Archiving Staff

Jason Chancellor Survey Statistician
Shy DeGrace Survey Statistician
Jacob Enriquez Survey Statistician
Todd Gardner Survey Statistician
Daniel Orellana Survey Statistician
David Ryan IT Specialist (Data Management)
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